



THE WAVE DEVELOPMENT ANALYSIS OF EFFECTS AND PHASE II ARCHAEOLOGICAL EVALUATION, MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA

Submitted to:
The City of Minneapolis Community Planning and Economic Development Department
on behalf of Heritage Development of Minneosta, LLC

Submitted by:
The 106 Group Ltd.

August 2006

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ANALYSIS OF EFFECTS AND PHASE II ARCHAEOLOGICAL EVALUATION,
MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA**

**SHPO File No. Pending
MN Archaeological License No. 06-004
The 106 Group Project No. 05-57**

**Submitted to:
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August 2006

MANAGEMENT SUMMARY

The proposed Wave Development (Wave) project is a private residential development on property currently owned by the Minneapolis Parks and Recreation Board. The proposed development consists of the construction of 38 housing units, a 9,400 square foot (ft.) spa, a 9,600 square ft. restaurant, a wine grotto and 199 below-ground parking spaces on four levels, a lobby and falls overlook, and an outdoor river view plaza and dining area. At its highest elevation, the building would stand 11 stories from the First Street South grade; an additional 3 stories for underground parking will be visible from the West River Parkway elevation.

An EAW must be prepared because the development proposes the demolition of contributing archaeological resources within the NRHP-listed St. Anthony Falls Historic District (SAFHD). The Minnesota Field Archaeology Act, §138.31 to 138.42, requires consultation with the Minnesota Historical Society (MHS) and a license from the Office of the State Archaeologist (OSA) when an archaeological site is known or suspected to exist on public land. Consultation with the MHS is also required under the provisions of the Minnesota Historic District Act §138.71 to 138.75. The Minneapolis Heritage Preservation Commission (HPC) reviews proposed development projects in the NRHP historic district, which is also a locally designated historic district. The HPC has adopted a set of preservation and design guidelines for the district.

This report is intended to provide a detailed explanation of the work carried out by The 106 Group under contract with Heritage Development on behalf of the City of Minneapolis as part of the Environmental Assessment Worksheet (EAW). This study contains two key components: a Phase II archaeological investigation of the proposed development site, and an analysis of effects that the project may have on historic resources within and surrounding the project area. The purpose of the archaeological investigation for the Wave property was fourfold: 1) to identify and describe the extent of archaeological resources in the development site area, 2) to evaluate how those resources contribute to the NRHP district, 3) to determine if there is a way to avoid or reduce adverse impacts to historic resources, and 4) to recommend appropriate methods of mitigation if avoidance is not possible. The purpose of the analysis of effects was to determine what effect the proposed project would have on historic resources – both those within the development site and those outside of the development site.

Two parking lots, an abandoned building and steeply sloping wooded areas, located in downtown Minneapolis, currently occupy the Wave project area. It is situated within the NE ¼ of the SW ¼, Section 23, T29N, R24W, Minneapolis, Hennepin County, Minnesota. The curving parcel is bound by West River Parkway on the northeast, the Third Avenue Bridge on the northwest, and South First Street on the Southwest. The area of potential effect (APE) for archaeology is the same as the proposed development area, and it includes all areas of proposed construction activities or other potential ground disturbing activities associated with construction of the Wave Development. The study

area for Phase II archaeological investigations consisted of approximately 1.26 acres (0.51 hectares). The broader, visual effects APE encompassed approximately 207 acres (83 hectares) and included much of the SAFHD and properties on both sides of the Mississippi River. Anne Ketz, M.A., RPA, served as Principal Investigator for archaeology. William Stark, M.A. served as Principal Investigator for architectural History.

Archaeological Findings

During the Phase II investigation four sites were uncovered: the Bassett's Second Sawmill (21HE0363), Columbia Flour Mill (21HE0364), Occidental Feed Mill (21HE0365), and Minneapolis Eastern Railway Company Railroad Features Associated with the Columbia and Occidental Mills (21HE0366). All sites are contributing resources to the SAFHD and are significant under Criterion A for their local significance to and association with the broad patterns of Minneapolis' history and Criterion D for their potential to yield information important to history.

Analysis of Effects Findings – Properties within Development Site

No Build Alternative

The No Build Alternative would result in no effect to buried walls and foundations of the archaeological sites within the project area. However, exposed ruins will continue to deteriorate without appropriate stabilization/preservation. Exposed walls currently in the basement of the Fuji Ya building will deteriorate from damp conditions and neglect without appropriate preservation treatment. Also, exposed ruins are vulnerable to vandalism. There would be no effect to non-metallic or organic artifacts, but the railcar scale (Site ##) would probably continue to deteriorate.

Proposed Development Alternative

The current proposed development would destroy most of the archaeological sites with the exception of some of the remains of the Bassett's Second Sawmill and Columbia Flour Mill that are currently incorporated within the Fuji Ya building. The most dramatic effects of the currently proposed development would be partial or complete destruction of the four sites due to construction of the building, particularly the parking ramps. Even with some preservation of foundation walls and ruins *in situ*, there would still be a loss to the setting and feeling of the sites, unless adjustments are made to the design of the building. Since completion of the Phase II archaeological investigation in April 2006, efforts are currently underway to find ways to avoid and/or reduce adverse effects to these sites; this report also provides recommendations to avoid and reduce adverse effects.

Analysis of Effects Findings – Properties Outside Development Site

Over 80 historic buildings, sites and structures are located within the APE, which encompasses much of the SAFHD and most of the St. Anthony Falls Waterpower Area (SAFWA). Effects are anticipated to be similar where the project is at a greater distance

and more intense in nearby locations. For this reason, more distant resources were grouped together in geographic and thematic clusters, while those within proximity of the project site were individually identified.

Secretary of the Interior Standards

The systematic analysis of the proposed project's compliance with the *Standards and Guidelines* found that the project would meet one Standard (3), in that the project would not create a false sense of development. Due to the conceptual nature of the current design phase, compliance with two Standards pertaining to the repair and replacement of historic features and the physical or chemical treatments to historic materials (6 and 7) is unknown at this time. One Standard (8), pertaining to the mitigation of archaeological resources, is conditional on the implementation of an appropriate mitigation plan for the known archaeological resources in the project area. The remaining Standards (1, 2, 4, 5, 9 and 10) would be substantially unmet according to the current design program, although the project component that entails the reuse of the foundations walls under the Fuji Ya building would meet some of the Standards. The guidelines pertaining to Building Site and Historic District would mostly be unmet, with the exception of a plan to retain the historic relationship between buildings, landscape features and open space. By and large, the project, as proposed, is not a building that was designed to be sited within the SAFHD and would not be considered a compatible building within that district.

Minneapolis HPC Guidelines

The HPC provides nine specific guidelines that pertain to new construction within the West Bank Milling Area (WBMA) of the SAFHD. An analysis of the Wave development project against those guidelines found that, as proposed, the project possibly would meet two of those guidelines: 1) the height of the Wave project would not exceed that of the existing silo-mills in the area, and 2) the roofs would be flat, although it is not clear whether the proposed pergolas and pavilions for the roof would be in compliance with this guideline. The proposed project would not meet the guidelines pertaining to siting, rhythm of projections, directional emphasis, materials, nature of openings, details, and color. It would be hard to gauge whether the proposed design would meet the standards of a "superior and compatible solution" in the eyes of the HPC Commissioners, although the proposed design overcomes many of the challenges the site presents in terms of area and topography in clever ways. Based on the resolution for the new Guthrie Theater, the HPC appears to be reluctant to assertively state when a proposed design meets the standards of a superior and compatible solution, although it was apparent that many individual Commissioners saw great merit in the final design of the theater.

Visual Effects Analysis

The effects to 13 historic resources, or groupings of historic resources, near and around the proposed development site were analyzed to determine the effects of the project on the visual aesthetic qualities of the historic resource. Individual properties proximate to the project area and larger groupings of properties beyond the project area were assessed for: a) impacts of the proposed project on the visual setting of a historic property, and b)

impacts on views towards the proposed project from the historic property. Adverse impacts were based on the historical significance and historical character of each property; in most cases where a property contributed to the SAFHD or the SAFWA, thematic and physical associations to those districts were considered to be significant.

The proposed project was found to have an adverse impact on *the visual setting* of four historic properties:

- The WBMA
- The Hall and Dann Barrel Company Factory
- The Minneapolis Eastern Railway Company Enginehouse; and
- The contributing archaeological resources in Mill Ruins Park.

Not surprisingly, these resources are located within the WBMA in close proximity to the proposed project area. Other nearby resources, such as Bridge L8900, the Third Avenue Bridge, the Upper Harbor Terminal System Lock and Dam, or the Minneapolis Main Post Office were found to have historical associations, such as engineering or architecture, that would not be impacted by changes in visual setting. Resources such as Nicollet Island, the EBMA, the Chicago, Milwaukee, St. Paul & Pacific complex, or the Minneapolis Post Office/Federal Building did not have visual settings that include the proposed development site.

The proposed project was found to have an adverse impact on *views toward the proposed development site* for seven properties:

- The WBMA
- The Hall and Dann Barrel Company Factory
- The Minneapolis Eastern Railway Company Enginehouse
- The Third Avenue Bridge
- The Stone Arch Bridge
- The EBMA; and
- The contributing archaeological resources of Mill Ruins Park.

Each of these properties has significant historical associations or relationships with views towards the proposed project site; proposed changes in those views were perceived to be significant enough and out of keeping with historical precedent such that they would be considered adverse impacts. Other properties either did not have important historical associations with views towards the project site, or views of the project would be minimal.

Similar analysis was conducted to determine the effects of the proposed project on the *setting of the WBMA*. Views to determine the effects to the setting of the WBMA were observed from the locations of the historic properties in the above visual analysis (although the historic nature of those properties was unrelated to the vantage point for WBMA setting analysis). The WBMA already has several intrusions that adversely affect its historical setting, particularly on the up-river end in the vicinity of the proposed development site. When viewed from the EBMA, for example, these intrusions include

the Riverwest building – a large modern apartment building significantly out of scale with the WBMA, the 39-story Carlyle building, currently under construction, and the backdrop of the modern downtown skyline. These incompatible buildings result in the diminishment of the WBMA’s setting as it currently stands. When viewed from a distance, the project site reads as a park-like property; when viewed near the site or from within the WBMA, the project site more clearly reads as a site associated with historic milling activity because of the extant ruins.

Adverse impacts resulting from the proposed development were found where the changes in the scale, massing and materials of the proposed building would result in changes to the perception of the WBMA as a historic property and its contribution to the historic district. When viewed from the EBMA and other broad perspectives, the portion of the proposed project site would not be perceived as a part of the historic district, although this perception would not be significantly changed from the current condition, which includes several intrusive modern buildings. In locations where the site’s extant foundations and ruins are visible and can be perceived as part of a larger, interconnected district, the proposed project would significantly affect the perceived historic use of the parcel, the perceived boundaries of the SAFWA, and the linkages to other contributing properties to the WBMA and the SAFWA, and thereby the appearance of a cohesive historic district.

Mitigation Strategies

Properties in Development Site

A number of different options are included for consideration to avoid and minimize physical damage to the archaeological features and the Fuji Ya building. These options include: 1) building design alternatives that would minimize effects to historic resources; 2) archaeological data recovery and mitigation; and 3) interpretive potential of historic resources.

- Design options
 - Incorporate walls and foundations into modern divider, with clear distinction of old and new
 - Incorporate walls and foundations into new building – as much as possible in the lobby and falls overlook area, the spa and retreat area, and Fuji Ya building to maximize public access
 - Preserve walls and foundations under transparent flooring to view wall ruins from above
 - Apply appropriate preservation treatment per the *Secretary of Interior’s Standards* to exposed walls of Columbia and Bassett Mills
 - Reduce number of parking spaces or move parking spaces to western extent of site to preserve ruins *in situ*
 - Develop Railcar Scale Pit as an interpretive element in public space
 - Move north wall and foundation, including the arched door and windows of Columbia Mill, intact, to external north façade of building

- Archaeological data recovery and mitigation
 - Expose walls and foundations to determine precise dimensions and function
 - Archaeological data recovery to excavate the mill turbine shafts and associated features to the east of the Fuji Ya building
 - Archaeological investigation to evaluate and mitigate wheel house
 - Archaeological data recovery to excavate to the interior basements of the Columbia and Occidental Mills
- Interpretation – Initial Suggestions
 - Develop Railcar Scale Pit as an interpretive element in public space
 - Retrieve railcar scale and incorporate into public space in alternative location
 - Provide interpretive information in conjunction with preserved exposed walls and foundations
 - Incorporate interpretation into the broader St. Anthony Falls Heritage Zone and Mill Ruins Park interpretive planning efforts
 - Conduct further analysis and publication of historical information about the sites and their contribution to the historic district

Properties Outside of the Development Site

Adherence to the *Secretary of the Interior's Standards and Guidelines for Rehabilitation* and to the Minneapolis HPC guidelines for the WBMA would significantly reduce the adverse effects of the proposed project on surrounding historic properties and on the setting of the WBMA. Specifically, the alternative design solutions could:

- Utilize building materials compatible with the materials of the historic district
- Design window and door openings with a vertical emphasis
- Re-shape massing so the building resembles the massing of the historic mill buildings once on the site
- De-emphasize the presence of the building in terms of scale, massing and materials, so as to focus attention on the extant historic resources.

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1.0 INTRODUCTION

During April 2006, The 106 Group Ltd. (The 106 Group) conducted a Phase II archaeological investigation and analysis of effects for the Wave Development project (Wave). This report is intended to provide a detailed explanation of the work carried out by The 106 Group under contract with Heritage Development on behalf of the City of Minneapolis as part of an Environmental Assessment Worksheet (EAW), and to identify and describe the extent of cultural resources on site and determine if they contribute to the National Register of Historic Places (NRHP) district. This report also assesses if there is a way to avoid impacting historic resources, and recommends appropriate methods of mitigation if avoidance is not possible. An EAW must be prepared because it proposes the demolition of contributing archaeological resources within the St. Anthony Falls Historic District (SAFHD), a district listed on the NRHP and the St Anthony Falls Waterpower Area, a subset of the historic district. The Minnesota Field Archaeology Act, §138.31 to 138.42, requires consultation with the Minnesota Historical Society (MHS) and a license from the Office of the State Archaeologist (OSA) when an archaeological site is known or suspected to exist on public land. The Minneapolis HPC, under the provisions of the Minnesota Historic District Act, also reviews the historic district as a local historic district. The HPC has adopted a set of guidelines for the district. There is no federal involvement in this development either through permitting or funding, but the property is also located in the Mississippi National River and Recreation Area (MNRRA) of the National Park Service, and the state Critical Area. The development property is located within the SAFHD, a historic district listed on the NRHP and designated by the Minneapolis HPC.

This study contains two major components: a Phase II archaeological investigation of the proposed development site and an analysis of effects that the project would have on historic resources. The purpose of the archaeological investigation for the Wave property was fourfold: 1) to identify and describe the extent of archaeological resources in the development site, 2) to evaluate how those resources contribute to the NRHP district, 3) to determine if there is a way to avoid or reduce adverse impacts to historic resources, and 4) to recommend appropriate methods of mitigation if avoidance is not possible. The purpose of the analysis of effects was to determine what effect the proposed project would have on the historic resources – both those within the development site and those outside of the development site.

1.1 PROJECT SETTING

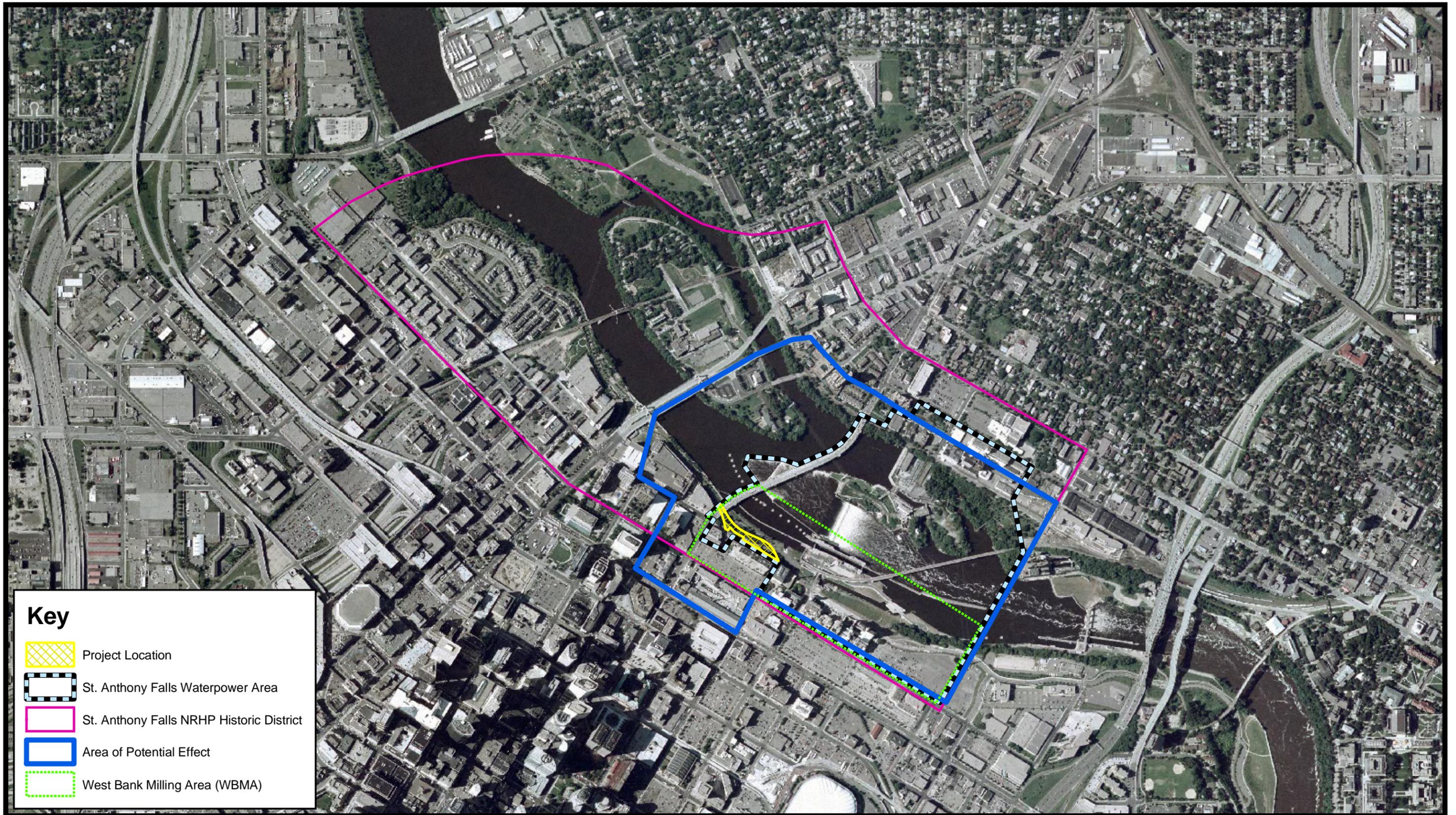
The proposed development area is located in the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 23, T29N, R24W, Minneapolis, Hennepin County, Minnesota (Figure 1). The curving parcel is bound by West River Parkway on the northeast, the Third Avenue Bridge on the northwest and South First Street on the southwest. This location is within Auditor's Subdivision 32 in the City of Minneapolis. The project area is currently occupied by the

vacated, former Fuji Ya restaurant, which stands on the foundations of portions of Bassett's Second Sawmill and the Columbia Flour Mill on the eastern half of the parcel. Surface parking lots are located east and west of the building. Exposed foundations of the Columbia Flour Mill are visible on the northern (river side) of the western parking lot. The steeply sloped western half of the parcel is covered with trees and scrub. The site is within the SAFHD – a locally designated and NRHP-listed district, which includes properties on both sides of the Mississippi River. The project is located in the West Bank Milling Area (WBMA), which is a counterpart to the East Bank Milling Area (EBMA) across the river. The nearby Washburn "A" Mill Complex and the Pillsbury "A" Mill Complex on the opposite side of the river are both designated as National Historic Landmarks. The noteworthy Stone Arch Bridge is also located within the historic district. Nearby historic properties outside of the SAFHD include the Chicago, Milwaukee, St. Paul and Pacific Depot, Freighthouse and Trainshed (listed on the NRHP) and the Minneapolis Post Office/Federal Building (determined eligible for the NRHP).

1.2 PROJECT DESCRIPTION

The proposed development project complex would consist of 38 housing units, a 9,400 square foot (ft.) spa, a 9,600 square ft. restaurant, a wine grotto and 199 below-ground parking spaces on four levels, a lobby and falls overlook, and an outdoor river view plaza and dining area. At its highest elevation, the building will stand 11 stories from the First Street South grade; an additional 3 stories for underground parking will be visible from the West River Parkway.

At this point, plans for the project have only been developed to their conceptual stage, and illustrate the massing, footprint, height and general exterior materials. The following description of proposed development is based on schematic elevation and section drawings and a simulated aerial view developed by Heritage Development and their architects, DJR Architecture Inc., in February 2006 (see Appendix A). The Wave takes its name from the proposed project's parcel shape, which creates a curving form on the north (river) side. The building has been designed to rise on the parcel and conform to its wave-like shape, resulting in a building that widens in a curving form from east to west. The building would cover almost the entire parcel, with landscaped treatments along the West River Parkway frontage. Landscape treatment on the First Street South elevation would include a small setback with lawn and trees. As the building widens on the up-river end, so does it increase in height. The far down-river end is proposed to accommodate

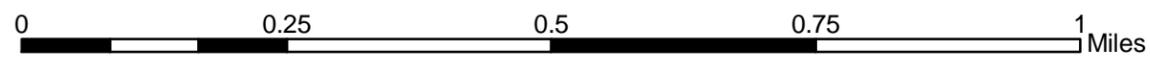


Key

-  Project Location
-  St. Anthony Falls Waterpower Area
-  St. Anthony Falls NRHP Historic District
-  Area of Potential Effect
-  West Bank Milling Area (WBMA)

Source: FSA 2003-2004; The 106 Group

**The Wave Development
 Analysis of Effects and
 Phase II Archaeological Investigation
 Hennepin County, Minnesota**



**Project Location, Historic Areas and
 Area of Potential Effect**

Figure 1

restaurant, wine grotto, lobby and falls overlook within the footprint and massing of the existing Fuji Ya restaurant building. This section would stand at 2 stories plus the addition of clerestory projection above South First Street; the slope of the parcel towards the river exposes 3 stories on the West River Parkway side. The Fuji Ya building would adjoin the much larger section via a 2-story lobby atrium. The remainder of the building is devoted to 38 residential units, a spa, and 4 levels of parking – three of which are below the South First Street grade. On the river elevation, the residential portion of the building is divided into 10 vertical bays. Beginning at the down-river end, bays 1 through 5 rise 6 stories above the First Street South grade; bays 6 and 7 are 8 stories; bays 8 and 9 are 9 stories; the tenth bay is 11 stories above the South First Street grade. The sloping parcel exposes underground parking on the river side of the building, adding three stories to the visible elevation view from West River Parkway. The South First Street elevation would be comprised of 6 distinct bays at three different heights up-river from the lobby atrium. The bays would be divided by strong vertical elements that serve as entry pavilions and elevator/stair shafts. The vertical elements are joined by horizontally oriented window units.

The exterior walls of the river elevation would be composed of bands of continuous, floor-to-ceiling glazing interrupted by projecting concrete floors forming balconies on every other floor. The exposed parking garage levels of the riverside elevation would be faced with stone material. The vertical entry pavilions/elevator shafts of South First Street elevation would be partially clad with copper or other metal and continuous glazing on other portions. The units between the vertical components would be comprised of glazing and operable wood or metal screens. Based on the conceptual drawings, the flat roofs of the residential portion will be used as terraces, with pergolas, tree plantings, and access structures at each level.

As currently proposed, the project would require the removal of most of several below-grade historic foundations on the parcel; foundations under the Fuji Ya restaurant would be preserved and reused. The Fuji Ya building would be remodeled and reused for a restaurant.

1.3 AREAS OF POTENTIAL EFFECT

The project area of potential effect (APE) for archaeological resources is the same as the proposed development area and includes all areas of proposed construction activities or other potential ground disturbing activities associated with the construction of the development and parking facilities. The project area for Phase II archaeological investigations consisted of approximately 1.26 acres (0.51 hectares; Figure 1).

The APE for architectural history resources included those properties directly affected by the project within the parcel boundaries, as well as those that would be potentially affected by atmospheric or aesthetic impacts, such as visual intrusions. The broader, visual effects APE encompassed approximately 207 acres (83 hectares) and included much of the SAFHD and properties on both sides of the Mississippi River. A detailed

discussion on the architectural history APE and the methodology used to delineate it is provided in Section 5.2 of this report.

1.4 REGULATORY FRAMEWORK

The project is located within the NRHP-listed SAFHD, a group of significant archaeological, historical, and architectural properties (see Figure 1). The historic district is also a local historic district, and proposed development within the district is reviewed by the Minneapolis HPC, which has adopted a set of guidelines for the district. The project proposes the demolition of several building foundations that are contributing elements to the St. Anthony Falls Waterpower Area (SAFWA) of the SAFHD, and therefore requires the completion of an EAW.

1.4.1 Minneapolis HPC St. Anthony Falls Historic District Regulation

The Minneapolis HPC reviews projects in this historic district under the provisions of the Minnesota Historic District Act. The Minneapolis HPC issues Certificates of Appropriateness for projects it approves and has the responsibility to review the impacts of the proposed project on cultural resources.

The Minneapolis HPC adopted the SAFHD guidelines in June 1980. In addition to supporting the stated purpose of the preservation, protection and perpetuation of the historic district, the regulations set policy directions for future land use within the district. The guidelines were intended to:

- 1) Preserve the memory of past events;
- 2) Encourage sympathetic new development;
- 3) Encourage and enable access to the river; and
- 4) Foster along the riverfront and adjacent areas a viable community geared to the pedestrian (Minneapolis HPC 1980).

The SAFHD Guidelines also provide a framework within which the HPC evaluates proposals for new construction and the rehabilitation of existing buildings and structures within the historic district. The district is divided into 11 areas, and guidelines are tailored to the various types of historic resources. The guidelines mandate that infill construction be visually compatible with historic structures in the sub-area with regard to a number of design elements.

1.5 REPORT STRUCTURE

The following report addresses the stated purposes of this investigation. Preliminary chapters describe the previous cultural resource investigations and the historical context of the project site. The following chapter presents the results of the Phase II archaeological investigation, including the objectives, methods, and detailed descriptions

and evaluations of the various site features. That chapter is followed by an analysis of effects of the proposed project on historic resources. The effects analysis includes an evaluation of the project using the *Secretary of the Interior's Standards and Guidelines for Historic Properties*, the Minneapolis HPC design guidelines for the WBMA, an analysis of the visual impact of the project on surrounding historic resources, and the impacts on the setting of the WBMA. Anticipated cumulative effects resulting from the proposed project are also addressed. The content of the report concludes with recommendations for avoidance and/or mitigation of adverse effects to historic resources. Appendix A provides schematics and renderings of the proposed plan provided by Heritage Development; Appendix B contains the Minnesota Archaeological License; Appendix C includes Minnesota Archaeological Site Forms; Appendix D provides the feature table; Appendix E includes bag inventories; Appendix F is a list of project personnel.

2.0 PREVIOUS INVESTIGATIONS

2.1 ST. ANTHONY FALLS HISTORIC DISTRICT

The SAFHD was listed on the NRHP in 1971 and was included in the Minnesota Historic District Act of 1971. The boundaries for the district seem to have been based more on the thematic concept of the history of the St. Anthony Falls area than on the location, nature, and integrity of historic and archaeological resources. The northern boundary of the district was altered in 1973. A study of the district completed in 1992 was undertaken, in part, due to the shortcomings of the original district nomination. The boundary of the district and a coherent theme and statement of significance for the district were issues addressed in that work. The 1992 study identified a single unifying theme for the district—waterpower development and use—and provided a significance statement for an area within the district identified as the SAFWA (Figure 1). The State Historic Preservation Office (SHPO) considered using the proposed boundaries of the SAFWA as the new boundaries for the historic district. However, because the proposed boundary change was based on thematic appropriateness rather than the loss of integrity or resources, the boundaries of the district as altered in 1973 were retained. The SAFWA was identified as a thematic component of the larger district (Hess and Kudzia 1991:introductory statement).

The updated documentation for the SAFHD NRHP nomination prepared in 1992 summarizes the significance of the SAFWA in the historic district as its ability to represent the culmination of nineteenth-century American direct-drive waterpower development. Its areas of significance are engineering and industrialization. The summary suggests that the most significant resources in the historic district are those relating to the area's identity as a great waterpower distribution system and flour-milling district (Hess and Kudzia 1991). The flour-milling industry that developed in the waterpower district presented the convergence of a number of factors that supported the concentration of the industry, including a cheap source of power, a favorable railroad transportation system, and the adoption of inventions and technically superior milling techniques as they became available by mill managers (Kuhlmann 1929:321). The flour-milling component of the SAFWA represented a concentration of an important industry during the late nineteenth and early twentieth centuries before various forces caused it to decentralize.

2.2 ADDITIONAL STUDIES

Additional studies of the district's underground historic resources were spurred by the proposed construction of the West River Parkway, which now extends along much of the west bank of the Mississippi River in Minneapolis, and through the West Bank Milling District (or WBMA). The road now forms the northern Wave parcel boundary. The parkway concept originated from the mid 1880s when landscape architect H. W. S. Cleveland designed the city's park system with a series of parkways circumnavigating the

city. While rural areas with inexpensive land, such as Minnehaha Creek, were quickly acquired and developed into parks, the Riverfront area with its intensive industrial activity was neither feasible nor desirable for a parkway (Anfinson 1984).

In the early 1980s, an extension of the West River Parkway from 23rd Avenue to Plymouth Avenue was proposed, and in 1982 the Minneapolis Park and Recreation Board selected the preferred route. Subsequently, a series of historical and archaeological studies were conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 and Section 4f of the Department of Transportation Act of 1966. These studies have provided the basis of many of the archaeological investigations and interpretive planning efforts that have taken place along the riverfront to date.

Initial work in the riverfront entailed a literature review of the *Archaeological Potentials on the West Side of the Central Minneapolis Waterfront* (Anfinson 1984). The report included a wide swath of the Minneapolis Mill District so that the data gathered could be used to better inform future developments along the parkway. Anfinson's literature search incorporated a wide range of sources and provided a detailed analysis of the potential for significant archaeological resources that remain within the area. The Wave project area lies at the far northern end of the West Bank Milling District, and at least three buildings once stood within the project boundaries.

After Anfinson completed his literature review of the milling district, he and other archaeologists were able to verify his hypotheses of archaeological potential through a series of archaeological surveys conducted over the next several years. Anfinson's work culminated in the publication of two works in *The Minnesota Archaeologist* where he summarized the historical overview, archaeological potentials, archaeological explorations, and interpretive potentials of the Central Minneapolis Riverfront (Anfinson 1989, 1990).

In 1986, Jeffrey Tordoff of the MHS was retained by the Minneapolis Park and Recreation Board to undertake an investigation of a proposed West River Parkway extension in a parking lot to the east of the Fuji Ya restaurant. In his investigations, the northern wall of the City Waterworks was uncovered as was a small section of a wheelhouse. These resources were encountered approximately 2.8 – 3.5 ft below grade. In his report, Tordoff recommended that the archaeological remains be avoided if at all possible to retain the archaeological integrity of the belowground structures (1986).

3.0 HISTORICAL CONTEXT

3.1 THE EARLY YEARS

The early growth of the city of Minneapolis during the mid nineteenth century stemmed from its promise as a merchandising and manufacturing town (Borchert et al. 1983), underscored by the conduciveness of its natural resources to extensive lumbering and agriculture production. The saw and flourmills in the St. Anthony Falls area of Minneapolis and St. Anthony were the engine that drove that growth; they harnessed the power of the falls to power the mills and to grow the young cities of Minneapolis and St. Anthony in the process. As a result of the burgeoning lumber and flour interests at the falls, the Minneapolis Riverfront also evolved into a transportation and shipping hub through the introduction of railroad interests, as evidenced through the Milwaukee Road Depot on Washington Avenue and Third Avenue South, the Stone Arch Bridge, the Chicago, St. Paul, Minneapolis and Omaha Railroad Roundhouse, and many other railroad-related buildings and features throughout the historic district.

The first mills built at the falls were those constructed by a garrison stationed roughly 10 miles downriver at Fort Snelling. The garrison decided to build at this location to take advantage of the falls, an untapped source of waterpower, and in 1821 they built a sawmill. In 1823 the soldiers undertook the construction of a gristmill at the falls, the area's first flourmill. The land on the east side of the river (St. Anthony) was controlled by Fort Snelling and off-limits to private ownership until 1838, when Commander Joseph Plympton received permission to open up the lands on the east bank to public sale. The land on the west bank (Minneapolis) was not relinquished from government control until 1855.

3.2 MILLING IN THE LATE NINETEENTH CENTURY TO MID TWENTIETH CENTURY

By the 1860s and 1870s the mill industry in Minneapolis and St. Anthony was flourishing and provided the cities with the majority of its commercial activity, either directly through the mills themselves, or indirectly through mill-related industries such as the manufacture of milling equipment (Kane 1987).

3.2.1 Sawmilling

Following the construction of the first government sawmill at St. Anthony in 1821, sawmilling became the first industry to expand in Minneapolis. The falls were perfectly situated for this industry due to the large expanses of pine forest to the north. The Mississippi River provided an easy means of transporting the raw logs to the mills, and the falls provided a power source to the saws. During 1856 – 1869 Minneapolis and St. Anthony were dominated by the lumber industry and were considered “sawdust cities”, and therefore their schedules were dictated by the cycles of lumbering (Kane 1987:58,

North Star Publishing Company 1881:401). Each fall teams of loggers would depart for the pine forests, and the saws would be shutdown by November or December. Once spring came, the logs cut in the winter would flow into the cities on the river and signal the start of another season of sawmilling at the falls. Lumber production grew at a steady pace, with an annual production of roughly 12,000,000 board feet in 1856 to 90,734,595 in 1869. A majority of this prolific output came from the thirteen sawmills in the east and west-side rows of mills along the falls. In 1870 the annual value of the sawmills' products was \$1,733,011 and was the most valuable product being produced in the cities (Kane 1987:106).

The sawmills were the largest employers in Minneapolis during their heyday, partially because more laborers were required to operate a sawmill than a flourmill (Kane 1987:106). The prominence of the sawmills in Minneapolis was further expanded as a result of the introduction and expansion of railroads in Minneapolis and St. Paul. The raw cut lumber and finished millwork, such as sashes and doors, could, through the effective use of railroads, ship to distant markets on the east and west coasts.

Between 1876 and 1880, Minneapolis Mill Company (MMC), the conglomeration that developed waterpower on the west bank of the Mississippi, purchased all of the sawmills on the west bank in an effort to curtail water usage by these mills in order to provide more power to the developing flour mills. The MMC then proceeded to rent out the sawmills on a short-term basis to various interests for a few years to derive additional revenue, and then went into business for itself on a contractual basis with local lumber interests. In 1880, the west bank mills were turning out 52,000,000 board feet of lumber, roughly 43,000,000 feet less than their counterparts on the east bank in St. Anthony. MMC razed the last of the sawmills in their control in 1887 (Kane 1987: 107-108). The result of MMC's dwindling interest in sawmilling on the west bank led to the eventual decline of sawmilling as a primary industry in Minneapolis, and the subsequent rise of flour milling as the dominant economic force in the city.

It should be noted that sawmilling was not completely abandoned in the greater City of Minneapolis, but shifted to northern Minneapolis where large swaths of land were available at reasonable prices. Other motives for a move of the lumber / sawmilling industry to north Minneapolis were the removal of flammable lumberyards from the heart of the city, easy access to the boom, advances in steam power, and the planned rail lines for the north Minneapolis area (Kane 1987:108). By 1880 north Minneapolis was turning out 32,608,000 board feet of lumber, or 16 percent of all lumber produced in the city (Kane 1987:108). North Minneapolis still has a lumber industry, with over nine lumberyards and millwork outlets, both retail and wholesale.

3.2.1.1 Bassett Sawmills

Joel Bean (J.B.) Bassett was one of the first people to make a claim on the western bank of the Mississippi River near the falls after the government opened the land to settlement. He came to Minnesota from New Hampshire in 1851 and settled upstream from the falls

on the creek that bears his name (North Star Publishing Company 1881:374). Bassett had a thriving career outside of milling, for example he was the first Judge Probate of the county, a territorial legislature representative, and an Indian agent to the Chippewa (North Star Publishing Company 1881:374).

Bassett's initial foray in the sawmilling industry was the rental of a mill on the eastern bank, in St. Anthony, with the likes of John S. Pillsbury. At this time there were thirteen mills in operation on the east side. Between 1858 and 1869 various local notables (Bassett and William D. Washburn among them) built a row of eight sawmills on the western bank of the river, which rested against the dam (Kane 1987:58). Bassett built his first sawmill out of stone in 1866 near the head of the First Street canal. He then sold that structure to the city for a waterworks and built another sawmill north of the previous structure in 1870 (Figure 2). Two years later the southern portion of the second sawmill was also sold to the city, which later built a small brick building to house water pumps. The new mill had a stone foundation and a two-story framed upper structure. Bassett's sawmill had a daily capacity of 100,000 board feet of lumber, 30,000 shingles and 30,000 laths. The power to run the machinery was produced by a sixty inch, 200 horse power turbine wheel, of which 120 horse power were used on a daily basis (Morrison 1885:49). In 1889 the neighboring Columbia Flour Mill, which Bassett held an interest in, built their boiler room into the corner of the sawmill, and in 1891 another boiler room was erected for the sawmill to utilize. Ultimately, the sawmill burned in 1897, although the engine house survived the conflagration and continued to provide power to the Columbia Flour Mill until 1941. The wheelhouses were torn down in the 1940s, and the area was paved over for a parking lot. The surviving engine house was integrated into the Fuji Ya restaurant in 1968 (Anfinson 1984:95-96, 1989:55).

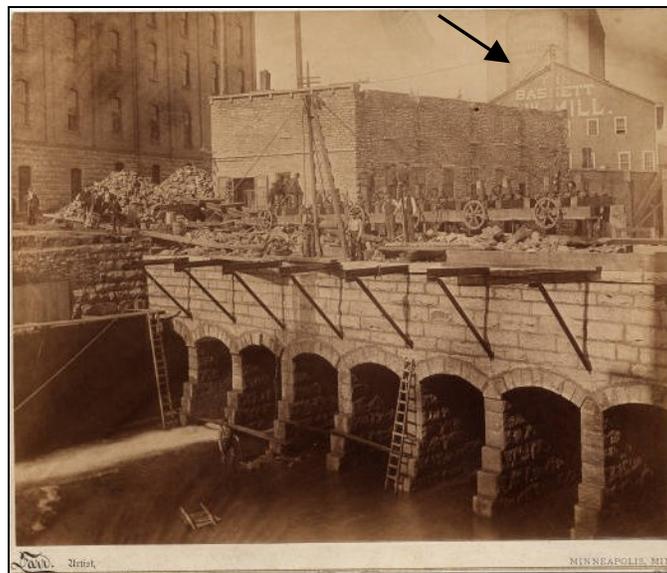


FIGURE 2: BASSETT'S SECOND SAWMILL, 1905. SOURCE: MINNESOTA REFLECTIONS

3.2.2 Flour Milling

The second stage in the evolution of the riverfront, and Minneapolis at large, was the growth of the flour-milling industry. As noted above, this industry was an outgrowth of the sawmilling industry and the power contained in the Falls of St. Anthony. By 1881, the prominence of flour milling in Minneapolis was recognized and celebrated by the local population as demonstrated in the *History of Hennepin County and the City of Minneapolis*: “of all the industries, that of the flour mills is the foremost, and of such extent as not only to characterize Minneapolis as a milling city, but also to entitle it to the position of the first in the world” (North Star Publishing Company 1881:387 – 388). The first merchant mill to be built at the falls was erected in 1854 on the east side of the river, although the old government grist mill was rented by a Mr. Robert Smith, a congressman from Illinois, in 1850 (The Northwestern Miller [NM] 1890). The first flourmill on the western bank of the Mississippi was the Cataract Mill of 1859 (NM 1890), which was also the first stone mill building at the falls (North Star Publishing Company 1881). By 1866 there were a total of eight working flourmills on the banks of the river, which ground 172,000 barrels of flour at a value of \$1,661,500 annually (NM 1890).

The flour industry surpassed the sawmilling industry, as noted above, in the early 1870s. The total number of flourmills at the falls rose from eight in 1866 to thirteen in 1867, to eighteen in 1875, twenty-two in 1882, and twenty-five in 1890 (NM 1890). The mill owners were community leaders and considered of pivotal importance within the workings of the city, with such notables as the Pillsburys, the Washburns, and Bassett. From 1880 to 1890 the production of flour rose dramatically, as evidenced through the rise in the number of mills at the falls, from 193,000 to 2,051,840 barrels annually, with established values of \$1,125,215 in 1870 to \$20,502,305 in 1880 (Kane 1987:99). In 1880 the title of “queen flour city,” which Minneapolis was to hold for fifty years, passed from St. Louis to Minneapolis, as St. Louis was unable to keep pace with the increased rate of production at the falls (Kane 1987:99). Yet this prominence would not have been possible if, as with sawmilling, it were not for the introduction of the railroad to the Twin Cities. This allowed for the mills to tap markets previously closed to the Minneapolis flour industry, and to open up fresh areas to farmers to grow their wheat (Kane 1987:99-100). Ultimately, the increased mobility of people and products allowed for Minneapolis’s flour to be sold across the United States, its territories, and even in European markets such as London (Kane 1987:100-101; NM 890).

As with any industry, the boom period of flour milling in Minneapolis was following by a bust. Various mills were destroyed over the years: by fire (Model Mill, Kind Midas Mill), explosion (Washburn “A” Mill), demolition (Phoenix Mill) or neglect (Columbia Mill). By the 1930s the remaining mills at the falls were being dismantled and abandoned and the epicenter of flour milling in the United States shifted from Minneapolis to Buffalo, New York, and Kansas City (Hess 1991). The last mill to shut down its operation was the Washburn-Crosby “A” Mill in 1965.

3.2.2.1 *Columbia Flour Mill*

The Columbia Flour Mill (Columbia) was built on the western bank of the Mississippi in 1882 during the beginning of the flour boom in Minneapolis by the Columbia Mill Company, which was composed of J.B. Bassett (of Bassett's sawmill), Horace S. Wade, E. Zeidler and F.D. Zimmerman (The Millers' Journal [MJ] 1883; Morrison 1885:48; NM 1881: 219). The Columbia was a six-story structure with a basement, and a footprint of approximately 36.6 by 13.7 m (120 by 45 ft) and erected out of limestone wall foundations that are situated on a rock ledge (Figure 3; MJ 1883). The foundation walls were apparently six feet wide at the base (MJ 1883) and taper to four feet thick at the level of First Street. The width of the walls at the base was not verified in the field due to the depth of the site. The upper stories are composed of brick (General Inspection Company [GIC] 1911). In 1889 a grain elevator was erected on and attached to the western end of the building, and a brick boiler house was built on the eastern end. To the west (upriver) of the mill a grain elevator was constructed of the same height as the mill, with a footprint of roughly 15.24 m by 9.1 m (50 by 30 feet). William F. Gunn was the mill's designer (MJ 1883). The Columbia employed 35 people and produced 1,200 barrels a day, and had a reputation for producing some of the best flour to come out of Minneapolis (Morrison 1885: 48).

The Columbia had a place of distinction in the city in its early years, as it was the first mill in the city to fully adopt the new technology of the roller process of flour milling (NM 1891:225). In this process, the kernels are passed through a series of porcelain, iron or steel rollers in an effort to reduce the amount of time it took to process the kernels into useable flour. After each stage of rolling, the resulting mixture was sifted and then rolled again until the resulting flour was to the miller's liking. Another added incentive to utilize this process was the subsequent increase in yield.

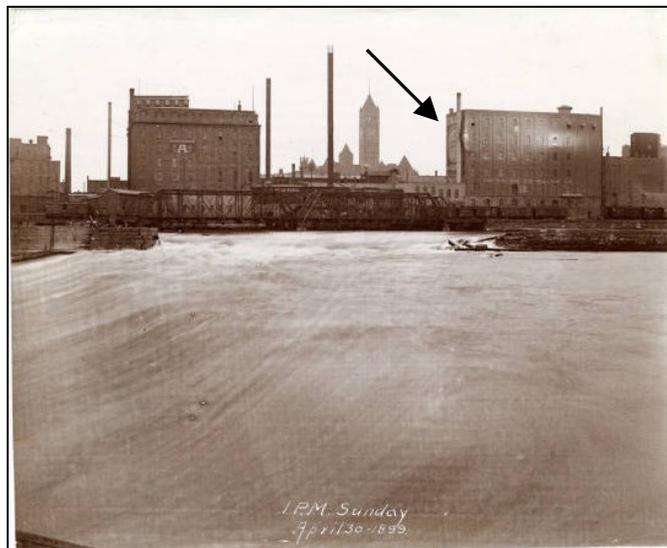


FIGURE 3: COLUMBIA FLOUR MILL, 1899. SOURCE: MINNESOTA REFLECTIONS

The process of consolidation at the falls started in 1874 with the formation of C.A. Pillsbury and Company. Northwestern Consolidated Milling Co. was formed on July 4, 1891 and brought six of the larger mills under its umbrella organization, including the Columbia. With this merger, the Columbia became Northwestern Consolidated Milling Company's "B" mill, and was also known as the "Ceresota Mill", with Ceresota being defined as *Cere*, the Goddess of the Harvest, and "sota" representing the state of Minnesota (Phoenix 189-:104). The Powers behind this conglomerate were Captain John Martin, J.B. Bassett, Charles T. Fox, Fred C. Pillsbury, A.C. Loring and Ernest Ziedler (Phoenix 189-: 104). At the time of the conglomeration the Columbia employed 50 people on a steady basis and was producing 2,500 barrels a day; the flour they produced was distributed throughout the United States and the World, to such places as Bremen, Belfast, Amsterdam and Glasgow (Phoenix 189-:105).

By the 1930s the mill had been converted to a grain elevator, known as the Harbor Elevator. On New Year's Day of 1941 the upper floors of the mill collapsed and were torn down soon after. The old brick boiler room to the east of the facility was converted to a chemical lab and a book store in the late 1940s, and the eastern portion of the mills foundational remains were incorporated into the Fuji Ya restaurant during its expansion in 1974. A parking lot and the city sidewalk cover the western portion of the remains.

3.2.2.2 *Occidental Feed Mill*

In 1883 the Occidental Feed Mill (Occidental) was built by McAlister, Chase and Company (Figures 4 and 5) and was the northernmost mill in the waterpower area. Turbines located at Bassett's Second Sawmill (Bassett) generated the waterpower, and the Occidental was connected to the power source through direct drive. The mill was two-stories high and constructed of brick with limestone foundations, and after substantial improvements introduced in 1885 had the capacity to mill over fifty tons of grain in a ten-hour period (NM 1885:269). By 1885 J. B. Bassett of the Bassett Sawmill and the Columbia held an interest in the Occidental with McAlister, Chase and Company (NM 1885:269); Zimmerman from the Columbia was employed at the mill as well (NM 1898:248). The Occidental was noted as having "a good trade on rye flour" which was shipped particularly to customers on the east coast (NM 1895:869). An associated elevator and office building adjoined the mill to the north. Ultimately the Occidental burned on November 14, 1919, with the walls of the upper stories being torn down in 1920 (Anfinson 1989:54). The site is now covered by an asphalt parking lot.



FIGURE 4: OCCIDENTAL FEED MILL
ADVERTISEMENT, 1885 (NM:34)

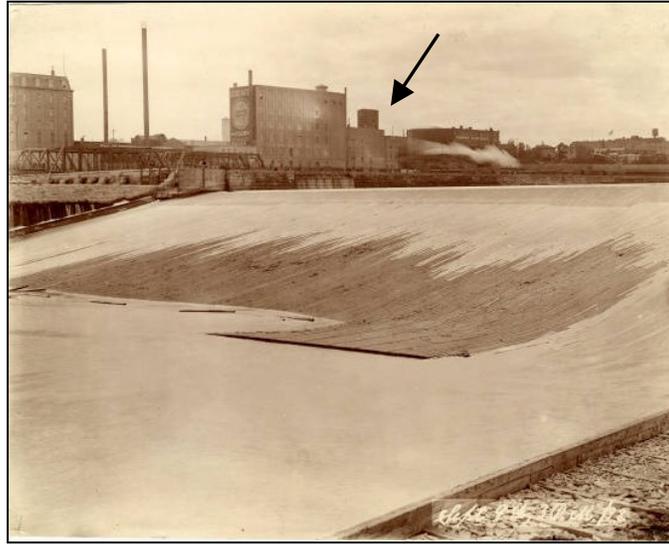


FIGURE 5: OCCIDENTAL FEED MILL, 1898. SOURCE: MINNESOTA REFLECTIONS

4.0 ARCHAEOLOGICAL RESULTS AND ANALYSIS

4.1 OBJECTIVES

The focus of this investigation was to identify and describe the extent of archaeological resources on site, to determine how those resources contribute to the NRHP district, to determine if there is a way to avoid impacting historic resources, and to recommend appropriate methods of mitigation if avoidance is not possible. All work was conducted in accordance with the *SHPO Guidelines for Archaeological Projects in Minnesota* (Anfinson 2001) and *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* [48 Federal Register 44716-44740] (National Park Service 1983).

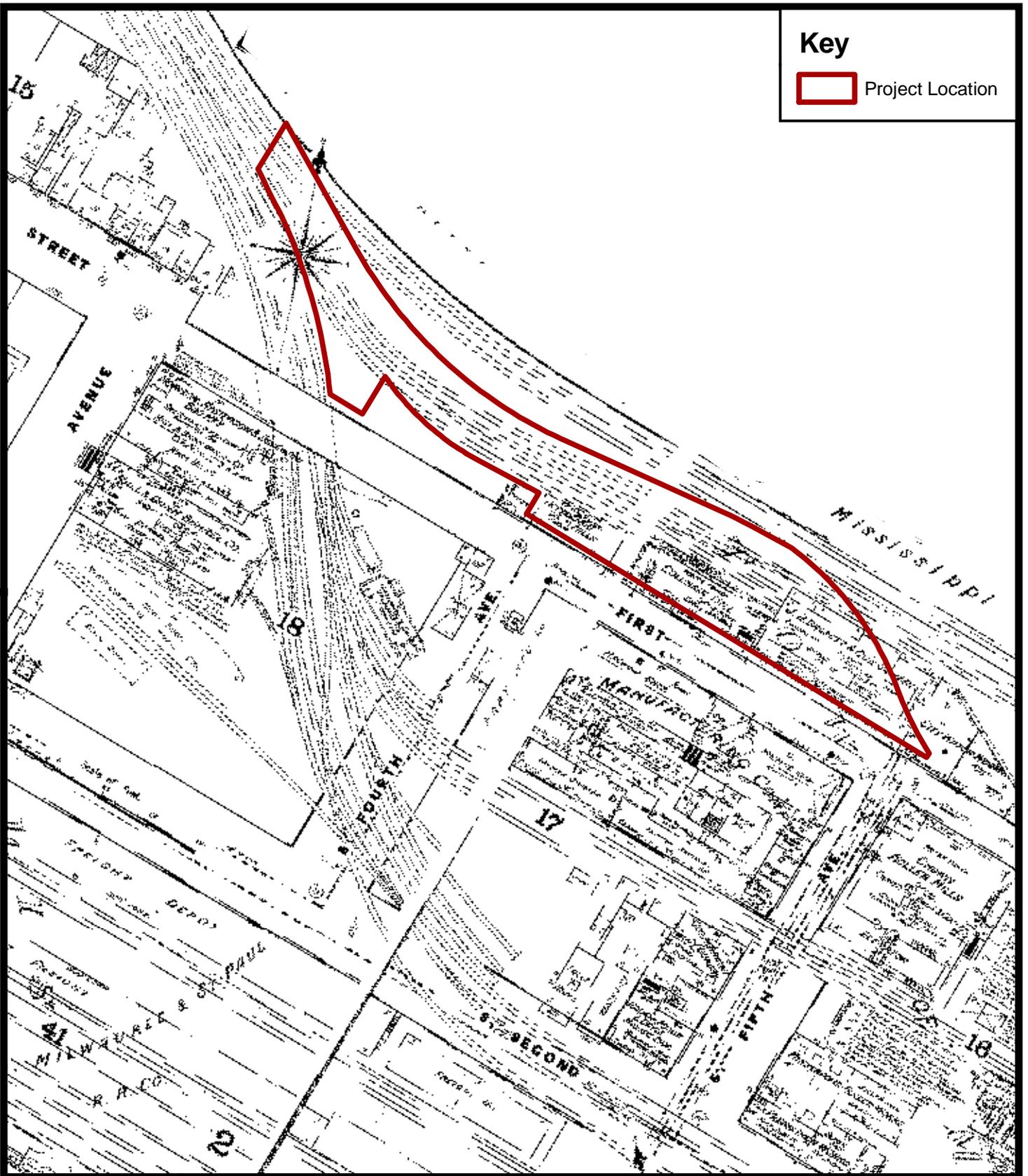
4.2 BACKGROUND RESEARCH

Research for the Wave project was first initiated in 2005 when The 106 Group provided a literature review and other consultation for Heritage Development. During this review, and prior to the start of the Phase II field survey, staff from The 106 Group conducted background research at the SHPO for information on previously identified sites within one mile (1.6 km) of the project area and on surveys previously conducted within the project area. In addition, USGS topographic quadrangles, historical plat maps, aerial photographs, and data on project soils were reviewed in order to assess the portions of the project area that possessed a higher potential for containing archaeological sites.

4.3 WORK SUMMARY

Staff from The 106 Group conducted Phase II archaeological testing of the Wave project area from April 19-22 and 24-28 2006. Anne Ketz served as Principal Investigator with field crew consisting of Field Supervisor Mark Doperalski, as well as Jennifer Tworzyanski, Amanda Adams, Jim Kunesh, and Chris Moose.

To direct initial placement of backhoe trenches, historic fire insurance maps of the project area (Figure 6) from the year 1885 were geo-referenced to recent aerial photographs. In general, locating the walls and corners of relevant buildings was the focus of initial trench excavation. Subsequently, trenches were used to define the extent of features, such as foundation walls, in order to determine the historical lots and buildings with which they are associated.



Source: Sanborn Map Publishing Co., 1885

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**1885 Sanborn Map of
 The Wave Project Area**

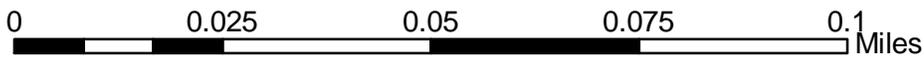


Figure 6

4.4 METHODS

4.4.1 Work Plan

The 106 Group developed an archaeological work plan for the Phase II archaeological investigation in consultation with of the City of Minneapolis. The plan, on file with the City of Minneapolis, was used as the basis for this investigation.

4.4.2 Field Methods

Fieldwork included the development of a measured plan of the site, included in this technical report, showing the locations of test excavations, and natural and cultural features. Sunde Land Surveying, Inc. surveyed excavation areas, trenches, and features with a total station, which is an electronic distance measurement and theodolite combined in one housing that measures distance, horizontal and vertical angles. In addition, the Field Supervisor kept field notes that included a list of all workers present onsite, details of testing, impressions of the site as a whole and of its individual components, and any other information deemed appropriate. Survey data was recorded through the Field Supervisor's daily log and standardized field documentation forms. Recorded information included: test locations and methods of testing; the numbers, types and locations of recovered cultural materials; the thickness of excavated soil layers; soil textures and inclusions (both natural and cultural); and soil color according to Munsell color charts.

All excavations were conducted in compliance with federal and Minnesota Occupational Health and Safety Administration regulations. All Phase II excavations were restored to pre-excavation ground level.

Backhoe trenches were used to evaluate the archaeological resources of the Wave project area. A backhoe was used to excavate 11 trenches to test for archaeological sites survival, integrity, and character. The minimum width of excavation trenches was approximately 1 m (3.3 ft.) wide. Trenches ranged in length from 6 to 46 m (19.7 to 151 ft.) long. Backhoe trenching was conducted with a smooth (no teeth) bucket, and an archaeologist was on hand during all excavations to closely monitor progress and guide the backhoe operator.

All stains, features, and artifact concentrations were explored by the archaeologist using a trowel or by shovel skimming. At least one wall of each trench was documented through a scaled drawing of the soil stratigraphy, as well as photography. The extent and composition of all stains, features, historical surfaces, and artifact concentrations were defined and recorded through the use of standardized test-excavation forms. Drawings were labeled with cultural information and standardized soil descriptions, including soil

texture, inclusions, artifacts, and Munsell soil colors. In addition, all features were photographed.

No screening of soils was deemed necessary because all artifacts were uncovered from fill, and hence the original proveniences of the artifact is unknown.

4.4.3 Laboratory Methods

Artifacts uncovered related to milling activities from the nineteenth century were all located within fill, therefore they will not be curated at a public facility, and are not considered a significant part of the archaeological record. However, they do have value in an interpretive context to assist in illustrating the general story of Minneapolis's milling history.

4.4.3.1 Curation

The 106 Group will temporarily curate artifacts recovered during the investigations at its laboratory in St. Paul, pending review of the report by the appropriate agencies. Paper and electronic copies of all project documentation will be kept on file indefinitely at The 106 Group office.

4.4.4 Geographic Information System (GIS)

GIS information was obtained from Sunde Land Surveying, Inc. of Bloomington, Minnesota through the use of a total station. That data was then downloaded into ArcView and labeled as to the appropriate trench and feature designators. The data was geo-referenced to existing known points and overlaid on multiple historic maps such as Sanborn Fire Insurance maps. It should be noted that there is an element of error when combining multiple maps, especially where historic maps are referenced, as their level of accuracy is unknown, and where multiple points are referenced on multiple maps as levels of error are thus compounded.

4.5 BASSETT'S SECOND SAWMILL (SITE 21HE0363)

Archaeological investigations focusing on the potential remains of parts of the Bassett's Second Sawmill (Bassett) (Site 21HE0363) were conducted in the eastern portion of the proposed Wave Development in the small triangular parking lot to the east of the Fuji Ya, and within the eastern section of the basement of the Fuji Ya. The foundations of the Bassett are intact, as they were incorporated into the foundations of the Fuji Ya restaurant. Various archaeological features (see Appendix C for a complete feature table for ease of reference) were noted and documented, such as the southwestern corner of a wheelhouse, possible plinths and pedestals related to the mill's driveshaft, and the mill's boiler room foundations.

4.5.1 Fuji Ya Remains

The western sections of the Bassett were incorporated into the foundations of the Fuji Ya restaurant when it was erected in 1968. The foundation shape is a nine-sided irregular rectilinear polygon (Figure 7) with exterior walls of brick and limestone approximately 18.6 m (61 ft) at its widest from west to east, and 17.1 m (56.1 ft) from north to south at its widest point. There are four rooms (rooms 3, 4, 5 and 6, with rooms 1 and 2 to be discussed later as they pertain to the Columbia) in this section of the mill with one arched doorway to the exterior on the northern wall.

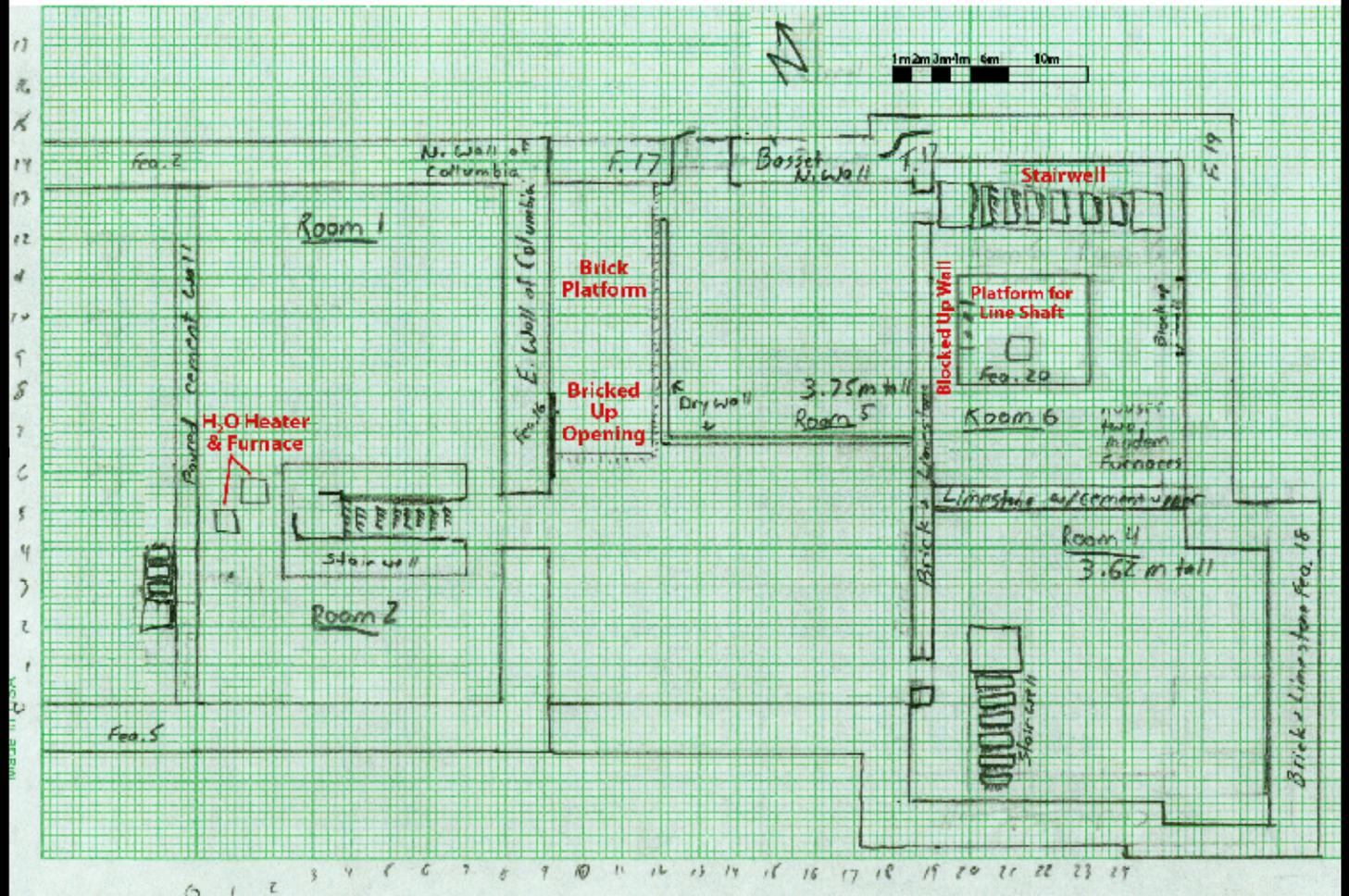
4.5.1.1 Room 3

Room 3 is located in the southwestern quadrant of the Bassett's remains, with an extension approximately 2.8 m (9.2 ft) wide running the entire western length of the remains. The dimensions of the room are roughly 9.2 m (30.2 ft) from east to west, and 13.4 m (44 ft) from north to south on the western end, and 7.2 m (23.6 ft) on the eastern end. The western wall (Feature 16) is composed of limestone-block, is approximately 1.3 m (4.3 ft) thick, and is the eastern wall of the Columbia Flour Mill. A modern 1 m (3.3 ft) wide doorway has been inserted in the wall 8 m (26.2 ft) north of the southern wall. There is a bricked up opening in Feature 16 (Figure 8) as well, roughly 2.2 m (7.2 ft) wide to the immediate north of the modern doorway. The eastern wall of Room 3 is composed of brick and limestone-block, and has one opening on its southern end into Room 4. The far northern wall (Feature 17) of Room 3, and the Bassett, is limestone-block.

The floor of the main body of Room 3 is composed of wide wooden boards, while the extension to the north is a slightly raised brick platform. The ceiling of Room 3 is a roughly 3.8 m (12.5 ft) high brick barrel-vaulted ceiling with I-beams running the length of the room in a north-south orientation. An opening was cut into the southwestern quadrant of the ceiling to allow for a modern metal stairway. Collapsing modern ductwork runs the length of the room, with an origination point in Room 5.

4.5.1.2 Room 4

Room 4 occupies the southeastern quadrant of the Bassett foundations within the Fuji Ya. It is accessed through a door in its western wall from Room 3. The room is irregularly shaped as the eastern 2.7 m (8.9 ft) portion is slightly offset to the south, roughly 1 m (3.3 ft) in the north, and .5 m (1.6 ft) to the south (see Figure 7). From east to west Room 4 measures roughly 9.1 m (29.9 ft), with a north to south total dimension of 7.8 m (25.6 ft). The eastern wall (Feature 18) is composed of brick and limestone-block, as is the southern and western wall. The northern wall is poured cement. There is a modern stairwell in the southwestern corner of the room. The original ceiling is a continuation of the barrel-vaulted brick and I-beam found in Room 3, with a drop ceiling of corrugated iron 3.6 m (11.5 ft) above the floor.



Source: The 106 Group

The Wave Development
 Analysis of Effects and
 Phase II Archaeological Investigation
 Hennepin County, Minnesota

Plan View - Fuji Ya Basement

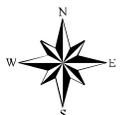


Figure 7



FIGURE 8: BLOCKED OPENING IN FEATURE 16

4.5.1.3 Room 5

A modern addition walled off with crumbling drywall, Room 5 is situated in the center of the northern section of the Bassett's remains. The room is approximately 6.2 m (20.3 ft) from north to south, and 6.2 m (20.3 ft) from east to west. Room 5 contains a modern furnace and water heater, which have partially collapsed the southwestern portion of the wood floor revealing a cavity underneath. A rusted shut trapdoor is located in the northeastern corner of the floor. The cavity under Room 5 was not explored due to lack of access and safety concerns. A bricked up exterior limestone arched opening, roughly 2.5 m (8.2 ft) wide, is located in the northwestern corner of the room in Feature 17. The eastern wall of Room 5 is made up of brick and limestone-block (Figure 9), with a doorway located at its northern end leading to Room 6. The brick barrel-vaulted and I-beam ceiling is extended into Room 5, and is approximately 3.8 m (12.5 ft) from the original floor level.



FIGURE 9: SOUTHEAST CORNER OF ROOM 5

4.5.1.4 Room 6

Room 6 is accessed from Room 5 via a stairwell that runs along its northern, limestone and brick wall. The eastern wall of Room 6 (Feature 19) is made up of limestone-block and brick, with various blocked up openings within its fabric. The southern wall is made-up of a limestone-block lower portion and a poured concrete upper, and the western wall is composed of brick and limestone-block. Room 6 houses two modern furnaces with their associated ductwork. The approximate dimensions of Room 6 are 8.1 m (26.6 ft) by 6.5 m (21.3 ft).

There is a raised cement platform (Feature 20) approximately 3.4 m (11.2 ft) from east to west by 2.8 m (9.2 ft) from north to south, with its southern end roughly 2.8 m (9.2 ft) from the southern wall, and its western edge approximately 0.6 m (2 ft) from the western wall. The eastern facing profile of Feature 20 shows the main platform is approximately 0.3 m (1 ft) high, with a central pedestal, likely to hold a line shaft, 1.3 m (4.3 ft) in height. Immediately to the east and west of Feature 20 in the walls are blocked up openings, through which the various shafts and pulleys may have run from the turbines to the east to power the Columbia and Occidental mills to the west.

The ceiling of Room 6 is a continuation of the barrel-vaulted brick and I-beam found in Rooms 3 and 5 with a height of approximately 7.1 m (23.3 ft).

4.5.2 Trench I

One trench, Trench I, was excavated within the confines of Site 21HE0363. Trench I was excavated in an irregular pattern, first extending parallel to First Street and perpendicular to the northeastern corner of the Fuji Ya, extending approximately 10.5 m (34.4 ft), then taking a southerly turn and extending approximately 9 m (29.5 ft) towards First Avenue, and again making a right angle to the east and extending another 8 m (26.2 ft). The trench was excavated in an attempt to uncover remains of the former Bassett and to determine the placement of previously recorded archaeological remains (see Tordoff 1986). At its deepest point Trench I was 3.1 m (10.3 ft) below grade, and ranged between 0.9 and 10.1 m (3 to 33.1 ft) wide when taking measurements in a north south orientation. The corner of a brick wall (Feature 15) was uncovered between 1.5 m (4.9 ft) and 2.1 m (6.9 ft) below grade, which extended in a northern and eastern direction from the corner. The soil encountered in Trench I was determined to be fill due to a high level of debris and a high proportion of artifacts from multiple periods being recovered in the same stratigraphic layer.

4.5.3 Feature 15

Feature 15 (Figure 10), as noted above, was the subsurface remains of a red brick structure, with the southwest corner having been revealed through excavation. The wall was approximately 0.3 m (1 ft) thick. The bricks were laid in a garden wall bond pattern, utilizing multiple rows of stretchers interspersed with rows of headers on a regular basis (Morris 2000). The tops of two bricked up openings were revealed within the southern wall of the structure, which were approximately 1.1 m (3.6 ft) wide. Within the openings one skin of bricks was utilized to close the openings, with the skin being flush with the exterior of the wall. It should be noted that Feature 15 was not excavated to its bottom, or “bottomed out” due to limitations in space and equipment.



FIGURE 10: FEATURE 15 FACING NORTHEAST

According to historic sources, Feature 15 is the southwestern corner of an old wheelhouse (Marsh & McLennan 1933) (Figure 11). This structure is apparently located above the tailrace and draft tubes of the Bassett and Occidental, with the Columbia's immediate tailrace and draft tube to the southwest (Baker 1908; Bell 1942). The tailraces, draft tubes and turbines were not recovered in this investigation, but negative evidence does not preclude their existence. It should be noted that these features were usually tunneled through the bedrock, which was not encountered in this excavation due to limitations in equipment and the nature of a Phase II archaeological investigation.

4.5.4 Races and Turbine

A water powered mill uses a series of channels or tunnels, called headraces and tailraces, to direct water to a turbine, which in turn generated the power necessary to run the mill. The headrace brought the water to the turbine, which was placed within a vertical draft tube. The water fell down the draft tube, and in so doing turned the turbine. Once the water was expended it was directed back to the water source through a tailrace. The Minneapolis riverfront is laced with these tunnels to power the various mills on the banks of the Mississippi River. Beneath the small triangular parking lot and possibly West River Parkway to the east of the Fuji Ya are the turbines and races for the Bassett, Columbia and Occidental (Baker 1908; Bell 1942) (Figure 12). Generally the tailraces are tunneled through the limestone bedrock. On the west bank of the river, the Occidental was the northernmost mill in the waterpower area, with its turbine located under the Bassett. The waterpower features for the three mills within the project area were not uncovered due to limitations in equipment, and the limitations imposed by a Phase II archaeological investigation. Further excavation may reveal the races and turbines of these three mills, if they have not been destroyed by the extension of West River Parkway.

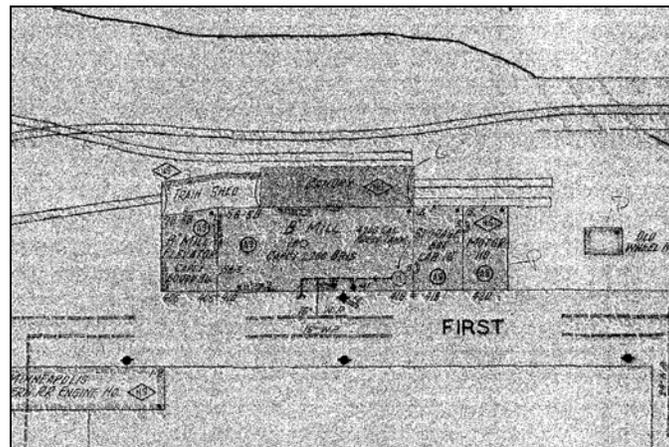
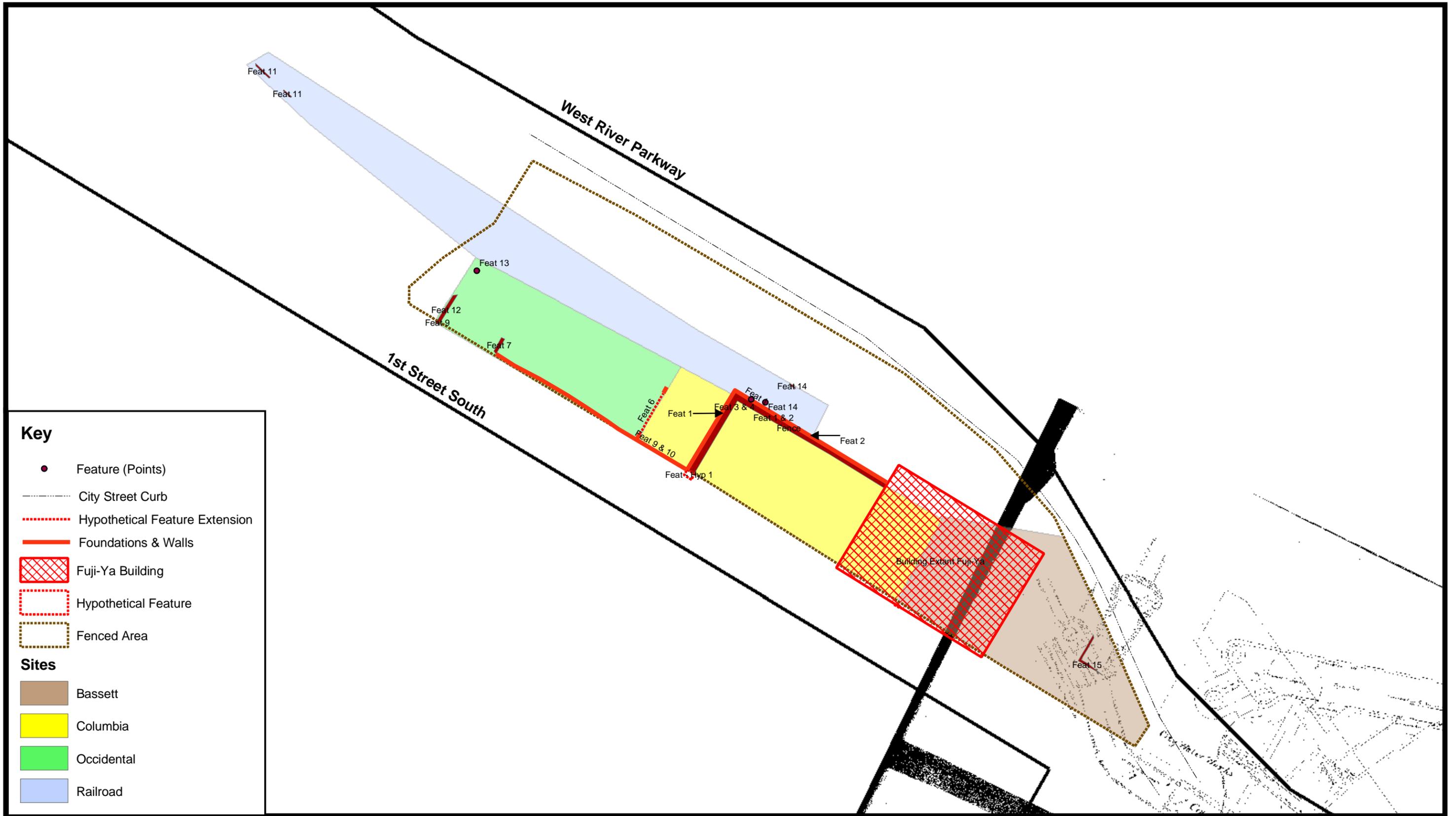


FIGURE 11: 1933 MARSH & MCLENNAN INSURANCE MAP OF PROJECT AREA



Source: 106 Group Field Notes; Sunde Survey; 1908 West Bank Tailrace Tunnels, J.T. Baker

The Wave Development
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Overlay of Surveyed Archaeological Site Plan
 with Historic Tailrace Map



Figure 12

4.5.5 Artifacts

A total of 42 artifacts were recovered from Site 21HE0363. During field investigations no undisturbed proveniences were encountered, therefore samples of artifacts were removed from the field and a general overview is provided below.

The most ubiquitous artifact type recovered from Trench I was glass representing the historic and modern period, with clear glass accounting for approximately 60 percent of the total assemblage. Other glass colors were also recovered such as white, brown and blue. Most of the glass artifacts represent a more domestic sphere with representative bottle and plates, as opposed to an industrial sphere, which is possibly represented on the site by window glass with embedded chicken wire.

Building materials were found within Trench I, with bricks being the most common type. No bricks were retained from the field, as they were unremarkable. A fragment of layered concrete and plaster was recovered which appeared to have been the skin of a wall. Yet as the soil in Trench I was fill, it is unknown if the plaster and concrete was associated with Feature 15 in Trench I.

One ceramic sherd was recovered: a modern whiteware rim fragment with painted floral designs and a slightly greenish band around its edge (Figure 13)



FIGURE 13: WHITEWARE CERAMIC FROM TRENCH I

4.5.6 Evaluation and Analysis

The Phase II archaeological investigation of the Bassett demonstrated that foundation remains of the mill's boiler room are intact beneath the Fuji Ya building, with the remnants of the mill's wheelhouse buried within layers of fill beneath the small triangular

parking lot to the east. At the time of excavation, the site retained sufficient integrity to convey its significance as a contributing property to the NRHP-listed SAFHD. Based on its level of integrity, the site has been determined eligible under NRHP Criterion A as it relates to a broad local, regional and national historic events and patterns relating to the prominence of Minneapolis in the milling industry. The site may be eligible under Criterion D, based on its potential to answer research questions. The Bassett and its associated turbines and boilers powered three mills. It is currently unknown precisely where and how the power was transferred upriver to and through the Columbia to the Occidental. Further archaeological investigation of the three mills and the draft tubes and tailraces may answer this question.

If Site 21HE0363 cannot be avoided during construction through alterations to the proposed Wave Development's plans, various mitigations strategies are recommended, which include but are not necessarily limited to archaeological data recovery.

4.5.7 Summary

Site 21HE0363, Bassett's Second Sawmill, was found to have good integrity in the basement of the Fuji Ya restaurant, with the remains of a wheelhouse within its eastern section. The site is considered eligible under the NRHP Criterion A in regards to its role in bringing Minneapolis to prominence as a dominant force in sawmilling. Site 21HE0363 may be eligible under Criterion D as a result of its ability to help inform how power was transferred from the Bassett's turbines and boilers upriver to and through the Columbia and Occidental.

4.6 COLUMBIA FLOUR MILL (SITE 21HE0364)

Site 21HE0364 is located in the middle to eastern portion of the proposed Wave site, to the immediate west of Site 21HE0363 (the Bassett). Archaeological excavation initially focused on the above ground interior of the northwestern corner of the Columbia's remains, and then progressed to the exterior of the northern side of the remains, focusing on areas associated with building openings. Various features were uncovered during excavation (see Appendix C), such as limestone-block walls and the mill's associated grain elevator. The Columbia was not "bottomed out" during investigations due to limitations in space and equipment. The western section of the basement of the Fuji Ya was also examined.

4.6.1 Fuji Ya Remains

The eastern portion of the Columbia was incorporated into the foundations of the Fuji Ya restaurant when it was expanded in the 1974. The foundation shape is a rectilinear polygon with the original Columbia wall constructed of limestone-block and the new, western wall of poured cement. There are two rooms in this section of the basement, with the northern room numbered 1, and the southern room numbered 2 (see Figure 7).

4.6.1.1 Room 1

A modern stairwell likely inserted in the building during renovations to the Fuji Ya bounds Room 1 to the south. Feature 2 comprises the northern wall of Room 1, and contains an exterior metal door. The eastern wall is the original eastern exterior wall of the Columbia (Feature 16), and is made of limestone-block with patches of brick. The western wall is modern poured concrete construction, likely erected when the Fuji Ya expanded. Room 1 is approximately 7.2 m (23.6 ft) from north to south, and 7.9 m (25.9 ft) from east to west. The room is accessed from the Bassett portion of the basement via a door on the southern wall in the southeastern corner, and down two steps. Room 1 contains a large water heater. The ceiling is approximately 2.6 m (8.5 ft) high.

4.6.1.2 Room 2

Room 2 takes up the southern half of the eastern portion of the Columbia contained in the foundations of the Fuji Ya. The room is “L” shaped, with a northern bound of the “L” being the water heater within Room 1, and the eastern and northern bound of the room being the modern stairwell. The room is accessed from a doorway located in the northern wall at the northeastern corner of Room 2. The southern wall is the original southern wall of the Columbia, and is composed of limestone-block with a brick cap. The eastern wall is Feature 16, and the western wall is a continuation of the western wall of Room 1. The northern portion of the “L” contains a water heater and a furnace, while the main body of the room is empty. The ceiling is approximately 2.2 m (7.2 ft) high. From east to west Room 2 measures approximately 7.9 m (25.9 ft) wide. From north to south, the elongated section of the “L” is 6.2 m (23.3 ft), while the eastern portion of the “L” is 3.3 m (10.8 ft) long.

4.6.2 Trench A

Trench A (Figure 14) was excavated approximately perpendicular to First Street South and the extant ruins of the northern wall (Feature 2) of the Columbia at the northwest corner in an attempt to determine the condition and extent of the western wall (Feature 1) and to locate the mill’s southern wall. The trench ran roughly north to south and was approximately 15.2 m (49.9 ft.) in length, with a maximum depth of roughly 4.5 m (14.8 ft). A limestone-block wall (Feature 5 to the east and Feature 10 to the west of Feature 1) was encountered at the southern boundary of the site and the southern extremity of Trench A approximately 45 centimeters below surface (cmbs) and extending into unexcavated soils. The soil encountered in Trench A was determined to be fill due to a high level of building debris such as bricks, metal, and a mixture of historic and modern glass and ceramics probably from the former Fuji Ya restaurant.

An extension of Trench A, approximately 2.3 m (7.5 ft.) long, was excavated to the north of the original trench to examine a subsurface opening (Feature 3) discovered in the northern wall. The soil in the extension to Trench A was determined to be fill due to a

proliferation of modern ceramics (probably from the former Fuji Ya), historic and modern glass, building debris such as bricks and concrete, and metal.



FIGURE 14: TRENCH A SHOWING FEATURES 1, 2 AND 3, FACING NORTH

4.6.3 Trench B

Trench B (Figure 15) was executed perpendicular to Trench A at its southern terminus along the northern edge of the elevator's southern wall (Feature 10) in an east west orientation in an effort to determine the dimensions of Feature 10. This trench was approximately 39.8 m (130.6 ft) long, and at its deepest point was 1.2 m (3.9 ft) deep. A limestone-block wall (Feature 6) ran perpendicular and in a northerly direction to Feature 10, with Feature 6 encountered about 8.2 m (26.9 ft) to the west of Feature 1. A limestone-block wall (Feature 9) runs west of the western edge of Feature 6 along the same vertical plane as Feature 10. Another limestone-block wall (Feature 7), showing signs of fire, was uncovered approximately 26.2 m (89 ft) to the west of Feature 6, roughly 25 cm (0.8 ft) perpendicular to Feature 10 running in a northerly direction. Trench B intersected with Trench E roughly 7.6 m (24.9 ft) to the west of Feature 7, and encountered a limestone-block wall 9.2 m (30.2 ft) to the west of Feature 7. The soil in Trench B was determined to be fill due to the mixed period nature of the artifacts recovered; historic and modern ceramics, historic and modern glass, nails, and bricks.

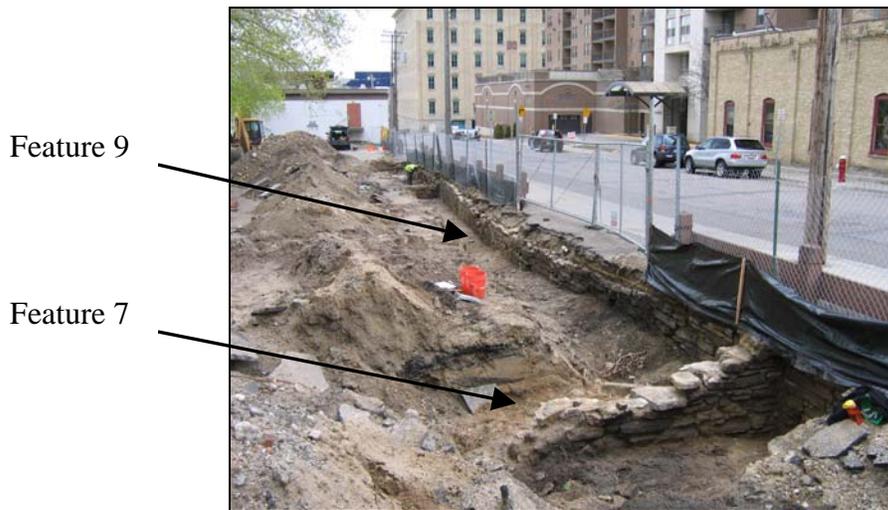


FIGURE 15: TRENCH B FACING EAST

4.6.4 Trench G

Trench G was executed approximately 6.6 m (21.7 ft) to the east of the northwest corner of the Columbia on the northern side of the northern wall (Feature 2) in an effort to examine the exterior of an opening, in this case probably a large window. The trench was executed in a south to north orientation with the southern end terminating at the wall and ending roughly 7.5 m (24.6 ft) to the north. A cavity (Feature 14) was encountered at the southern end of the trench adjacent to Feature 2, roughly 2.8 m (9.1 ft) below grade, which was determined to be an intact historic railroad scale pit. The northern extent of Feature 14 was discovered 4.4 m (14.4 ft) north of Feature 2. Feature 14 extended to the east and west along Feature 2 into unexcavated soils. The soil in Trench G was determined to be fill due to the presence of modern and historic ceramics, most of which were likely from the Fuji Ya, as well as modern and historic glass bottles, and building debris.

4.6.5 Features 1 and 2

Features 1 and 2 are the western and northern foundation walls, respectively, of the Columbia (see Figure 14), with Feature 1 also doubling as the eastern wall of the grain elevator. They were constructed of limestone-block and concrete mortar, and were roughly 1.2 m (4 ft) wide at the top of the exposed portions. According to historic sources, the base of the limestone foundations is 1.8 m (6 ft) wide (MJ 1883) and situated on bedrock.

4.6.5.1 Feature 1

Feature 1 was excavated to a maximum depth of 4.5 m (14.8 ft) and was found to extend deeper into unexcavated soils. No openings were discovered in Feature 1, likely due to

the wall being connected to the grain elevator to the west. According to historic sources, the elevator is likely still joined to the Columbia through an opening protected by iron doors in the basement (which was unexcavated), and was historically joined to the mill in the now destroyed sixth floor (MJ 1883). A 10 cm (4 inch) diameter vertical metal pipe was uncovered in conjunction with the interior of Feature 1, roughly 53 cm (20.9 inches) south of the northwest corner of the mill. This pipe may be the fire protection stand pipe mentioned as the primary fire protection measure undertaken at the mill in an article about the Columbia published by *The Miller's Journal* (1883).

4.6.5.2 Feature 2

The southern face of Feature 2 extends vertically to roughly 1.2 m (3.9 ft) above grade, whereas the northern face of Feature 2 extends vertically from roughly 1.4 to 7.6 m (4.6 to 24.9 ft) above grade. Seven openings, or partial openings, are present above grade, with another two discovered through excavation, (one in Trench A, the other within Feature 14). The fenestration pattern is moderately irregular due to the farthest west above grade window (Feature 3) having been bricked up historically, and the western below grade opening (Feature 4) having been shortened and widened through removal of limestone and the addition of poured concrete. The openings were historically between 2.4 to 4.4 m (7.9 to 14.4 ft) tall, and between 1.3 and 2.2 m (4.3 to 7.2 ft) wide.

4.6.6 Feature 3

Feature 3 is an aboveground arched opening located within Feature 2 (Figure 14). This feature is roughly located 2.3 m (7.5 ft) to the east of the western corner of Feature 2, and extends about 1.3 m (4.3 ft) to the east. Feature 3 is approximately 2.8 m (9.1 ft) in height from the top of the arch to the bottom of the opening. This feature has been almost completely blocked with bricks, with one small opening remaining in the top left corner (when facing south). Feature 3 most likely served as a window to the Columbia.

4.6.7 Feature 4

Roughly 0.4 m (1.3 ft) below Feature 3 and approximately 1.4 m (4.6 ft) below grade is Feature 4. It is another opening within Feature 2, probably initially utilized as an access point to railcars carrying grain and other supplies to the mill. Feature 4 is roughly 2.6 m (8.5 ft) wide, and 1.2 m (3.9 ft) in height. Historically this opening has been altered: the initial archway was removed and replaced with brick and poured concrete, and the lower portion of the opening was blocked with poured concrete.

4.6.8 Feature 6

Feature 6 is both the western wall of the Columbia's grain elevator (Feature 8) and the eastern wall of the Occidental. It was constructed of limestone-block and was roughly 0.7 m (2.3 ft) in width. The southern end of Feature 6 was revealed in Trench B,

approximately 20 cmbs, with the wall bisecting the trench. The northern end of Feature 6 in Trench K was revealed approximately 20 cmbs, with the wall roughly sloping down and eventually breaking off vertically to the north approximately 4.3 m (14.1 ft). The southern corner of Feature 6 where it intersects on a perpendicular with Feature 9 shows evidence of repair work undertaken with the insertion of brick into the fabric of the building's foundation. The feature extends down into the unexcavated soil matrix in both Trench B and K.

4.6.9 Features 8 and 10

Feature 8 encompasses the entirety of the grain elevator erected on the immediate western end and adjacent to the Columbia, with Feature 10 representing the southern wall of the elevator. According to various sources, the elevator was either 15.2 by 15.2 m (50 by 50 ft) (Phoenix 189-) or 15.2 by 9.1 m (50 by 30 ft) (MJ 1883). The archaeology found that the width, from east to west of Feature 10, therefore the entirety of Feature 8, was 8.6 m (28.2 ft). The north to south length was not determined due to the lack of evidence at the northern end of the site. It should be noted that lack of evidence does not preclude the existence of further, undiscovered remains of Feature 8. According to historic sources Feature 8 was six-stories tall with a basement, and was open to the Columbia through iron doors in the basement and in the now destroyed sixth floor (MJ 1883), and had a capacity of between 75,000 (MJ 1883) and 90,000 bushels (Phoenix 189-:104). Due to the discrepancy found in the Phoenix information as to the size of the elevator, it is more likely that the elevator had a maximum capacity of 75,000 bushels. Artifacts were recovered that were specifically related to the workings of a grain elevator, those being the cups that moved the grain within the elevator (Figure 16). The cups are usually attached to some sort of continuous belt, which allows the cups to scoop up a cup full of grain and transport it to the top of the elevator into a distributor which then directs the grain into the appropriate, pre-selected bin through a spout (Agricore United 2006).



FIGURE 16: GRAIN ELEVATOR CUP RECOVERED FROM FEATURE 8

4.6.10 Features 14 and 21

The interior of Feature 14 (Figure 17) measures 4.4 m (14.4 ft) from north to south by 16.7 m (54.8 ft) from east to west. Feature 14 is a subsurface railroad scale pit, which has been covered with fill. This feature is illustrated as a “Train Shed” on a 1933 Marsh and McLennan insurance map created for the Standard Milling Company and Northwestern Consolidated Milling Company. In a 1911 map of the district, the area occupied by Feature 14 is depicted as containing numerous sets of rails (GIC). The feature is populated by a variety of *in situ* machinery, such as a scale (Feature 21), ceramic light fixtures, an electric motor, a blower, etc. The ceiling of Feature 14 is supported by two parallel I-beams supporting a large iron beam on floating spring type mechanisms that run virtually the entire length of the feature, which are tied together with a series of five I-beams, set perpendicular to the two parallel I-beams. The eastern and western walls of the scale pit were constructed of poured cement with timber and brick at the top. These features will be discussed further in section 5.8.3.



FIGURE 17: FEATURE 14 FACING WEST

4.6.11 Races and Turbine

According to historic maps, the main tailrace of the Columbia, Occidental and Bassett mills was called the “Columbia Tunnel” before it joined up with the “Crown Roller Tunnel” just downstream (Baker 1908) (see Figure 12). The headrace, tailrace, turbine and draft tube of the Columbia were located to the east of the mill in what is now the small triangular parking lot of the Fuji Ya. The races and draft tube were not located during Phase II archaeological investigation, yet the absence of evidence does not rule out the existence of this resource beneath the parking lot in Site 21HE0363.

4.6.12 Artifacts

The artifacts found in association with Site 21HE0364 are diverse and representative of historic and modern periods. The most abundant artifact type encountered was glass, which represented 42 percent of the total artifact assemblage with 32 pieces. A notable piece was an intact clear glass jar, which still contained olives and was probably from the Fuji Ya when it was still in business. Numerous intact oblong bottles were recovered with the word “WINE” stamped on their bases.

There are some artifacts recovered from fill which were probably directly associated with the structure of the Columbia, such as objects related to the fabric and construction of a building. A total of three cast iron masonry anchors, or stars, were recovered from Site 21HE0364 (Figure 18). Masonry anchors and their associated tie-rods were used to support the weight and stresses of buildings, usually in structures designed to hold a lot of internal weight, such as granaries or industrial buildings. By the 1850s, and into the 1880s, the tie-rod end plates (stars) were usually made of cast iron in the shape of threaded stars, decorative discs or even simple squares. The use of wall anchors began to decline by the 1900s with the introduction of cast iron structural supports, high-fired, hard-mud brick, and steel framing (Adams and Doperalski 2005).



FIGURE 18: TWO MASONRY ANCHORS FROM TRENCH A

Another artifact likely associated directly with the Columbia was a series of grain elevator cups recovered from Feature 8 (see Figure 16). A grain elevator is a large building designed to store and transport grain. Within the elevator there is a distribution system that moves the grain from the storage pits and bins to various other places, such as other bins or transportation mechanisms (trucks, railcars, etc). To move the grain there is an endless belt with attached cups that scoops up the grain and delivers it to the distributor (Agricore United 2006). A number of these cups were discovered in Feature 8, with one sample recovered from the field.

4.6.13 Evaluation and Analysis

The foundations of the Columbia and its attached grain elevator remain largely intact both beneath the Fuji Ya restaurant and within layers of fill beneath a parking lot to the west of the building. At the time of excavation the site retained sufficient integrity to convey its significance as a contributing property to the NRHP-listed SAFHD. Based on its level of integrity, the site has been determined eligible under NRHP Criterion A due to its role within the St. Anthony Fall milling district that propelled Minneapolis to the global forefront of flour production. The site may be eligible under Criterion D, based on its potential to answer research questions. The Bassett and its associated turbines and boilers powered three mills. It is currently unknown precisely where and how the power was transferred upriver to and through the Columbia to the Occidental. Further archaeological investigation of the three mills and the draft tubes and tailraces may answer this question.

If Site 21HE0364 cannot be avoided during construction through alterations to the proposed Wave Development's plans, various mitigations strategies are recommended, which include but are not necessarily limited to archaeological data recovery.

4.6.14 Summary

Site 21HE0364 has a high degree of integrity within the basement of the Fuji Ya restaurant, subsurface and aboveground. This site is considered eligible under Criterion A as a result of its role in propelling Minneapolis to the global forefront of flour milling in the 1870s – 1940s. Site 21HE0364 may be eligible under Criterion D due to the unique and unknown nature of power distribution from the Bassett to and through the Columbia and Occidental.

4.7 OCCIDENTAL FEED MILL (SITE 21HE0365)

Archaeological excavation initially focused on the interior of the southern wall of the Occidental, in an east to west orientation, in an effort to determine the overall width of the mill and its associated office. Once the far western wall of the office was encountered, the interior of the western wall was followed to examine the northern extent of the mill's remains. The Occidental was not "bottomed out" during investigations due to limitations in space and equipment.

4.7.1 Trench B

Trench B (Figure 15) was executed perpendicular to Trench A at its southern terminus along the northern edge of the elevator's southern wall (Feature 10) in an east west orientation in an effort to determine the dimensions of Feature 10. This trench was approximately 39.8 m (130.6 ft) long, and at its deepest point was 1.2 m (3.9 ft) deep. A limestone-block wall (Feature 6) ran perpendicular and in a northerly direction to Feature 10, with Feature 6 encountered about 8.2 m (26.9 ft) to the west of Feature 10. A

limestone-block wall (Feature 9) runs west of the western edge of Feature 6 along the same vertical plane as Feature 10. Another limestone-block wall (Feature 7), showing signs of fire, was uncovered approximately 26.2 m (89 ft) to the west of Feature 6, roughly 25 cmbs (0.8 ft) perpendicular to Feature 10 running in a northerly direction. Trench B intersected with Trench E roughly 7.6 m (24.9 ft) to the west of Feature 7, and encountered a limestone-block wall 9.2 m (30.2 ft) to the west of Feature 7. The soil in Trench B was determined to be fill due to the mixed period nature of the artifacts recovered; historic and modern ceramics, historic and modern glass, nails, and bricks.

4.7.2 Trench E

Trench E was executed just north of First Street perpendicular to Feature 9 in Trench B at its western terminus, and in a south to north orientation in an effort to determine the north-south limits of Feature 12. At its largest dimensions, Trench E was roughly 4.8 m (15.7 ft) wide, and 13.7 m (44.9 ft) long. Trench E was approximately 1.6 m (5.2 ft) deep at its deepest point. A cavity (see Feature 13) was uncovered roughly 9.4 m (30.8 ft) north of Feature 9. The cavity was located beneath a large, roughly circular piece of concrete that bisected the trench. The soil in Trench E was determined to be fill as a result of the large number of modern and historic artifacts located in the matrix. For example: mixed period tire bundles, historic and modern glass, and building debris such as bricks.

4.7.3 Trench J

Trench J was excavated just north of Trench B and just west of Trench K in a north south orientation, in an attempt to determine the location of the northern wall of the Occidental. This trench was approximately 5.8 m (19 ft.) long, and at its deepest point 3.75 m (12.3 ft) deep. No features were encountered within this trench.

4.7.4 Trench K

The southern edge of Trench K was approximately 7.8 m (25.6 ft) north of Feature 6, and was executed in a south to north orientation in anticipation of a continuation of Feature 6, the eastern wall of the Occidental. Roughly 25 cmbs in the eastern wall of Trench K, the top of Feature 6 was encountered in the southern half of the trench, and it extended about 4.4 m (14.4 ft) to the north, where it abruptly broke off. Feature 6 extended into the unexcavated bottom of the trench nearly 4.6 m (15.1 ft) below grade. Trench K was roughly 6 m (19.7 ft) in length, and 2.2 m (7.2 ft) wide. The soil in Trench K was fill, as demonstrated by the variety of debris it contained: 2 stacks of approximately 15 – 20 tires, large pockets of brick, glass, and large pieces of reinforced cement construction materials.

4.7.5 Feature 6

Feature 6 is both the western wall of the Columbia's grain elevator (Feature 8) and the eastern wall of the Occidental. It was constructed of limestone-block and was roughly 0.7 m (2.3 ft) in width. The southern end of Feature 6 was revealed in Trench B, approximately 20 cmbs, with the wall bisecting the trench. The northern end of Feature 6 in Trench K was revealed approximately 20 cmbs, with the wall roughly sloping down and eventually breaking off in a rough vertical to the north approximately 4.3 m (14.1 ft). The feature extended down into the unexcavated soil matrix in both Trench B and K.

4.7.6 Feature 7

The western wall of the Occidental and the eastern wall of its associated office were represented by Feature 7 (see Figure 15). It was constructed of limestone-block and was uncovered approximately 20 cmbs at a northerly angle perpendicular to Feature 9 and roughly 26.2 m (89 ft) to the west of Feature 6. The wall was uncovered to a depth of about 1.1 m (3.6 ft), and extended down into the unexcavated soil matrix to an unknown depth. Feature 7 was broken off at its northern top edge approximately 3.1 m (10.2 ft) to the north of its intersection with Feature 9.

4.7.7 Feature 9

The southern wall of the Occidental complex (Feature 9) (see Figure 15), including the mill and office, was revealed approximately 0.3 m (1 ft) below grade in the southern wall of Trench B and the southern end of Trench E, and ran parallel to First Street with the fabric of the wall found to extend south under the sidewalk. Feature 9 was constructed of limestone-block and was approximately 35 m (114.8 ft) from east to west. A 7 m (23 ft) portion of Feature 9 was revealed approximately 1.7 m (5.6 ft) to the west of Feature 7, yet a continuation of Feature 9 was found in the southern wall of Trench E; the assumption is therefore, that Feature 9 continues in the unexcavated portion of Trench B. Feature 9 extends into the unexcavated floor of both Trench B and E to an unknown depth. The structure of Feature 9 is not completely vertical, because within the portion of Site 21HE0365, which is occupied by the mill building, between Features 6 and 7, the wall bowed to the north with a maximum shift of approximately 0.4 m (1.3 ft). One opening, roughly 0.9 m (3 ft) wide, was discovered in Feature 9 about 10.8 m (35.4 ft) to the east of Feature 6.

4.7.8 Feature 12

The western wall of Site 21HE0365's mill complex was Feature 12, a limestone-block wall which runs in a northerly direction, perpendicular to the western terminus of Feature 9 in Trench E. It was discovered approximately 0.3 m (1 ft) below grade at its intersection with Feature 9. The wall is roughly 0.7 m (2.3 ft) wide and extends in a downward slope to the north approximately 6.3 m (20.7 ft), at which point the top of

Feature 12 extended into unexcavated soils. The entirety of Feature 12 extended down into unexcavated soils.

4.7.9 Feature 13

A small cavity (Feature 13) was uncovered in Trench E roughly 9.4 m (30.8 ft) north of Feature 9. The cavity was located beneath a large, rounded concrete object that ran from east to west across the entirety of the trench. It is believed that the cavity was a result of onsite backfilling with construction debris and is therefore of little archaeological importance in regards to Site 21HE0364.

4.7.10 Races and Turbine

According to historic maps, the tailrace, turbine and draft tube of the Occidental was located to the east of the mill in what is now the small triangular parking lot of the Fuji Ya (Baker 1908) (see Figure 12). The races and draft tube were not located in the scope of this investigation due to the limited nature of a Phase II archaeological investigation, yet the absence of evidence at this time does not rule out the existence of this resource beneath the parking lot in Site 21HE0363.

4.7.11 Artifacts

The artifacts found in Site 21HE0365 are diverse and representative of historic and modern periods and may or may not relate to the Occidental, because they were not recovered from a sealed or distinct context. Representative artifact samples were recovered during fieldwork. The most common artifact type encountered was glass, which represented 65 percent (n=160) of the total artifact assemblage of 246 artifacts. Three of those pieces were intact light bulbs of various sizes: one was a very small screw in style bulb, one medium four-pronged style bulb with “Aristocrat Made in USA” etched in its base, and one screw in style 25-watt GE bulb.

Within a small opening in Feature 9 a large variety of artifacts were recovered. A small metal threaded screw cap was revealed, with the words “Welcome Chemical Works” and “Over 240 Highest Awards” embossed around the edge (Figure 19). This cap may represent the small chemical works that was operating out of the former boiler room located in Site 21HE0364 (Columbia).



FIGURE 19: WELCOME CHEMICAL WORKS CAP

Six bricks were recovered from Site 21HE0365 of various colors and manufacturers. The color ranged from whitish buff pink to yellow and dark red. Multiple maker's marks, such as, "...P. Green F.B. Co... mpire D.P.," Standard...," Evens... St...," "A.P. Green Empire U.P.," and "... oines...," are evident and pressed in five of the solid bricks, with the sixth being a cored brick.

4.7.12 Evaluation and Analysis

The foundations of the Occidental and its attached grain elevator and office remain largely intact within layers of fill beneath a parking lot to the west of the Columbia. Based on its level of integrity, the site has been determined eligible under NRHP Criterion A due to its role within the St. Anthony Fall milling district that propelled Minneapolis to the global forefront of flour production. The site may be eligible under Criterion D, based on its potential to answer research questions. At the present time, it is unknown precisely how power was transferred from the turbines at the Bassett to and through the Columbia and to the Occidental. This question may be answered through further examination of the remains of these three mills and their associated buildings.

If Site 21HE0365 cannot be avoided during construction through alterations to the proposed Wave Development's plans, various mitigations strategies are recommended, which include but are not necessarily limited to archaeological data recovery.

4.7.13 Summary

Site 21HE0365 has a moderate degree of integrity within layers of fill and an asphalt cap to the west of Site 21HE0364 (Columbia). This site is considered eligible under Criterion A as a result of its role in propelling Minneapolis to the global forefront of flour and feed milling in the 1870s – 1940s. Site 21HE0365 may be eligible under Criterion D due to

the unique and unknown nature of power distribution from the Bassett to and through the Columbia and Occidental.

4.8 MINNEAPOLIS EASTERN RAILWAY COMPANY FEATURES ASSOCIATED WITH THE COLUMBIA AND OCCIDENTAL (SITE 21HE0366)

Site 21HE0366 was initially revealed during excavations associated with Site 21HE0364 in an effort to examine openings in Feature 2. It is located adjacent to the north of Site 21HE0366 along its grain elevator and the western portion of the mill building. A cavity was uncovered in Trench G, which resulted in the finding of a railcar scale pit (Feature 14) and its associated machinery (Feature 21) *in situ*.

In addition to the railcar pit scale, a wooden retaining wall (Feature 11) was revealed in two of three trenches that were undertaken to the west of Sites 21HE0363, 21HE0364 and 21HE0365 in an effort to gain a complete sample of the entire project area.

Through examination of historic maps, it has been determined that the railroad tracks previously located in the northern half of the project area were operated by two companies, the Minneapolis Eastern Railway Company and Minneapolis Union Railway Company (Foote 1892; Hopkins 1885) (Figure 20). The tracks that are likely immediately associated with Site 21HE0366 are those of the Minneapolis Eastern Railway Company, which was incorporated in 1878 with the objective of building a railroad between St. Paul and Minneapolis with branches to all of the mills and factories in the area (Prosser 1966:144).

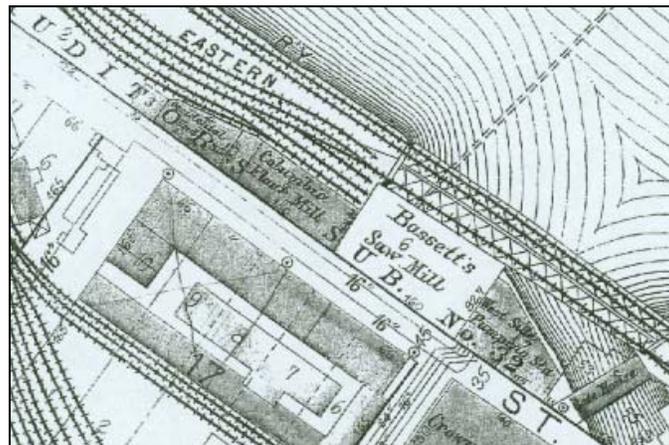


FIGURE 20: 1892 FOOTE MAP SHOWING RAILWAYS IN PROJECT AREA

4.8.1 Trench C

Trench C was excavated just south of West River Road in a northwest to southeasterly orientation (Figure 21), and slightly to the west of Trenches D and F in an attempt to define if there were any archaeological remains on the northwestern portion of the project

area. This trench was approximately 18 m (59 ft) in length, and 5.2 m (17 ft) deep at its deepest point. A wooden wall comprised of 0.3 m (1 ft) square timbers (Feature 11) was encountered in the southern wall of the eastern half of the trench 1.8 m (5.9 ft) below the surface. The soil in Trench C was determined to be fill because a mixture of historic and modern glass, building debris and metal was encountered. It should be noted that a railroad rail was recovered from this trench.



FIGURE 21: TRENCH C WITH FEATURE 11, FACING SOUTHEAST

4.8.2 Trench D

Trench D was excavated just south of West River Road in a southwest to northeast orientation, and slightly to the east of Trench C in an attempt to determine if there were any archaeological remains on the northwest portion of the project area, and to determine the possible extent of Feature 11. This trench was approximately 13.2 m (43.3 ft.) long, and at its deepest point was 3.6 m (11.8 ft) deep. No features were encountered within this trench, but a railroad rail was unearthed. The soil in Trench D was determined to be fill due to the occurrence of mixed-period glass and ceramics.

4.8.3 Trench F

Immediately to the east of Trench C and the west of Trench D, Trench F was excavated in a north to south orientation. Trench F was executed in an effort to determine the possible extent and continuation of Feature 11. At its widest, Trench F was roughly 1.5 m (4.9 ft) from west to east, and was approximately 11 m (36 ft) from north to south. Feature 11 bisected Trench F roughly 6.2 m (20.3 ft) to the north of the southern end of the trench. To the north of Feature 11 the maximum depth of excavation was approximately 3.2 m (10.5 ft); to the south of Feature 11 the maximum depth of excavation was roughly 2.3 m (7.5 ft). The soil in Trench F was deemed to be fill due to an assemblage of artifacts from multiple time periods.

4.8.4 Trench G

Trench G was executed to the immediate north of Feature 2 below an opening in the existing aboveground archaeological resource in a northerly orientation in an effort to examine the possibility of archaeological remains associated with the mill's workers. Trench G was 6.6 m (21.7 ft) to the east of the northwestern corner of Feature 2. At its widest point Trench G was 3.5 m (11.5 ft) wide, and 7.5 m (24.6 ft) long. A railroad car scale pit (Feature 14) was uncovered immediately adjacent to Feature 2, approximately 2.8 m (9.1 ft) below grade. Within Feature 14 the scale (Feature 21) was intact. The soil within Trench G was deemed to be fill due to the presence of the intact scale and a multi-period artifact assemblage, such as alcohol bottles, ceramics and bricks, with most artifacts likely from the Fuji Ya.

4.8.5 Trench H

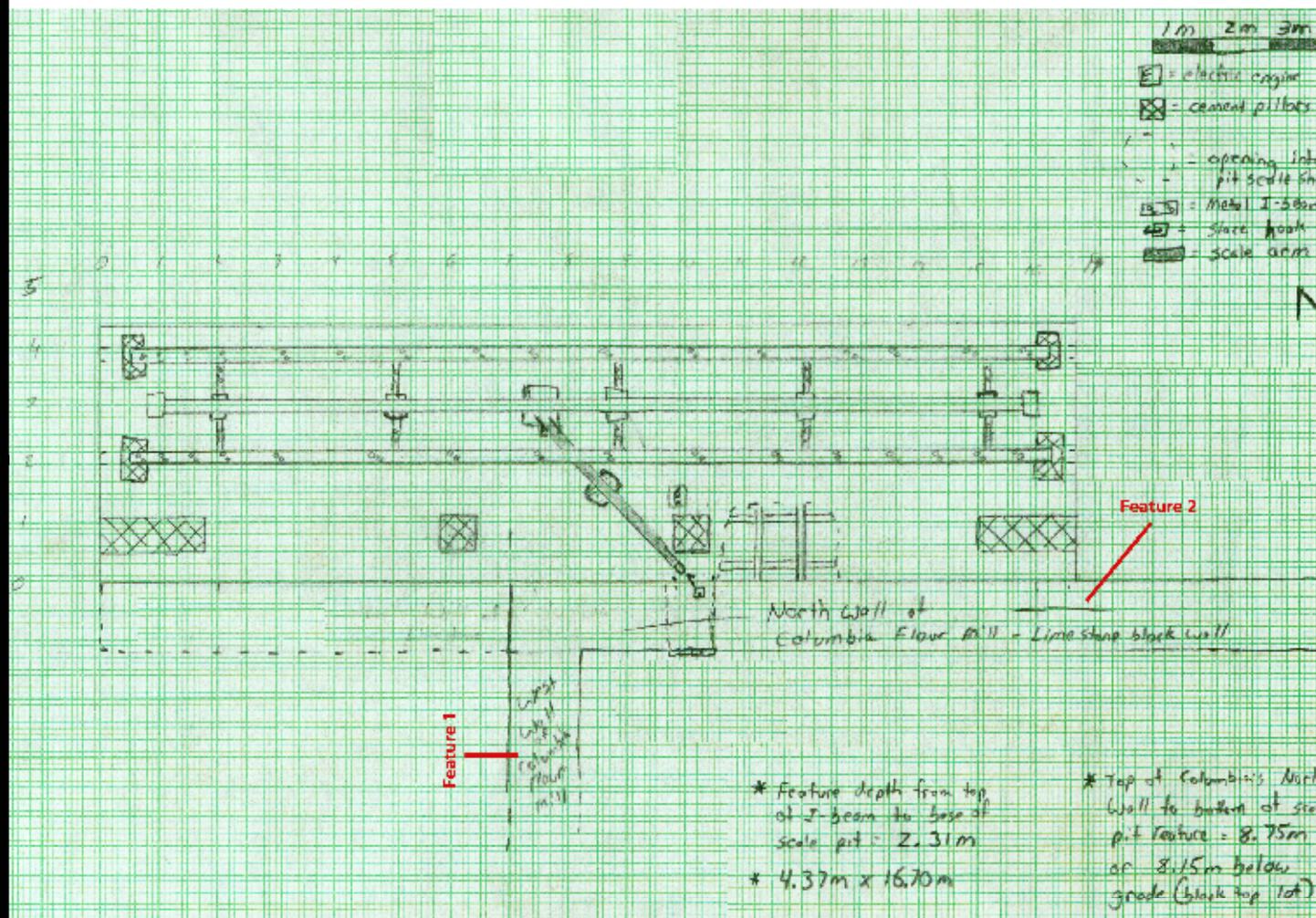
Trench H was excavated just south of West River Road and just north of Trench G in a southeast to northwest orientation, in an attempt to determine if there were any archaeological remains to the north of and associated with Feature 14. This trench was approximately 6.4 m (21 ft.) long, and at its deepest point was 1.9 m (6.2 ft) deep. No features were encountered within this trench.

4.8.6 Feature 11

Feature 11 (see Figure 21) is a wooden retaining wall constructed of 0.3 m (1 ft) square timbers. No obvious fasteners were observed in the construction of the wall, and no perpendicular ties were encountered. Feature 11 was observed to a height of approximately 3 m (9.8 ft) with the bottom of the wall extending into unexcavated soil.

4.8.7 Features 14 and 21

Feature 14 is a railcar scale pit, which is a sunken room containing a rail scale (Feature 21), which had been covered with fill (Figure 22). The interior of Feature 14 measures 4.4 m (14.4 ft) from north to south by 16.7 m (54.8 ft) from east to west. This Feature is illustrated as a "Train Shed" on a 1933 Marsh and McLennan insurance map created for the Standard Milling Company and Northwestern Consolidated Milling Company (see Figure 11). In a 1911 map of the district, the area occupied by Feature 14 is depicted as containing numerous sets of rails (GIC). The feature is populated by a variety of in situ machinery, such as a scale (see Feature 21), ceramic light fixtures, an electric motor, a blower, etc. The ceiling of Feature 14 is supported by two parallel I-beams supporting a large iron beam on floating spring type mechanisms that run virtually the entire length of the feature, which are tied together with a series of five I-beams, set perpendicular to the two I-beams, which are parallel to each other. The eastern and western walls of the railcar scale pit were constructed of poured cement with timber and brick at the top.



Source: The 106 Group

The Wave Development
 Analysis of Effects and
 Phase II Archaeological Investigation
 Hennepin County, Minnesota

Plan View - Features 14 and 21



Figure 22

The scale (Feature 21) is constructed out of iron and consists of an iron arm roughly 3.7 m (12.1 ft) in length, positioned with its fulcrum on a concrete pedestal, an iron beam which acts as a floating spring runs the length of the pit between two I-beams, and an iron hook. In the southern wall there is a bricked up arched doorway that once led into the Columbia.

4.8.8 Artifacts

The artifacts found in association with the railcar pit scale are diverse and representative of historic and modern periods. Representative artifact samples were recovered during fieldwork. Metal and glass were recovered from Site 21HE0366, with two Diet Pepsi cans, one square head nail, a large breaker, and three intact bottles.

A total of eight artifacts were uncovered from the retaining wall. Two railroad rails sections were documented and left on site because they were too large to recover. The rails may be directly related to the wall, as it is believed that the wooden retaining wall was likely utilized by the railroad to protect the tracks from bank erosion.

The most abundant artifact type recovered from the wall was brick (n=3). They were of the pressed variety: two displayed partial embossed makers marks, with the third displaying an incised design on one of the bed sides (Figure 23).



FIGURE 23: INCISED BRICK

4.8.9 Evaluation and Analysis

A railcar scale pit and associated scale were uncovered within fill deposits in the northern portion of the project area. The room (or pit) is populated by a variety of *in situ* machinery such as a railcar scale, ceramic light fixtures, an electric motor, a blower, etc. The ceiling is supported by two parallel I-beams supporting a large iron beam on floating

spring-type mechanisms that run virtually the entire length of the feature, and which are tied together with a series of five I-beams, set perpendicular to the two I-beams, which are parallel to each other. The eastern and western walls of the railcar scale pit were constructed of poured cement with timber and brick at the top. The scale is constructed out of iron and consists of an iron arm roughly 3.7 m (12.1 ft) in length and positioned with its fulcrum on a concrete pedestal, an iron beam which acts as a floating spring that runs the length of the pit between two I-beams, and an iron hook. In the southern wall there is a bricked-up arched doorway that leads into the Columbia. The railcar pit and scale are considered eligible for listing on the NRHP under Criterion A as they are viewed as contributing resources to the SAFHD because of the site's role in the development of the falls area as the center of global flour production in transporting feed, grain, and flour to and from markets creating in turn the conditions to allow Minneapolis to become the leading flour and feed milling city in the world.

The northwestern section of the project area revealed an intact wooden retaining wall, likely associated with the railroad lines historically located to their north, beneath layers of fill. At the time of excavation, the site's high level of integrity conveyed its significance as a contributing property to the NRHP-listed SAFHD. No further archaeological investigations are recommended because the wall has been documented through photographs, site plans and maps.

4.8.10 Summary

Locating Site 21HE0366 was an unexpected find during Phase II archaeological investigation of the project area. The railcar scale has a very high degree of integrity, as it was discovered completely intact under layers of fill, as was the retaining wall. This site is considered eligible under Criterion A as a result of its role in transporting feed, grain and flour to and from markets creating the conditions to allow Minneapolis to become the leading flour and feed milling city in the world.

5.0 PROJECT ANALYSIS OF EFFECTS

5.1 PROPOSED PROJECT

This report addresses the impact of the proposed Wave Development on historic resources within the area of potential effect (APE). See Section 1.2 for a description of the proposed project upon which this APE is based. Appendix A includes renderings and schematics of the proposed plan upon which assumptions of project impacts were based.

5.2 AREA OF POTENTIAL EFFECT

The determination of an APE is the preliminary step in addressing effects to historic properties and refers to the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties; this area is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR Part 800.16(d)). An APE takes into consideration potential effects, such as alteration or removal of a building or structure; a change of the character of the property's use or physical features; and the introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. Factors that contribute to the determination of an APE are those that may contribute to potential adverse effects, including significant changes in traffic volume and noise; changes in access to properties; vibrations resulting from construction or on-going use; effects from dust or other air quality effects; impacts to land use and a property's setting; and changes to visual effects that impact the setting of a historic property.

The APE for this project has been determined using the following criteria and considerations.

Physical Impacts. Direct physical effects to historic or potential historic resources will occur on the parcel of the proposed development, where demolition of existing structures, foundations and landscape features will occur. These effects would be limited to the development parcel.

Land Acquisition. Land acquisition is limited to the parcel upon which The Wave development will stand and therefore potential effects from land acquisition would be limited to that parcel.

Changes In Access to Properties. Vehicular access will be provided to The Wave from the West River Parkway and from First Street South. Access to other properties would not change.

Alterations in Traffic Patterns. It is anticipated that the construction of The Wave would not require alterations to existing traffic patterns.

Noticeable Traffic Volume and Noise Increases. As part of this EAW, Heritage Development conducted a traffic study to document the existing roadway and intersection traffic, bike and pedestrian trails and parking, and to analyze parking demand and traffic generation. The proposed project will comply with Minneapolis Code Ordinances regarding the hours of operation for construction equipment and allowable noise levels, as well as those related to mechanical noise associated with building operation. It is not anticipated that traffic volume and noise increases resulting from the proposed project would significantly impact the scope of the APE.

Visual Effects. The proposed development is located adjacent to West River Parkway on the Minneapolis waterfront and would have an elevation of 14 stories when viewed from the river, thus creating a broad visual effect. This factor expands the APE to its broadest extent. On-site investigation led to the determination of locations where the proposed project would be visible and may result in a potential effect to historic properties.

Increase in Vibration. It is not known if vibration during the construction phase of the proposed project may have an effect. Studies on vibrational effects as a result of the proposed project have not been undertaken at this time. For the purposes of this APE study, it is assumed that effects from vibrations would not extend beyond the immediately adjacent properties.

Change in Air Quality. During demolition and construction phases of the proposed project, contractors will follow best management practices to reduce dust emissions. During demolition, this will include wetting down the building and debris with hoses as necessary. Once occupied, the project is not expected to generate fugitive dust emissions. The construction and occupancy of the project is not expected to generate objectionable odors. It is not anticipated that changes in air quality resulting from the proposed project would significantly impact the scope of the APE.

Impacts to Land Use and a Property's Setting. Most recently, the Minneapolis Park and Recreation Board owns the Wave parcel and portions of it have been used for surface parking. The Fuji Ya building has been vacant, and the remainder of the parcel is unutilized and covered with trees and brush. Previously, the Fuji Ya building was a restaurant. Historically, the parcel was the site of three mills and railroad tracks. The proposed land use would become residential and would be compatible with the current surrounding uses. The construction of the proposed development would have a potential effect on the setting of this parcel and to those of the adjacent properties. In particular, the row of historic mills standing immediately to the southeast could be affected by the proposed development, and therefore are included within the APE.

5.2.1 Delineation of Area of Potential Effect

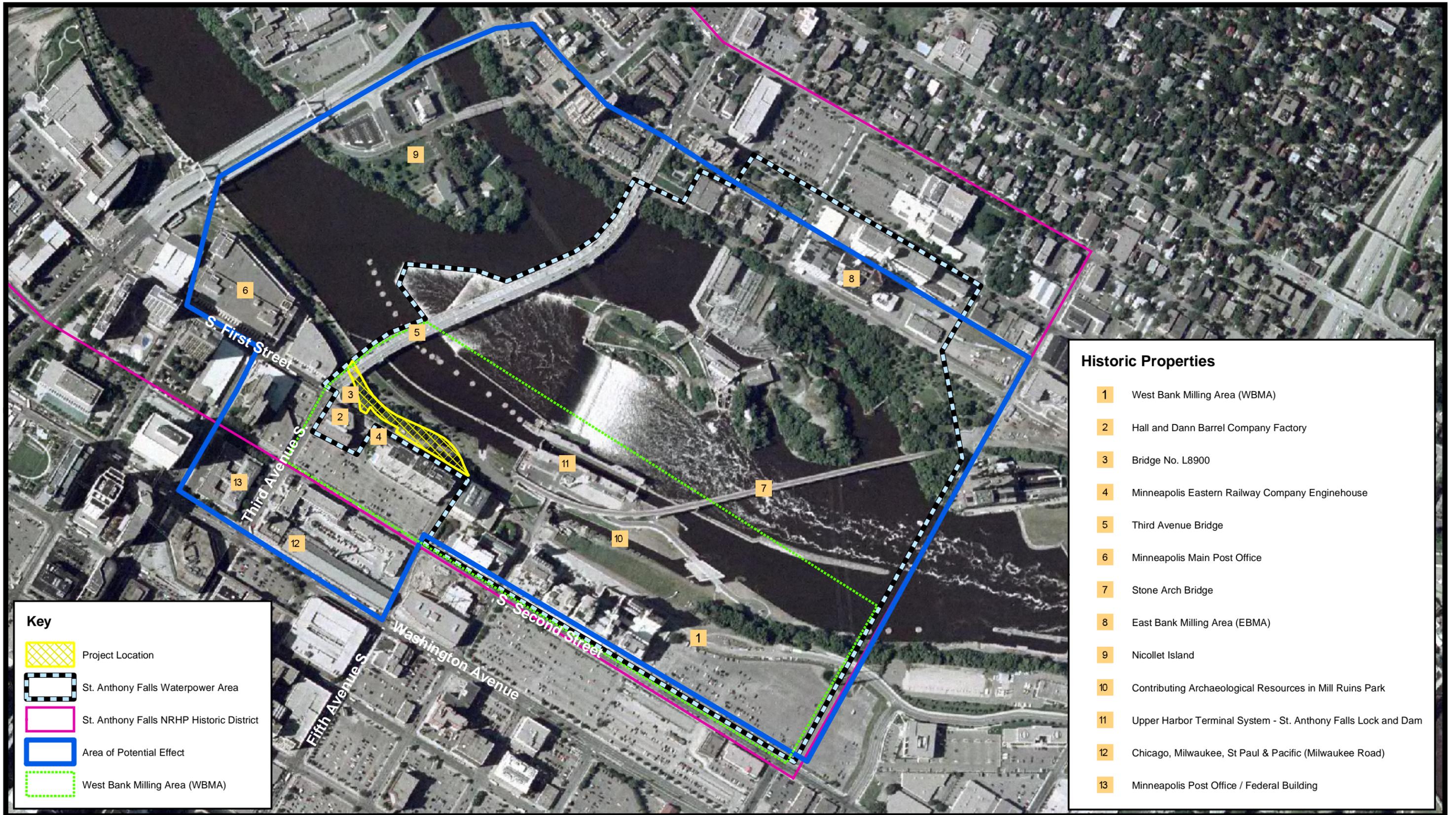
The APE for the project encompasses anticipated potential effects from the above-mentioned factors (see Figure 1). The APE includes the immediately adjacent properties

to the Wave parcel. The proposed development would rise above the adjacent, historic Hall and Dann Barrel Company Factory and Minneapolis Eastern Railway Company Engine House. When viewed from the south, portions of the Wave building would be visible as they rise above these historic buildings. Potential impacts from this view extend to Washington Avenue, between Fourth Avenue South and Second Avenue South, including the Milwaukee Road Depot and the Federal Building, which are included within the recommended APE.

On the northwest of the Wave parcel, the APE would include the Main Post Office Building (201 South First Street) and the Third Avenue Bridge, which may be affected by the proposed project by changes in setting and visual effects. The APE extends northwesterly to the Hennepin Avenue Bridge and includes the southern portion of Nicollet Island. The six-lane Hennepin Avenue Bridge, with towers and cable supports, provides a barrier to views towards the proposed development site, significantly limiting the visual effects to properties northwest of the bridge. On the east bank of the river, many properties would have direct or indirect views of the proposed development. The APE extends to the first tier of properties between East Hennepin Avenue and Sixth Avenue Southeast. Down-river, the APE extends to Sixth Avenue Southeast, on the east side of the river, and 10th Avenue South on the west side of the river, and includes the Stone Arch Bridge. The Southeast Power Plant is excluded from the APE; although the proposed development may be visible from portions of the power plant site, the Stone Arch Bridge presents a significant visual barrier and the visual presence of the Wave, about 0.5 mile away and in the context of the urban landscape is not considered to have a potential effect on that property. On the west side of the river between Tenth Avenue South and Portland Avenue South, the APE extends along South Second Street, and includes the WBMA, a setting that would be potentially affected by the proposed development.

5.3 HISTORIC PROPERTIES WITHIN THE APE

Over 80 historic buildings, sites and structures are located within the APE, which encompasses much of the SAFHD and most of the SAFWA. Effects are anticipated to be similar where the project is at a greater distance and more intense in nearby locations. For this reason, more distant resources were grouped together in geographic and thematic clusters, while those within proximity of the project site were individually identified. The following summary of those properties briefly highlights the history and character-defining features those properties or groups of properties within the APE (Figure 24).



Source: FSA 2003-2004; The 106 Group

**The Wave Development
Environmental Assessment Worksheet
Minneapolis, Hennepin County, Minnesota**

0 0.1 0.2 0.3 0.4 Miles

Historic Properties within the APE



Figure 24

5.3.1 The St. Anthony Falls Historic District

The project site is located within the St. Anthony Fall Historic District, a district both listed on the NRHP and locally designated, and includes several sites that contribute to the district's significance. The district also extends outside of the APE. Many of the surrounding properties also contribute to the district. The economic model for the development of the WBMA was based on that of Lowell, Massachusetts, whereby manufacturers purchased mill sites and leased waterpower from the development company, which was responsible for building and maintaining the waterpower distribution system, which typically consisted of a dam, gate house, and power canal. The individual mill owner would build his own mill, including the headrace and tailrace leading from and to the main canal. Under the direction of the MMC, the west bank's water distribution system was designed in 1857 by Charles H. Bigelow, a West Point graduate whose recent experience included the construction of the water-powered network at Lawrence, Massachusetts. Bigelow's plan for a power canal at the Falls of St. Anthony entailed the construction of a power canal with mill sites located on both sides of the canal, resulting in an intensely utilized industrial area. By the mid-1880s, the power canal had been extended to 950 feet and captured some 25,000 tons of water per minute with a gross capacity of 120,000 horsepower (Hess and Kudzia 1991).

The heyday of the milling district continued until about 1930. As a result, several of the west side flour companies began shifting their operations from Minneapolis to newer complexes at other locations. In 1931, at least eight flourmills were torn down, and others were converted to power general facilities by Northern States Power Company. When the Upper Lock was constructed in 1960, the river was cut off from the power canal, ending the waterpower era in the west side district. Another wave of demolition occurred in the 1960s, and many of the abandoned mill sites were simply covered with asphalt or gravel, resulting in preserved archaeological sites (Hess and Kudzia 1991).

5.3.2 Properties within the Development Site

The foundation ruins of three mills and one recently discovered site related to the mills are located within the parcel of the proposed development (see previous discussion). One, with the possibility of three, waterpowered turbines located in the Bassett site, the easternmost of the three mills, powered all three mills. All of these mills are contributing properties to the SAFWA of the SAFHD. The Phase II archaeological investigation completed as part of the study identified other features related to the mills and the transportation of products to and from the site. Additional information regarding the historical significance and character-defining features of these mills and other features are addressed in Section 4.0 of this report.

5.3.2.1 Aboveground Resources

5.3.2.1.1 Fuji Ya Building

Constructed over the partially exposed foundations of the Columbia and the Bassett Enginehouse, the concrete block structure was erected in 1968 for the Fuji Ya restaurant (Figure 25). Designed by Shinichi Okada and Newton Griffith, the small building evokes Japanese associations, with a flat roof, heavy exposed rafter timbers, stucco finish and a band of windows stretching across the riverside elevation with expansive river views. A 1974 lower-level addition created a new band of windows below the original (Hess and Kudzia 1991). The building – exclusive of its foundations – consists of one non-contributing building to the historic district because it was constructed after the district’s period of significance. Consideration, however, may be given to this building’s historical significance within the context of the rejuvenation of the Riverfront District as an entertainment and residential district. With the exception of the upper lock facilities, the Fuji Ya was the first new structure to appear in the area in many years when it was constructed. The construction of a first-class Japanese restaurant in Minneapolis amid abandoned industrial buildings and gravel surface parking lots took the visionary foresight of restaurateur Reiko Weston. For a short time, her new restaurant spurred other nearby properties to be rehabilitated as restaurants. The neighboring Engine House for the Minneapolis Eastern Railway opened as the First Street Station restaurant in 1975 (Kane 1987:187-188).

The Fuji Ya has not been evaluated for its significance under its own merits. It would, however, need to meet NRHP Criteria Consideration G for exceptional significance for properties less than 50 years of age and it is unlikely that it would be considered exceptionally significant. For the purposes of this effects study, the Fuji Ya building is considered a non-historic property. The project proposes to remodel the existing restaurant space and return it to a restaurant. This reuse will again serve as a rejuvenation of the former Fuji Ya restaurant, which is remembered fondly by many past patrons.

5.3.3 Historic Properties Outside of Development Site

The APE for the project includes a large portion of the SAFHD and the SAFWA, the latter of which included 90 contributing and non-contributing properties at the time of its 1991 designation. Two historic properties lie outside of the historic district: the Milwaukee Depot and the Minneapolis Post Office/Federal Building. The St. Anthony Falls lock and dam of the Upper Harbor Terminal system is currently being evaluated for its historical significance, and is considered historic for the purposes of this study. Although located within the SAFHD, it is not a contributing property due to its period of construction.



FIGURE 25. FUJI YA BUILDING

5.3.3.1 Properties in the St. Anthony Falls Historic District

Properties within the project APE also located within the SAFHD include a wide array of properties associated with the historic waterpower area, including dam structures, street and railroad bridges, tunnels, a log sluice, a hydroelectric plant, canals, ruins of mill structures, and standing mill structures. Several of the significant structures and grouping areas that would be potentially impacted by the proposed project are highlighted below.

5.3.3.1.1 West Bank Milling Area (WBMA)

The WBMA is a preservation planning area bound by the Mississippi River, Third Avenue South, South Second Street and Tenth Avenue South (Figure 26). The WBMA is an intensely industrialized area constructed around the power canal constructed by the MMC. Major mills in this area are the Washburn “A” Mill (now Mill City Museum), the Standard Mill (now the Whitney), and the Crown Roller Mill. Mill Ruins Park has resulted in the uncovering and public interpretation of several mill ruins and evidence of the system of waterpower in the district.



FIGURE 26. PORTION OF THE WBMA

5.3.3.1.2 Hall and Dann Barrel Company

The Hall and Dann Barrel Company building is immediately adjacent to the project site on the west side of First Street South (Figure 27). The Hall and Dann Barrel Company was formed in 1877 to manufacture and supply barrels to the Minneapolis flour industry. In 1880, they moved their operation to a new brick building at 111 Third Avenue South. Anticipating the changing packaging practices, the company began making bags and changed their names to the Northern Bag Company in 1915. The complex is comprised of two structures joined by an addition. The 1880 building on Third Avenue was the original barrel factory, and originally stood at four stories. A fifth story was added in 1901. The second four-story building was erected in 1884 on the corner of Third Avenue South and South First Street. Subsequent additions joined the two buildings in 1896 and 1906. After serving as a warehouse for several decades, the building was converted into an office complex in 1985. At that time, the owners utilized federal historic preservation tax credits, thereby safeguarding the building's status as a contributing resource to the district. The rehabilitation resulted in the removal of the 1896 and 1906 infill additions and the construction of a glass-atrium entry bay. The property consists of two contributing buildings (Hess and Kudzia 1991).



FIGURE 27. VIEW OF DANN AND HALL BARREL COMPANY FACTORY

5.3.3.1.3 Bridge No. L8900

Bridge No. L8900, located immediately west of the project, carries street traffic on First Street South across the former rail corridor of the Chicago and North Western Railway (Figure 28). The single-span, through, plate-girder highway bridge has limestone abutments and was constructed in 1891. It is a contributing structure to the historic district (Hess and Kudzia 1991).



FIGURE 28. VIEW OF BRIDGE L8900

5.3.3.1.4 Minneapolis Eastern Railway Company Enginehouse

The 1914 Minneapolis Eastern Railway Company Enginehouse is located at 333 South First Street, opposite the project site (Figure 29). The one-story brick building has a long, narrow rectangular plan running parallel to First Street. The Minneapolis Eastern Railway was established in 1878 to serve as a switching line that would shuttle the cars of flour and grain between the various mills and the rail yards of the national carriers. In the mid-1970s this building was converted into a restaurant, resulting in several window and door modifications. The rehabilitation was completed under the auspices of the federal historic preservation tax credit and met the *Secretary of the Interior's Standards for Rehabilitation*. The building was again remodeled in the 1980s and box-car additions were removed to make way for a high-rise apartment complex to the south. The building now houses offices. The property consists of one contributing building (Hess and Kudzia 1991).



FIGURE 29. MINNEAPOLIS EASTERN RAILWAY COMPANY ENGINEHOUSE

5.3.3.1.5 Third Avenue Bridge

The 1918 concrete bridge, designed by City Engineer F. W. Cappelen is a contributing structure to the historic district (Figure 30). Immediately adjacent to The Wave parcel, the seven-span bridge creates an imposing presence on the district. Alterations made in 1979-80 included raising the roadway grade by five feet, lengthening of spandrel columns and rebuilding of approach spans. The 1939 Art Deco metal railing system was cleaned and reinstalled. The modifications did not significantly affect its original integrity (Hess and Kudzia 1991). The bridge is also individually eligible under NRHP Criterion C for its engineering significance. The Third Avenue Bridge is an example of Melan arch construction and represents an innovative design solution that avoided the dangerous limestone breaks of the St. Anthony Falls and resulted in the unique S-shaped alignment.



FIGURE 30. VIEW OF THIRD AVENUE BRIDGE

5.3.3.1.6 Minneapolis Main Post Office

The Minneapolis Main Post Office at 100 South First Street is located near the Wave project area, immediately west of the Third Avenue Bridge (Figure 31). Constructed in 1932-33, the Art Moderne-styled building spans two city blocks between Marquette Avenue and Second Avenue South near the Mississippi River. Constructed of reinforced concrete with brick curtain walls, the surface is faced with Kasota limestone with a foundation of dark gray polished granite. The full-height window bays are divided by bronze decorative spandrels and the entrance pavilions are decorated with recessed windows above the carved stone panels, and bas-relief carvings. Designed by Leon Arnal of the Minneapolis firm of Magney and Tusler, the building is considered by many to be among the finest examples of the Art Moderne style in Minnesota. The building is a contributing property to the SAFHD (although not within the SAFWA) and would likely be considered individually eligible for listing on the NRHP under Criterion C for its architectural achievement.



FIGURE 31. MAIN MINNEAPOLIS POST OFFICE

5.3.3.1.7 The Stone Arch Bridge

The Stone Arch Bridge that crosses the Mississippi River connects with the east bank of the river slightly southeast (downriver) of the Pillsbury “A” Mill complex (Figure 32). The bridge, built in 1883, was the result of James J. Hill’s efforts to establish a railway from St. Paul across the Mississippi River and into downtown Minneapolis. Hill hired West Point-trained engineer Charles C. Smith to design the bridge, which, due to its crossing of the river in a sweeping curve, was a *tour de force* of masonry engineering. Since the time it was completed, the Stone Arch Bridge has been an important visual symbol for Minneapolis (Hess and Kudzia 1991). It also demonstrates James J. Hill’s important leadership role in the transportation facilities of the Twin Cities area and beyond. The American Society of Civil Engineers designated the Stone Arch Bridge as a National Historic Civic Engineering Landmark in 1975. This honorific designation conferred by the American Society of Civil Engineers is not the same as a National Historic Landmark (NHL) designation granted by the NPS. The bridge is used for pedestrian and bicycle traffic and is frequently traveled by both residents and visitors. The Stone Arch Bridge is a “significant identifying feature of the Minneapolis urban landscape” (Berg 1982). It is one of the most important resources in the SAFHD due to its engineering and historical significance (Hess and Kudzia 1991).



FIGURE 32. STONE ARCH BRIDGE

5.3.3.1.8 The East Bank Milling Area and the St. Anthony Falls Waterpower Area

Though it had the same waterpower development advantages as the west side, the EBMA has a history quite different than the WBMA (Figure 33). This disparity is due primarily to the weak role of the old St. Anthony Falls Water Power Company and its lack of a coherent development and management plan for waterpower. After James J. Hill acquired control of the waterpower system under development in 1880, a waterpower canal was built under St. Anthony's Main Street on the East Side to serve the Pillsbury "A" Mill, then under construction, and the adjacent Phoenix Flour Mill. While several milling enterprises developed and flourished in the WBMA across the river, the Pillsbury "A" property, a National Historic Landmark, became a mill district in itself, especially after it took over the Phoenix Mill property. The other prominent industry on the east bank, a group of sawmills that was positioned on a platform on the St. Anthony Falls Dam's east wing, was important from the late 1850s through the late 1880s, when a fire destroyed the mills and only one was rebuilt. The later hydroelectric industry represents an important sub-theme for the historic district (Hess and Kudzia 1991).

Resources related to the hydroelectric industry are located on the Mississippi River (west) side of Main Street Southeast. The Hennepin Island Hydroelectric Plant is south of the Main Street facility and less visible from Main Street Southeast. The log sluice and the Second Avenue East Side Sawmills Platform adjacent to the Main Street Hydroelectric Station are additional contributing resources. The use of the hydroelectric sites as a Northern States Power Company facility has introduced several modern elements of a power generating station into the district, including a transformer yard. The recent completion of a heritage trail along the bank of the river has introduced paving and signage, as well as additional landscape features, into the district.



FIGURE 33. EAST BANK MILLING AREA AS SEEN FROM WEST BANK

5.3.3.1.9 Nicollet Island

Named after French scientist and geographer, Joseph N. Nicollet, Nicollet Island is located within the Mississippi River, up-river from the Third Avenue Bridge. The southern portion of the island, south of the Hennepin Avenue Bridge, is in the APE. This section of the island was used for industrial purposes, while the northern portion was mostly residential (Coddington 1971). Nicollet Island is located within the original SAFHD, but not included within the boundaries of the SAFWA sub-area. The building on Nicollet Island closest to the Wave project is the William Bros Boiler Works, a cream brick industrial building now serving as a public pavilion operated by the Minneapolis Park and Recreation Board (Figure 34). It was constructed circa 1893 and is characterized by the asymmetrical roofline, projecting industrial tower, and arched window openings separated by pilasters. A second property south of Hennepin Avenue is the former Island Sash and Door Factory, now better known as the Nicollet Island Inn. Also erected circa 1893, the three-story building is constructed of stone (Minneapolis Riverfront Development Coordination Board 1980). The latter building would not be visually impacted by the proposed development project.



FIGURE 34. SOUTH END OF NICOLLET ISLAND

5.3.3.1.10 Contributing Archaeological Sites

As noted above in Section 2.2, Dr. Scott Anfinson conducted a study for the MHS of the history and archaeology of the Central Minneapolis Riverfront as part of the West River Parkway project in the 1980s. Thirty-three potential sites were identified as contributing to the SAFHD (Hess and Kudzia 1991), but a thorough evaluation of most of these sites has not been completed to date. The exceptions include recent archaeological excavations at the Phoenix Mill, Dakota Mill, Standard Mill and King Midas Mill, by The 106 Group, in addition to the archaeological investigations of the Bassett, Columbia, and Occidental as part of the Wave Development. The Minneapolis Park and Recreation Board is conducting or has conducted excavations on many of the mill properties within Mill Ruins Park, exposing and stabilizing their features (Figure 35).

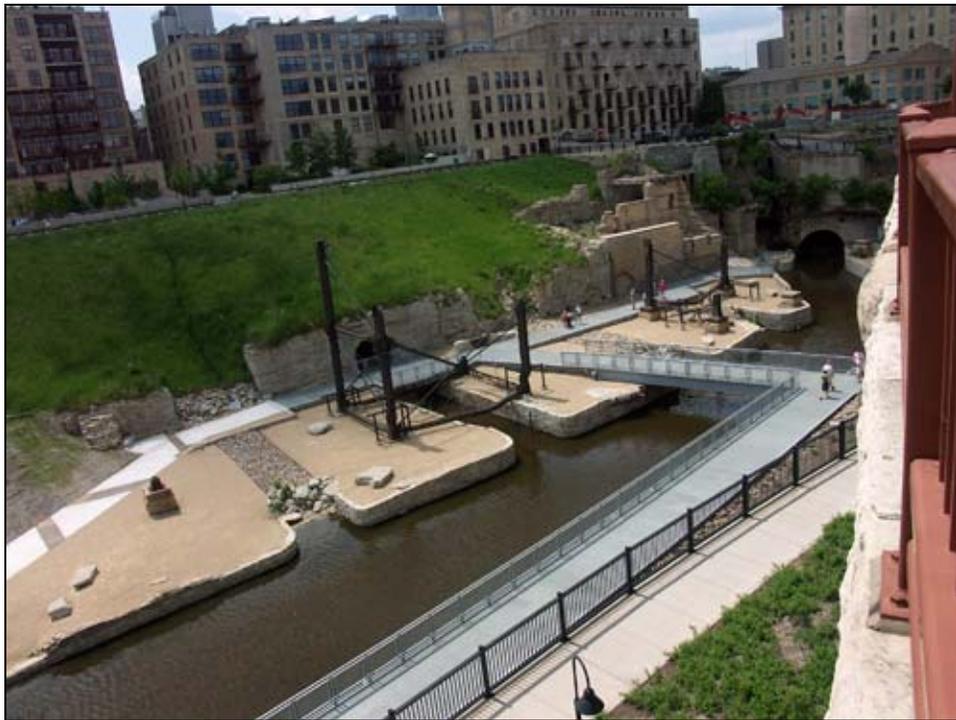


FIGURE 35. MILL RUINS PARK, VIEWED FROM STONE ARCH BRIDGE

5.3.3.1.11 Upper Harbor Terminal System – St. Anthony Falls Lock and Dam

Although considered a non-contributing element to the SAFHD, the St. Anthony Falls Lock and Dam, constructed in 1963, is currently being evaluated for its NRHP eligibility for a separate undertaking (Figure 36). Agencies involved in the review have suggested that the property would likely be eligible for listing on the NRHP. Probable areas of significance would include engineering, transportation and commerce. For the purposes of the visual effects analysis, this property will be included as a historic property. It is located immediately across West River Road from the Wave site.



FIGURE 36. ST. ANTHONY FALLS LOCK AND DAM

5.3.3.2 *Historic Properties Outside of the St. Anthony Falls Historic District*

5.3.3.2.1 Chicago, Milwaukee, St. Paul & Pacific Railroad Company Station, Train Shed, and Freight House

The Chicago, Milwaukee, St. Paul & Pacific Railroad Company Station, Train Shed, and Freight House (Milwaukee station, train shed, and freight house) is comprised of three structures – the station building and train shed, located on the northeast corner of Third Avenue and Washington Avenue, and the freight house, on the southeast corner of Third Avenue and Second Street South (Figure 37). The station and shed were constructed in 1897-1899, with the station serving as a “head house” of the long train shed. The head house is designed in the Renaissance Revival style, two and three stories in height. Materials include pink granite block on the lower level and yellow brick above. The square tower centered on the Third Avenue façade once rose 140 feet with an elaborately spired cupola. The cupola was removed following a 1941 storm and the tower has been truncated at the 100-foot level where a heavy cornice marks the cupola base. Behind the station (east) is the long train shed, measuring 100 feet wide, 40 feet high and 625 feet long. The open shed is supported by a steel truss roof on steel posts, with pierced metal ornamental brackets and steel lattice beams. The freight house (originally called the In Bound Freight House and separated from the station by the Out Bound Freight House, no longer extant) is located north of the head house at Second Street. The two-story, rectangular yellow brick office was constructed in 1879 in the Italianate style and features heavy window hoods.

The Milwaukee station complex was listed on the NRHP in 1978 for its national significance in the areas of engineering, architecture, commerce, industry and transportation under NRHP Criteria A and C. At the time of registration, the train shed was one of only 12 surviving long-span truss roof train sheds in the United States, seven of which had been designated as National Historic Landmarks because of their rarity. With the aid of federal tax credits, the Milwaukee station complex underwent a major rehabilitation in 2000-2002. The project was determined to meet the *Secretary of the Interior’s Standards*. The renovated station now houses a hotel and the train shed shelters an ice-skating rink. Several new adjacent structures have been built within the complex. The former freight house now serves as a coffee shop. The interior of the station building is also locally designated by the Minneapolis HPC.



FIGURE 37. CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC RAILROAD COMPANY STATION, FREIGHT HOUSE AND TRAIN SHED

5.3.3.2.2 Minneapolis Post Office/Federal Building

Originally serving as Minneapolis' second post office, this building occupies an entire city block at the northwest corner of Third and Washington Avenues (Figure 38). It was built in 1915 in the Beaux Arts style and features a symmetrical Third Avenue façade with a formal colonnade of Corinthian columns, a stone entablature executed in grey granite. The building was converted into federal offices in the mid-1930s after the new post office was constructed near the Third Avenue Bridge. The building has been determined eligible for listing on the NRHP under Criteria A and C. It is significant in the areas of community planning and design as a local representative of the City Beautiful Movement and a partial implementation of a coordinate city plan. It is also significant in the area of architecture for its Beaux Arts design and as an important surviving example of post office architect James Knox Taylor.



FIGURE 38. MINNEAPOLIS POST OFFICE/FEDERAL BUILDING

5.4 CONTEXT FOR EFFECTS ANALYSIS

5.4.1 *The St. Anthony Falls Historic District*

The character of the historic district, particularly the WBMA where the project is located, provides the physical and conceptual framework for evaluating the impact of the proposed project. As noted previously in this report, the SAFHD was designated early in the history of the NRHP program. The boundaries for the district seem to have been based more on the thematic concept of the history of the St. Anthony Falls area than on the location, nature, and integrity of historic and archaeological resources. The subsequent analysis and evaluation of the SAFWA resulted in a district containing a higher concentration of the aboveground and belowground properties with important associations to the St. Anthony Falls industrial district (see Figure 1).

5.4.2 *The Secretary of Interior's Standards as an Analytical Tool*

In her work for the Pillsbury "A" Mill Environmental Impact Statement analysis, Betsy Bradley (2005) summarized the application of the *Secretary of the Interior's Standards* in relation to new construction within a historic district. Her summary, portions of which are quoted here, is equally applicable to the analysis used for the Wave project.

The *Secretary of Interior's Standards* address the common situation of proposed new construction within a historic district. Although new buildings are frequently erected in historic districts, the evaluation of their appropriateness is not always straightforward. Often the guidance provided by the *Secretary of Interior's Standards* must be reconciled with other planning factors. The Standards are intended to direct—but not exclude all—change in historic districts.

The evaluation of new construction proposed for sites in historic districts, as surmised and discussed in the *Secretary of Interior's Standards*, is based on the belief that the setting of a historical property matters and constitutes part of a property's integrity, as well as that of a historic district. The setting can enhance or limit a property's ability to express its historical significance. Typically, buildings in a historic district form ensembles that convey a place and time and have relatively high integrity in setting. Most new construction projects in historic districts are infill projects that do not differ significantly in scale from the buildings in the district because they occupy properties similar in size to those of the surrounding historic properties. Contributing properties in historic districts, which establish the historic scale, siting, and massing characteristics that are used as the basis for assessing compatibility of the new construction, often surround redevelopment project sites. Many of

the new infill buildings that have been erected in the Saint Anthony Falls Historic District occupy sites flanked by historic buildings and are compatible in scale and materials with those properties....

The *Secretary of Interior's Standards* provide a general framework for the consideration of new construction in historic districts. The document addresses the physical aspects of proposed work on historic properties, as well as visual impacts of alterations and material integrity of resources. The Standards use physical and visual characteristics (massing, size, and scale), rather than use, as the main standard for compatibility. The standards and accompanying guidelines acknowledge that a new use for a historic property is often necessary and do not identify a new use as an inherently incompatible aspect of a historic property or of new construction. Instead, the design of such a property and the physical changes to a historic property associated with a new use, are the attributes that determine whether a project is compatible or incompatible. The emphasis is clearly on the physical characteristics of a property, especially its scale and massing, as a test of compatibility. The standards also make it very clear that new buildings should not look old and should, by design, be differentiated from historic buildings.

The application of the philosophy inherent in the Standards requires subjective interpretation on a case-by-case basis. The NPS recommends applying the Standards to projects "in a reasonable manner, taking into consideration economic and technical feasibility," and thereby acknowledges both the importance of the philosophy represented by the Standards and the sometimes-conflicting limitations present in preservation-related projects. Even the mandate that the design of compatible new construction in historic districts be both comparable in scale with historic buildings and obviously new can elicit different responses to a specific design (Bradley 2005).

The proposed project was evaluated in terms of the *Secretary of Interior's Standards* in the following sections of this report. As with many projects constructed within historic districts, the project was found to meet some of the standards and related guidelines, while failing to meet others.

5.5 THE SECRETARY OF INTERIOR'S STANDARDS AND GUIDELINES FOR REHABILITATION

The U. S. Department of the Interior developed the *Secretary of Interior's Standards for Rehabilitation* in 1978. These standards are part of the more encompassing *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The NPS used the standards initially to evaluate applications for the Historic Preservation Fund grand-in-aid program and Tax Act projects; many states and municipalities have adopted them to

guide the evaluation of project proposals. The standards are intended to apply to a wide variety of resource types, historic districts as well as buildings, sites, structures and objects. The standards, revised in 1992, were codified as 36 CFR Part 68 in the July 12, 1995 Federal Register (NPS 2004). Although it is acknowledged that the Wave project is not a federal undertaking, the federal standards are a recognized model for evaluating treatment of historic properties and therefore a useful framework to assist in guiding planning decisions for a development within a historic district.

The *Secretary of Interior's Standards for Rehabilitation* consists of ten broad principles that have provided direction for work on historic resources for many years. Only some of these principles are pertinent for projects being assessed at the conceptual stage, as is usual for an EAW, although each Standard is commented upon below. The more specific *Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Weeks and Grimmer 1995) generally applies to specific design applications for alterations to historic buildings. Because the Wave Development project is only conceptual at this stage and because the project does not include a significant rehabilitation component, many of these guidelines would not be applicable at this time to an analysis of the Wave project during the EAW phase. However, several guidelines relating to the building site and district/neighborhood can be addressed at this time.

5.5.1 Secretary of the Interior's Standards

Standard 1: *A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.*

Existing and Historical Use: The Wave project area is currently owned by the Minneapolis Park and Recreation Board and its current uses include small surface parking and unutilized open space in the location of several historic mill foundations. One vacant standing structure – the Fuji Ya building – was previously used as a restaurant. Between 1866 and 1883 the site was developed for industrial uses, with construction of a sawmill, feed mill, flourmill, and railroad tracks. The industrial use of the site ceased in the 1940s.

Proposed Action: This project proposes the construction of a condominium building for residential uses with limited service-oriented retail uses, such as a wine bar and spa.

Analysis: The introduction of residential uses with compatible retail businesses has been well established within the WBMA and the SAFHD as a whole. Several nearby historic industrial buildings have been converted to residential use, including the North Star Lofts condominium, and The Whitney, which is undergoing a transition from hotel to condominiums. Other historic buildings have been converted to use for offices, such as the Crown Roller Mill, the Dann and Hall Barrel Company building, and the Minneapolis Eastern Railway Company Enginehouse. Modern in-fill construction in the vicinity has included residential and non-residential uses, such as the Humboldt Lofts (a combination

of historic rehabilitation and new construction); the Riverwest building, immediately west of the Wave site, the Guthrie Theater; and the new-construction hotel complex associated with the Milwaukee Road station.

Introduction into the project area of a residential use *per se* would not alter the character-defining features of the historic district, and would be considered compatible with the current nature of the district, as it is understood today. As proposed, however, the project would entail the removal of several historic mill foundations on the site, resulting in significant change to the character-defining features of the immediate site. Alternative designs may be able to compatibly incorporate residential uses into the site while preserving the historic foundations. Other uses for the site may better incorporate and preserve the historic characteristics of the property.

Re-use of the Fuji Ya building as a restaurant and wine grotto would be compatible with its historic use.

Due to the changes in the defining characteristics of the historic properties, the proposed project does not meet this standard, except for the anticipated reuse of the Fuji Ya building and its historic foundations.

Standard 2: *The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.*

Existing Condition: The historic character of the Wave parcel is defined by the three mill foundations located on the site, portions of which are visible aboveground. These properties are contributing to the NRHP-listed district.

Proposed Action: The project would result in the partial or entire removal of the historic mill foundations; foundations under the Fuji Ya building would remain intact and be reused.

Analysis: The removal of portions of the historic foundation materials would result in the loss of the historic character of contributing properties to the historic district.

The spatial configuration of the Wave parcel can be approached in two ways. First, it can be understood in terms of our present understanding of the site – that of a mostly undeveloped site with historic foundation ruins. This is characterized by an open parcel with vegetation and paved surface parking lots serving as in-fill to the foundation wall. The Fuji Ya building is a non-contributing element that in some ways works compatibly with the foundation ruins and serves to preserve them. Secondly, the site can be approached from the spatial arrangement as perceived during the district’s period of significance: 1858-1941. During that period, all three of the mills were constructed and ultimately took the form of a two-story brick building (the Occidental), a five-story brick building (the Columbia) and a two-story frame structure (the Bassett). The spatial

relationships and visual identity of the site have been significantly altered since the period of significance when the site was comprised of standing structures.

Under both scenarios of site understanding, the proposed project not only removes historic material, but also introduces a non-historic element that alters the spatial character of the site. With the first scenario – understanding the site with primarily belowground resources – the construction would introduce a major building standing two to eleven stories above the South First Street grade. The proposal would significantly alter our understanding and appreciation of the parcel as a site containing historic mill foundations, although some may still be visible and used under the Fuji Ya building. The second scenario – understanding the site as it was before the aboveground portions of the mills were removed – also presents a different spatial appreciation of the site. While situating a standing structure on the parcel would serve to emulate the presence of the historical mills, the Wave proposal would present a different image and spatial arrangement to the site than that which was historically present. The tallest of the three mills stood at five stories, which is six stories lower than the Wave proposal. The three mills, while adjoining and interconnected, read as three distinct buildings through differing roof lines, fenestration pattern, and building materials; the proposed Wave building would form a monolithic structure comprising the entire site. Although the tiered roofline helps to reduce the presence of the site, the horizontal emphasis of the river elevation serves to visually unify the site that was historically comprised of three structures, thus creating a very different spatial perception of the site than that which historically existed.

The plan to remove historic materials and construct the building as proposed would result in a significantly altered spatial characterization of the site, when considered from its configuration in both its present and historical form. The proposed plan would not meet this standard.

Table 1 in Section 5.7 summarizes specific impacts to each archaeological feature within each archaeological site, and proposes ways to minimize or remove adverse effects to archaeological resources.

***Standard 3:** Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.*

Existing Condition: The project area contains the foundation ruins of three mill buildings, which either collapsed, burned down, or were razed, in addition to other archaeological features.

Proposed Action: The project would include the construction of a modern residential building.

Analysis: When conceived more broadly within the context of the SAFHD, the proposed project would be a clearly modern building through its use of glass curtain walls, broad expanses of glazing, and horizontal orientation on the river elevation. Similarly, the materials and design of the South First Street elevation present a modern sensibility. The use of stone at its foundation level on the riverside elevation pays tribute to the historic mill ruins of the site and to the materials seen elsewhere in the district. The monolithic nature of this foundation and its clear conformity to the modern building footprint would not be perceived as a false sense of historical development, but rather as the modern feature it was intended to be.

The proposed project would not create a false sense of history and would meet this standard.

Standard 4: Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

Existing Condition: The project area contains the foundation ruins of three mill buildings, which either collapsed, burned down, or were razed, in addition to other archaeological features. The Fuji Ya building was constructed in 1968.

Proposed Action: The project would result in the partial removal of the historic mill foundations and other features.

Analysis: In addition to the numerous changes, expansions and alterations made to the various mill buildings and ancillary structures on the project parcel, the most significant changes to have taken place include the loss of the aboveground structures associated with the mill buildings and the construction of the Fuji Ya building. The loss of the aboveground portions of the mill building occurred both within the district's period of significance and post-dating the period of significance. While the loss of the original mill structures represent a loss to the historic district, their remaining foundations and ruins continue to be contributing features, and therefore have significance. The preservation of operational components of the mills, such as gear rooms and freight scales, may represent aspects of the mills that would not have been preserved had the buildings been rehabilitated for future uses. It is possible that the archaeological remnants of the buildings may have acquired historical significance that would not otherwise be present in their standing form.

The Fuji Ya building, constructed in 1968, is a non-contributing property to the historic district. Although less than 50 years of age, this building potentially represents the early revival and transformation of the St. Anthony milling district, and therefore could be considered an addition that has acquired significance in its own right in the future. At this time, the property is regarded as a non-historic property.

The removal of the historically significant mill foundations would not meet this standard. Although the Fuji Ya building is not a contributing property to the historic district, it may

be considered as a significant property that has acquired historical significance in its own right; its removal or significant alteration would not meet this standard.

***Standard 5.** Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.*

Existing Condition: The Wave parcel includes the three mill foundations and ruins that are considered contributing properties to the historic district, in addition to other archaeological features. The Fuji Ya building was constructed in 1968.

Proposed Action: The project would result in the partial removal of the historic mill foundations and features.

Analysis: The mill ruins located on the project parcel may be among the best preserved mill foundations and ruins in the historic district and represent those distinctive features – including the heavy stone foundation walls, arched window openings, and most importantly the interconnected direct drive power of the WBMA – that characterize the historic district and the WBMA. The proposed project would result in the removal of many of those character-defining features.

Because the proposed project would entail the removal of the character-defining features that contribute to the historic district, it would not meet this standard.

***Standard 6.** Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.*

Comment: Although the Wave project proposes to incorporate some of the historic ruins within the project, details on how deteriorated historic features would be repaired or treated have not been determined at the conceptual phase. Compliance with this Standard is unknown, but recommended, at this time.

***Standard 7.** Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.*

Comment: Although the Wave project proposes to incorporate some of the historic ruins within the project, details on the chemical and physical treatments of the historic materials have not been determined at the conceptual phase. Compliance with this Standard is unknown, but recommended, at this time.

Standard 8. *Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.*

Existing Condition: Archaeological sites of three foundation ruins and two other related features are located on the site.

Proposed Action: The project as proposed would remove portions of the archaeological resources located on the property; foundations under the Fuji Ya building would be preserved and reused.

Analysis: Historical archaeological resources on the site were identified in Anfinson's studies of the central Minneapolis riverfront (1989, 1990) and were subsequently included as contributing archaeological sites to the SAFWA (Hess and Kudzia 1991). Additional and related features were identified during The 106 Group's Phase II investigation of the site in preparation of this EAW. A detailed discussion of the nature of these resources, and their significance in relation to the historic district is provided in Section 4.0 of this report. The project as proposed would entail the partial or total removal of some of the archaeological sites and the preservation of the foundations under the Fuji Ya building. Mitigation or preservation alternatives for the sites are being considered as part of the EAW.

This standard may be satisfied if appropriate mitigation and/or preservation measures are undertaken.

Standard 9: *New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.*

Comment: The Minneapolis HPC Design Guidelines for the WBMA (see Section 5.6) address how the design of new buildings can be compatible with other resources in a historic district in terms of siting, materials, colors, textures and architectural design. This section will address the matters of massing, size, and scale.

Existing Condition: Historic buildings in the WBMA provide the context for compatibility, or lack thereof, for the Wave project.

Proposed Action: The proposed project would erect a building covering much of the available parcel. The building would be 144 feet to the highest point above First Street; there would be an elevator penthouse that reaches to 152 feet. Further description of the building is provided in this report's introduction.

Analysis: This standard identifies three points for consideration:

- **The avoidance of the loss of historic character-defining features.**
The proposed removal of portions or all of the mill foundations would result in a loss of character-defining features to the immediate site. Further analysis of the effects on the broader historic district are addressed in Section 5.8 of this study.
- **The differentiation of new construction from historical buildings.**
The conceptual plans for the Wave do not indicate that there is any attempt to replicate historic buildings or in any other way indicate that the new buildings would not clearly appear to be modern construction. The project meets this portion of the standard.
- **The compatibility of the new construction in massing, size, scale, and architectural features.**
The massing, size, and scale of the proposed project warrants further discussion.

Massing. The historic precedent for massing of buildings in the WBMA is a simple rectangular block, rising without setbacks to a flat or low-pitched roof. The introduction of an angular railroad bed and the power canal historically forced some buildings to be situated in an angular fashion, or with non-orthogonal walls. This is the case with the Hall and Dann Barrel Company Factory building. The historic evolution of the district over time adds some complexity to the pure rectangular forms. Additions of engine houses, grain elevators and other facilities created the chaos that often accompanies an intensely occupied industrial district. The WBMA is dominated by vertically arranged mills, placed side-by-side to maximize the access to the power canal. The arrangement of the buildings was essentially a reflection of their power source. Differentiation among the buildings could be distinguished by the various heights and exterior building materials and hues.

The modern, non-contributing Riverwest apartment building immediately south of the project site stands in contrast to the massing that is typical of the district. The broad expanse, regular roofline, symmetrical façade, and height present a formidable wall at the edge of the WBMA.

The emphasis of the Wave project would be horizontal and would create a broad, unifying façade for most of the riverfront elevation. The approach is in contrast to the vertical massing of the rest of the district. The varied roof heights of the Wave are in keeping with the district's variety of roof lines, however, the stepped effect is perhaps too regular, contrasting with the more random approach in the rest of the district.

The proposed project does not appear to be compatible with the massing of the surrounding historic buildings.

Size and Scale. The proposed project would introduce an increase in size and scale of buildings in the WBMA, both in footprint and height. The footprint of the proposed project encompasses the space historically devoted to three mills, albeit relatively small mills. Nevertheless, the proposed building would be approximately twice the length of the largest mill of the WBMA – the Washburn “A” Mill – and oriented parallel to the

river, rather than perpendicular, as is the Washburn Mill. At its highest point – 152 ft above South First Street – the height of the proposed project would stand taller than many of the historic buildings in the WBMA, but lower than the tallest of the grain elevators/head house in the area, the height cap established by the HPC¹. At eleven stories, the Wave would be four stories taller than the Crown Roller Mill, the nearest standing mill building to the site.

Covering about twice the area of the largest historic building in the WBMA, the scale of the building, in terms of its footprint and elevation, would be considered incompatible with the surrounding structures of the WBMA. While taller than most of the buildings in the WBMA at its highest point, the tiered roof line serves to mitigate for the height. Furthermore, the height does not exceed that of other buildings in the WBMA and would be considered compatible.

Standard 10 *New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

Comment: This standard generally refers to additions or other new buildings constructed onto existing historic properties. The Wave would be constructed on a parcel where several archaeological sites are located, most of which would be removed upon construction of the proposed building. These conditions have been addressed in Standard 8 regarding archaeological resources.

Existing Condition: Four known archaeological ruins are located within the Wave site and would to some extent be impacted by the construction.

Proposed Action: The proposed development would result in the removal or substantial alteration of most of the foundation ruins. The Fuji Ya building would be remodeled and the historic foundation ruins under that building would be preserved and re-used within the complex.

Analysis: In the event that the proposed Wave building would be removed in the future, most of the foundation ruins would no longer be extant; the extent that the historic integrity of preserved ruins would be left unimpaired is unknown at this time. If the re-use of the foundation ruins under the Fuji Ya building follows the *Secretary of the Interior's Standards for Rehabilitation* their integrity would be preserved; the future removal of the Fuji Ya building would likely result in leaving the foundations unimpaired. The proposed project has components that both meet and do not meet this Standard. With regard to the foundations and ruins that would be removed, the proposed action would *not* meet this Standard. With regard to the foundation ruins under the Fuji Ya building, appropriate rehabilitation would result in meeting this Standard.

¹ According to HPC staff, the head house for the Washburn “A” Mill stands at approximately 164 feet, and is the tallest structure in the WBMA.

5.5.2 Guidelines for Rehabilitation

Relevant guidelines for the construction of in-fill properties within a historic district at the conceptual phase are limited to those pertaining to the building site and district context.

Guideline: Building Site

Recommended:

- Retaining the historic relationship between buildings, landscape features, and open space.
- Designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserve the historic relationship between a building or buildings, landscape features, and open space.

Not Recommended:

- Introducing a new building or site feature that is out of scale or otherwise inappropriate.
- Introducing new construction onto the building site that is visually incompatible in terms of size, scale, design, materials, color and texture or which destroys historic relationships on the site.

Guideline: District/Neighborhood

Recommended:

- Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the district or neighborhood in terms of size, scale, design, material, color and texture.

Not Recommended:

- Introducing a new building, streetscape or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.
- Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the district or neighborhood.

Analysis: Although the parcel of land for the Wave now reads as an open landscape space, in fact the proposed project would be constructed within a parcel historically devoted to three adjoining and interconnected mills. The Wave would stand within the existing parcel footprint and not extend into the historical street right-of-ways or other landscape features. In this regard, the relationship of the proposed building on the site to its historic surroundings is similar to that of the historic buildings. The guidelines recommend that the size, scale, design, materials, color and texture of the proposed building be compatible in relationship to the historic character of the site and district. An

analysis of these design elements has been discussed earlier with reference to the Standards and will be raised further when the project is evaluated in relation to the HPC Guidelines. In general, however, this building does not respond to the district or site as compatible in-fill in terms of scale, design, materials, color or texture.

5.5.3 Summary of Secretary of the Interior Standards and Guidelines

The *Secretary of the Interior's Standards and Guidelines* provide direction on how to successfully accomplish preservation of historic places through sensitive rehabilitation or modern in-fill. As a project located within an NRHP-listed historic district, such guidelines are appropriate, although not required by federal regulations, for the Wave project to consider. The spirit of the *Standards and Guidelines* is to provide ways for such projects to be compatibly placed within the context of historic places.

The systematic analysis of the proposed project's compliance with the *Standards and Guidelines* found that the project would meet one Standard (3), in that the project would not create a false sense of development. Due to the conceptual nature of the current design phase, compliance with two Standards pertaining to the repair and replacement of historic features and the physical or chemical treatments to historic materials (6 and 7) is unknown at this time. One Standard (8), pertaining to the mitigation of archaeological resources, is conditional on the implementation of an appropriate mitigation plan for the known archaeological resources on the site. The remaining Standards (1, 2, 4, 5, 9 and 10) would be substantially unmet according to the current design program, although the project component that entails the reuse of the foundations walls under the Fuji Ya building would meet some of the Standards. The Guidelines pertaining to Building Site and Historic District would mostly be unmet, with the exception of the plan to mostly retain the historic relationship between buildings, landscape features and open space. By and large, the project, as proposed, is not a building that was designed to be sited within the SAFHD and would not be considered a compatible building within that district.

5.6 MINNEAPOLIS HPC ST. ANTHONY FALLS HISTORIC DISTRICT GUIDELINES

The Minneapolis HPC St. Anthony Falls Historic District Guidelines were written to apply to specific sub-areas within the entirety of the historic district. The Wave project area is located WBMA sub-area (see Figure 1). The design guidelines for new buildings are as follows.

1. Siting. New buildings shall have their exterior walls in the same axial orientation as the existing buildings.

The proposed project would form a long building on the narrow parcel of land extending almost the entire block between Fourth Avenue South and Third Avenue South. One façade would align with the South First Street frontage and the opposite façade would form an undulating curve, conforming to the shape of the parcel and the curve of West River Parkway.

Historically, the mill properties within the Wave parcel and others located within the WBMA were rectangular masses; the shorter end of the building faced the power canal or the river. The result was a tightly packed arrangement of cheek-by-jowl buildings whose axial orientation emanated from their power source – the First Street Canal.

Other contributing and non-contributing buildings constructed within the WBMA and near the project area have achieved other orientations. Notably, the non-contributing Riverwest building, immediately south of the proposed project, was oriented with its alignment facing the river, opposite that of other buildings in the WBMA. Its footprint is similar to that of the proposed Wave project. Although immediately outside of the WBMA, the Minneapolis Post Office Building, a contributing property to the historic district, is also aligned with an orientation parallel to the river. This orientation is, perhaps, an indication of a building constructed at a different period of time (1930s) for a different purpose (post office) with the lack of need for the direct waterpower necessary in the WBMA.

The proposed project reverses the axial orientation of other historic buildings within the WBMA and does not meet this guideline.

2. Height. *New buildings to be no higher than that of existing silo-mills in the area.*

The tallest building within the WBMA is the head house of the Washburn “A” Mill, which stands at approximately 164 feet above the street level. At its highest point, the Wave development would stand at 144 feet above South First Street; the additional elevator penthouse would increase that height to 152 feet. When considered from South First Street, the proposed building meets this guideline; when considered from the West River Parkway, an additional three levels of parking garage would be added to the elevation and the project would not meet this guideline. The HPC Guidelines do not specify base level for measuring building heights; since extant buildings in the WBMA are located on or near the South First Street or South Second Street grade, this base point is assumed for the height of the Wave project.

3. Rhythm of Projections. *There shall be no major projections on the principal façades.*

Conceptual drawings illustrate balcony levels extending from the riverside façade of the proposed building.

The proposed project does not meet this guideline.

4. Directional Emphasis. *New buildings shall have a generally vertical emphasis, at least above the first floor.*

The riverside elevation of the proposed building would have continuous horizontal banding forming balconies at several levels interspersed with continuous curtain wall

glazing. From this elevation, the building would have virtually no vertical definition and would create a decidedly horizontal emphasis. The South First Street elevation would present five strongly vertical bays connected by glazing and screening with a horizontal emphasis. The vertical bays help to provide this elevation with a vertical orientation, and may result in compliance with this guideline where this elevation is concerned.

The proposed project, particularly the riverside elevation, does not meet this guideline.

5. *Materials. The exterior surface of new buildings shall be constructed of brick, concrete or stone.*

The exterior surface of the riverside elevation of the proposed building would be comprised of natural stone facing on the basement/parking garage level, visible from the riverside elevation. Above this level, the building would be comprised of windowed curtain walls on the riverside elevation. The South First Street elevation would be clad with reflective copper or other metal and wood or metal screens over windows.

Based on the conceptual views provided, the proposed building would be dominated by a glass exterior surface on the riverside elevation and reflective metal materials on the South First Street elevation, and would therefore not meet this guideline.

6. *Nature of Openings. Openings should appear in a consistent and repeated pattern across the principal façades. Window openings should be approximately 1½ to 2½ times as tall as they are wide. Doors and windows should be set toward the front of the openings but should not be flush with the masonry surface.*

The exterior surface of the riverside elevation of the proposed building is dominated by a continuous glass curtain wall and does not conform to the traditional design methods using inserted openings into solid wall surfaces. The resulting image would be a continuous horizontal band rather than a pattern of door and window openings. The nature of this design is antithetical to the premise of this guideline. The South First Street elevation would include punched window openings in the vertical bays and continuous curtain wall glazing between those bays.

Based on the conceptual views provided, the proposed building would not create a consistent and repeated pattern of window and door openings across the principal façades and would therefore not meet this guideline.

7. *Roof Shapes. New buildings should have flat or nearly flat roofs.*

The proposed roof shape for the Wave would be flat, although conceptual plans indicate that the roofs would be used as terraces and would include significant plantings, pergolas and pavilions. The potential visibility of such rooftop activity may not meet the spirit intended by the guideline. It should be noted that active rooftop use and activity has been permitted on other nearby historic buildings within the WBMA.

The flat roofs of the proposed building would meet the guidelines; the planned rooftop structures and plantings may not meet the spirit of the guideline.

8. *Details:* *New buildings should have some emphasis given to the upper termination of the building. Surface treatment should divide the building into vertical bays. Where other surface treatment is used, it should reflect details from other buildings in the area.*

As proposed, the termination of the upper story of the proposed project would not have a treatment that would differentiate it from similar horizontal divisions placed at intervals across the façade. This Modernist approach lacks the emphasis of a prominent cornice that was typical of late nineteenth and early twentieth century buildings. The minimal surface treatments of the riverside façade are limited to horizontal banding that also serve functional purposes as balconies. This result is a division into horizontal, rather than vertical bays. The elements on this elevation do not appear to draw from details found in other historic buildings in the area.

The South First Street elevation appears to be somewhat more contextual in relation to the neighborhood. Five strong vertical bays are joined by horizontal units, creating the feel of an urban townhouse arrangement. The building does not, however, appear to reflect the details from other buildings in the area.

Based on the conceptual views provided, the proposed building would not emphasize the upper termination of the building, would not divide the building into vertical bays on the river elevation, and would not reflect details seen on other historic buildings in the area, and would therefore not meet this guideline.

9. *Color:* *The primary surfaces of new buildings should be deep red, brown, or buff. Trim should be subdued earth tones or flat black, and new buildings should allow this same general pattern.*

The primary exterior material visible on the riverside elevation views is the glass curtain wall. Extension of the floor surfaces at various levels form the balconies, which appear to be formed from light-colored or buff-colored concrete. Slightly more extensive siding is used on the two-story pavilion (the Fuji Ya building) at the south end. The South First Street elevation would be clad with reflective copper or other metal siding, significant amounts of glazing, and wood or metal screens.

Based on the conceptual views provided, the primary exterior surface materials would be glass and reflective metal and therefore would not meet this guideline, which recommends deep red, brown or buff wall materials.

5.6.1 Alternative Design Considerations

HPC Design Guidelines allow for variances in cases where an applicant clearly demonstrates that an alternative design is a superior and compatible solution. Criteria for what comprises a superior and compatible solution is not identified in the guidelines and the qualifications of such proposals would be left to the discretion of the Heritage Preservation Commissioners. The thoroughly modern Guthrie Theater (Guthrie), located within the WBMA, demonstrates the inclusion of a building that substantially does not meet the design guidelines for the district, but whose design spurred a conversation among the Commissioners about the consideration of a superior design alternative. Minutes from the HPC hearings broach the discussion of the process for finding that a design results in a superior building and superior solution. The HPC staff cautioned the Commissioners that if they found the proposed building would not meet the design guidelines, but was a superior design, their findings would need to explain why that is the case (Minneapolis HPC Minutes, 19 March 2002). In subsequent meetings, it became clear that some Commissioners believed that the design qualified as a superior alternative, noting its modern and iconic standards. The HPC never articulated the findings of a superior design in this case, however. In the end, the HPC approved a resolution for a Certificate of Appropriateness despite its failure to comply with guidelines for rhythm of projections, materials, nature of openings, details and color. It was noted, however, that the proposed site was in the extreme southeast corner of the historic district, in a location that abuts both the southern and eastern boundaries of the historic district, and would therefore not disrupt the intact sections of the historic district. The Commission concluded that these conditions would result in a lesser impact to the district than if it would have been built on a location closer to the center of the district. The deviations from the guidelines were found acceptable in that instance because the variations would not significantly affect the overall visual and historic character of the district (Minneapolis HPC Public Hearing, 13 May, 2003).

It is unknown whether the HPC would consider the proposed Wave building to be of such a superior design and solution that it allow for a variance for non-compliance with other design guidelines. If the Guthrie case is any indication, the HPC appears to be reluctant to affirmatively articulate what constitutes superior design even on a case-by-case basis. The conditions upon which the Guthrie *was* approved by the HPC – that it was located on the edge of the district and would not disrupt the intact historic district – would likely not apply to the proposed Wave project, which is located well within the historic district boundaries, on a parcel with contributing properties, and adjacent to the strong visual aspects of the WBMA.

5.6.2 Summary of HPC Guidelines

The HPC provides nine specific guidelines that pertain to new construction within the WBMA of the SAFHD. An analysis of the Wave project against those guidelines found that, as proposed, the project possibly would meet two of those guidelines: 1) the height of the Wave project would not exceed that of the existing silo-mills in the area and 2) the

roofs would be flat, although it is not clear whether the proposed pergolas and pavilions for the roof would be in compliance with this guideline. The proposed project would not meet the guidelines pertaining to siting, rhythm of projections, directional emphasis, materials, nature of openings, details, and color. It would be hard to gauge whether the proposed design would meet the standards of a “superior and compatible solution” in the eyes of the Commissioners, although the proposed design overcomes many of the challenges the site presents in terms of area and topography in clever ways. Based on the resolution for the new Guthrie, the Commission appears to be reluctant to assertively state when a proposed design meets the standards of a superior and compatible solution, although it was apparent that many individual Commissioners saw great merit in the final design of the theater.

It is instructive that the passage of the Guthrie’s design by the HPC was passed based on its marginal location within the historic district. Located in the far southwest corner of both the larger SAFHD and the more restrictive SAFWA, the Commission believed that a bold modern design for the building was sufficiently separated from the district’s historic core that it would not have an adverse effect on the district’s visual statement. Furthermore, the Guthrie site did not have any historic archaeological sites that would be impacted by its construction. By contrast, the Wave project would be located at the center of the larger SAFHD and partially on the southwestern boundary of the SAFWA. This location is at the core of the district and historically had the visual presence of three mills, the remains of which are located on the site and would be impacted by the construction. It is likely that the visual effects emanating from the Wave site would be greater than the impacts made by the Guthrie site (a discussion of visual effects follows). For this reason, it may be more appropriate for the design of the Wave building to be more compatible with the existing buildings of the historic district, while still distinguishing itself as a modern, in-fill building that does not contribute to the historic district. The objective would be to create a building that does not detract from the significance of the district or other historic buildings, particularly the WBMA, by lessening its visual presence. This goal can be accomplished in a number of ways, through a combination of appropriate massing, siting, materials, height and other techniques. A design need not and should not mimic a nineteenth century mill building. A successful compatible building can be contemporary in its design sensibility, such as the Guthrie, while still incorporating contextual elements that make it blend with the historic buildings and not bring undue attention to itself. The overall emphasis should remain upon the historic, not the modern.

5.7 EFFECTS TO RESOURCES WITHIN THE DEVELOPMENT SITE

5.7.1 Properties in Development Site - Below Ground Resources

The foundation ruins of three mills and one recently discovered site related to the mills are located within the parcel of the proposed development: Columbia Flour Mill, Occidental Feed Mill, Bassett's Second Sawmill, and a railcar scale pit and retaining wall site. Turbines located under the Bassett's Second Sawmill site (Site 21HE0363), the easternmost of the three mills, powered all three mills (the Bassett, Columbia and Occidental). All of these mills and railroad-related features are contributing properties to the SAFWA of the SAFHD. Detailed analysis of effects to all archaeological features within the development site is provided in Table 1.

5.7.2 Summary

5.7.2.1 No Build Alternative

The No Build Alternative would result in no effect to buried walls and foundations. However, exposed ruins will continue to deteriorate without appropriate stabilization/preservation. Exposed walls currently in the basement of the Fuji Ya building will deteriorate from damp conditions and neglect without appropriate preservation treatment. Also, exposed ruins are vulnerable to vandalism. There would be no effect to non-metallic or organic artifacts, but the railcar scale would probably continue to deteriorate.

5.7.2.2 Proposed Development Alternative

The current proposed development would destroy most of the archaeological sites with the exception of some of the remains of the Bassett's Second Sawmill and Columbia Flour Mill that are currently incorporated within the Fuji Ya building. The most dramatic effects of the currently proposed development would be partial or complete destruction of the four sites due to construction of the building, particularly the parking ramps. Even with some preservation of foundation walls and ruins *in situ*, there would still be a loss to the setting and feeling of the sites, unless adjustments are made to the design of the building. Since completion of the Phase II archaeological investigation, the results of which are included in this report, efforts are currently underway to find ways to avoid and/or reduce adverse effects to these sites.

TABLE 1. EFFECTS TO RESOURCES WITHIN DEVELOPMENT SITE

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
Columbia Flour Mill						
	1	Wall	Subsurface	West wall of the Columbia Flour Mill, 4ft thick and estimated to be more than 25 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	No effect to buried walls	Destroyed by development of spa and retreat, residential and park board parking, and residential units
	2	Wall	Surface / Subsurface	North wall of the Columbia Flour Mill, 4ft thick and more than 25 ft high	No effect to buried walls. Exposed ruins will continue to deteriorate without appropriate stabilization/preservation Exposed ruins vulnerable to vandalism	Destroyed by development of spa and retreat, residential and park board parking, and residential units

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
	3	Arched Window	Surface / Subsurface	Arched Window constructed within the limestone wall comprising the north wall of the Columbia Flour Mill - bricked up for the most part	<p>No effect to buried walls</p> <p>Exposed ruins will continue to deteriorate without appropriate stabilization/preservation</p> <p>Exposed ruins vulnerable to vandalism</p>	Destroyed by development of spa and retreat, residential and park board parking, and residential units
	4	Arched Doorway / Window	Subsurface	Arched Doorway, partially blocked/filled with poured cement to make the opening half of what it was when originally constructed	No effect to buried doorway	Destroyed by development of spa and retreat, residential and park board parking, and residential units
	5	Wall	Subsurface	South wall of the Columbia Flour Mill, 4 ft thick and more than 25 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	No effect to buried walls	<p>Destroyed by development of spa and retreat, residential and park board parking, and residential units</p> <p>Utilities may impact wall</p>

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
NA	Hypothetical 5	Wall	Subsurface	Possible southern wall of Columbia Mill	No effect to buried walls	Wall extends under sidewalk and road. Utilities may impact wall
	16	Wall	Subsurface	East wall of the Columbia Flour Mill 4 ft thick and over 9 ft high	Exposed walls currently in basement of Fuji Ya will deteriorate from damp, neglect etc. without appropriate preservation treatment Abandoned building vulnerable to vandalism	Incorporate wall into new design for restaurant and wine grotto
	8	Grain Elevator	Subsurface	Grain elevator - storing and supplying grain for/to the Occidental and Columbia Mills	No effect	Destroyed by development of spa and retreat, residential and park board parking, and residential units

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
	10	Wall	Subsurface	South wall of the Grain Elevator most likely 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface	No effect to buried walls	Wall extends under sidewalk and road. Utilities may impact wall
	Potential Archaeological Features Not Yet Exposed				No effect to buried features and non metallic or organic artifacts	Destruction of archaeological data
Occidental Feed Mill						
	6	Wall	Subsurface	East wall of the Occidental Feed Mill 2 ft thick and estimated to be over 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	No effect to buried walls	Destroyed by development of public parking and residential units

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
NA	Hypothetical 6	Wall	Subsurface	Possible west wall of Occidental Feed Mill	No effect to buried walls	Destroyed by development of public parking and residential units
	7	Wall	Subsurface	West wall of the Occidental Feed Mill, 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	No effect to buried walls	Destroyed by development of public parking and residential units
	9	Wall	Subsurface	South wall of the Occidental Feed Mill, most likely 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	No effect to buried walls	Wall extends under sidewalk and road. Utilities may impact wall

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
	12	Wall	Subsurface	West wall of Occidental Feed Mill Add-on, 2 ft thick, and estimated to be more than 16 feet in height with the top of the wall 1-2 ft below the parking lot surface	No effect to buried walls	Destroyed by development of public parking and residential units
	13	Void within rubble	Subsurface	Void in the rubble, may be the opening to a shaft or underground chamber or may be merely a void in the rubble fill	No effect	Destruction of archaeological data
	Potential Archaeological Features Not Yet Exposed				No effect to buried features and non metallic or organic artifacts	Destruction of archaeological data

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
Bassett Second Saw Mill						
	17	Wall	Subsurface	North wall of the Bassett Saw Mill, 4ft thick and more than 9 ft high	Exposed walls currently in basement of Fuji Ya will deteriorate from damp, neglect etc. without appropriate preservation treatment Abandoned building vulnerable to vandalism	Incorporate wall into new design for restaurant and wine grotto
	18	Wall	Subsurface	Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant	Exposed walls currently in basement of Fuji Ya will deteriorate from damp, neglect etc. without appropriate preservation treatment Abandoned building vulnerable to vandalism	Incorporate wall into new design for restaurant and wine grotto

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
	19	Wall	Subsurface	Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant	Exposed walls currently in basement of Fuji Ya will deteriorate from damp, neglect etc. without appropriate preservation treatment Abandoned building vulnerable to vandalism	Incorporate platform into new design for restaurant and wine grotto
	15	Wheel House Wall	Subsurface	Possible wheel house walls which may have housed a turbine wheel as part of the water power system used to power all three of the projects mills	No effect to buried walls	If river view plaza and outdoor dining area - potential effects unknown If subsurface restaurant service area - archaeological data destroyed

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
	20	Platform	Subsurface	Probable platform to support and aid the line shaft in transferring the turbines power throughout the 3 mills, the Occidental, Columbia and Bassett	<p>Exposed walls currently in basement of Fuji Ya will deteriorate from damp, neglect etc. without appropriate preservation treatment</p> <p>Abandoned building vulnerable to vandalism</p>	Incorporate platform into new design for restaurant and wine grotto
	Potential Archaeological Features Not Yet Exposed				No effect to buried features and non metallic or organic artifacts	Destruction of archaeological data

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	No Build Effects	Potential Effects As Proposed
Railroad Related						
	14	Scale Pit	Subsurface	Scale pit - underground room containing all machinery and components of a large railroad scale, accessible through arched walkway in Columbia Mill north wall	No effect to buried room	Destroyed by development of spa and retreat, residential and park board parking, and residential units
	21	Scale	Subsurface	Components of a large railroad scale and associated machinery, in underground room accessible through arched walkway in Columbia Mill north wall	Metal will deteriorate without appropriate conservation treatment	Destroyed by development of spa and retreat, residential and park board parking, and residential units
	11	Retaining Wall	Subsurface	Wooden retaining wall constructed of 12"x12" wood timbers standing more than 10 ft high with the top of the wall 8 ft below the ground surface	Wood will deteriorate without appropriate conservation treatment	Destroyed by development of public parking and residential units

5.8 EFFECTS TO RESOURCES OUTSIDE THE DEVELOPMENT AREA

The definition of an APE typically accounts for the potential effects of a project that include a wide range of factors such as land acquisition, changes in access, traffic patterns, traffic volume and noise levels, visual effects, vibration, air quality, land use, and setting. When applied to particular projects, those factors may or may not have real impacts to historic resources, depending upon the nature and scope of the proposed project. In the case of The Wave, many factors are not anticipated to have effects to historic properties, and therefore an analysis of effects for those factors would be unnecessary.

As noted in Section 5.2, there would be no anticipated effects on resources outside the development area resulting from land acquisition, land use, changes in access to properties, and alterations in traffic patterns. As reflected in the EAW, increases in traffic volume and noise are within the Minneapolis Code Ordinances and would therefore not have significant effects to historic properties. Similarly, the use of best management practices to reduce dust emissions would avoid any significant impact on air quality that would result in effects to historic buildings. Although vibrations are not anticipated to result in significant adverse effects to historic properties, the potential for effects from vibrations are unknown at this time. Consequently, the focus of the analysis of effects to historic resources outside the development area was limited to effects to the visual setting of the historic properties.

Effects on views to and from historic properties and on the setting of the historic district resulting from the proposed project may be assessed at this time based on the preliminary proposed views provided. There are several reasons to evaluate the impact of the proposed project on the views in the project area. Recent studies of the impact of new elements in a landscape on historic resources have concluded that adverse visual effects can be caused by a change in aesthetic values or by obstruction of views. An adverse visual effect that diminishes a property's integrity adversely affects that property's ability to convey its historical significance. When the adverse effect is significant, a property's eligibility for listing in the NRHP can be affected as well. An adverse aesthetic or scenic effect occurs when the character or quality of a historic property is impacted significantly. An adverse obstructive effect is an action that obscures the historic view of a significant component of, or the entirety of, a property and hence diminishes the property's historic character and visibility. A project may have a visual effect—introduce new components into a view—without being an adverse visual effect (Delaware SHPO 2003).

An APE was field tested and reviewed by local and state agencies to be the greatest area that would have the potential to be impacted by the project. Generally, the broadest range of impacts would be visual. The APE is almost entirely within the SAFHD and includes almost all of the SAFWA. Where the APE extends beyond the historic district boundaries, it includes two individually listed or determined eligible properties. In

essence, the entirety of the APE for visual effects is a historic resource. Because of the volume of historic resources within the APE, an analysis for visual impacts from each resource would be unnecessary and repetitive. Instead, visual analyses from 15 key locations and resources that included proximate properties, sub-areas within the historic district, and exceptionally significant properties were undertaken. Identification and brief descriptions of those properties are provided in Section 5.3.

In addition, the setting of the historic district – specifically the sub-area of the WBMA – has the potential to be significantly impacted by the changes in the scale, massing and materials that characterize a historic district. Because of the size of the WBMA, perceptions in changes in these qualities may vary by the location of the observer. Since the visual analysis was achieved from a wide variety of perspectives, these same locations were used for an analysis of the impacts to the setting of the WBMA. Adverse impacts on setting were those where the viewer of the WBMA from that particular perspective would perceive a change in the visual relationship to or within the historic district as a result of the new construction. Changes in perception were based on views seen in historical images (Figures 39 and 40) as well current views.



FIGURE 39. 1891 VIEW OF PROJECT AREA



Source: Minnesota Historical Society. Location NO. MH5.9MP1k p45

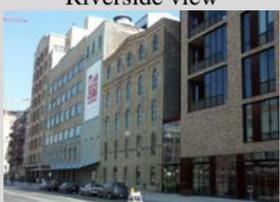
FIGURE 40. WEST BANK MILLING AREA, 1949, FACING SOUTHWEST

Photographs to and from each visual analysis site were taken and observations were made on the impact that the proposed project would have on the surrounding historic resources. Key questions of the visual effects analysis were:

- Would changes in the visual setting of the historic property be significantly altered by changes in scale of components in the view or would important views of the property be obstructed?
- Would views from the historic property towards the proposed project be obstructed or significantly altered?
- Would viewers of the WBMA be able to perceive that it is a historic district with relationships to other historic resources in the area once the new construction is complete?

Analysis of the visual impact on each selected historic property is provided in Table 2.

TABLE 2. ANALYSIS OF VISUAL EFFECTS

Historic Property	Historic character and significance	Current views toward historic property	Description of visual setting of historic property	Impacts of proposed project on visual setting of historic property	Current view towards proposed project from historic property	Description of current view towards proposed project from historic property	Impacts on views towards proposed project	Impacts of proposed project on setting of WBMA from historic property
(1) West Bank Milling Area (WBMA)	Cluster of mill buildings and ruins, most of which were historically linked to the First Street waterpower canal system. Characterized by dense grouping, vertical orientation, and masonry building materials. Some areas of WBMA that are visually perceived as open spaces are also important to the character, as they are locations with contributing below-ground sites or ruins.	 <p>Riverside view</p>  <p>S. Second Street View</p>	Much of the WBMA, particularly areas between Portland and 8 th Ave can be easily viewed from the riverside on the Stone Arch Bridge, the EBMA and other locations. Views include some infill buildings, the dramatic Guthrie Theater, and a backdrop of the modern downtown skyline. Views of the WBMA are significant to understanding the district and its historical associations. Views of S. Second St. elevations are also significant.	The proposed project would be visible in most riverside views of the WBMA. Except in views from the up-river end, the project generally would not obstruct views towards the WBMA. Views from the Second or First Street side would not be significantly impacted in many locations. Project would alter perceived open spaces within WBMA and significantly alter the visual setting of the WBMA, resulting in an <i>adverse impact</i> .		Located within the WBMA, the proposed project site is visible from many adjacent locations, although many views within the WBMA do not include the visual presence of the proposed site. Currently, the relatively small Fuji Ya building does not have a significant presence within the context of the WBMA. The remainder of the site reads as open space, although the visible ruins indicate the contributing nature of the site.	The proposed project would be visible from several locations within the WBMA, particularly those closest to the site. A large number of views within the WBMA would not include views of the proposed building. The remodeling of the Fuji Ya building and the stepped roofline as it reaches the outer boundary of the WBMA help to limit its visual impact. The removal of many of the ruins alters the visual association with the WBMA, resulting in an <i>adverse impact</i> .	Proposed project would have a visual presence on several views of the WBMA from within the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
(2) Hall and Dann Barrel Company Factory	Two contributing buildings to the SAFHD and SAFWA. Characterized by brick walls; single, paired and tripled window arrangements within vertical bays; cornice treatment; and angled wall to accommodate rail corridor. Significance tied to its association as supplier to the flour industry.		Visual setting includes the association with the adjacent Enginehouse. Historic mill ruins and Fuji Ya building of the project site are across S. First Street from this building. Many modern infill buildings are located within the vicinity of this building, which is located on the boundary of the WBMA and SAFWA.	Proposed project would increasingly orphan this building from its historical associations within the district by creating further separation from other historic buildings. Views of the Wave would be within most views of this building. These factors would be considered an <i>adverse impact</i> on visual setting.		Views toward project area include several historic properties, including Bridge L8900, the Minneapolis Eastern Railway Company Enginehouse, and the Crown Roller Mill, as well as non-contributing properties such as the Fuji Ya building and the Riverwest apartment building.	Proposed project would be visually prominent in the view, change the scale of the contributing properties, and alter the historic building's visual associations with the WBMA. Proposed project would result in an <i>adverse impact</i> to views from the historic property.	Proposed project would have a strong visual presence in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
(3) Bridge No. L8900	Contributing structure to the SAFHD and SAFWA. Characterized by the plate-girder and limestone abutments carrying South First Street over railroad corridor. Significant for its associations within the district infrastructure.		Significant aspects of the visual setting include its association with South First Street, the abandoned rail corridor and adjacent historic buildings.	Proposed project would be visible in most views of the bridge. Project would not significantly impact associations with street and rail corridor, and would have <i>no adverse impact</i> .		Views from bridge deck include the Wave site, the Crown Roller Mill, and the modern Riverwest apartment building. Views from the bridge are not an important aspect of its historical significance.	Proposed project would be easily visible and have a strong presence. Project would not affect its associations as a street crossing of a rail corridor and result in <i>no adverse impact</i> .	Proposed project would have a strong visual presence in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.

Historic Property	Historic character and significance	Current views toward historic property	Description of visual setting of historic property	Impacts of proposed project on visual setting of historic property	Current view towards proposed project from historic property	Description of current view towards proposed project from historic property	Impacts on views towards proposed project	Impacts of proposed project on setting of WBMA from historic property
(4) <i>Minneapolis Eastern Railway Company Enginehouse</i>	Contributing building to the SAFHD and SAFWA. Characterized by cream-colored brick walls; segmental arched windows within vertical bays; brick cornice treatment. Significance associated with railway switching line to serve the mill district.		Current visual setting includes the historic properties, such as the Hall and Dann building, Bridge L8900, and historic ruins of the Wave site. Other aspects of visual setting are the non-contributing Riverwest apartment building.	Proposed project would be visible in most views of the historic building because of proximity. Presence of the proposed project would result in a significant change in scale for the small, narrow building, which would be located between two tall, modern buildings. Result would be an <i>adverse impact</i> .		Current views directly face onto the ruins located in the proposed development site. This building has the most direct view towards the site of any historic building.	Proposed project would have a significant presence on the view from this historic property and would significantly alter its historical context. The project would result in an <i>adverse impact</i> .	Proposed project would have a strong visual presence in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
(5) <i>Third Avenue Bridge</i>	Contributing structure to the SAFHD and SAFWA. Character defining features include concrete-girder approach spans; open-spandrel, barrel-vaulted, concrete arch spans; open-spandrel, 3-ribbed, concrete arch spans; and steel-girder approach spans. Also has engineering significance.		Crossing the Mississippi River, the bridge is visible from many locations on both sides of the river. Most views include both modern and historic buildings. Views from the east side include the WBMA.	Located immediately adjacent to the bridge, the Wave project would be easily visible from most views of the bridge, especially from downriver and the east bank. Project would alter its historic setting but would have <i>no adverse impact</i> on its engineering significance.		Views from bridge include views of almost the entire WBMA; significant existing intrusions include the Riverwest building. This view includes one of the best sites to view entirety of historic foundation ruins on proposed development site.	Proposed project would have a significant presence in the view shed, although the building would not obscure views of portions of the WBMA. Views towards Dann and Hall would be obscured. Views of foundation ruins would no longer be possible. Views toward project would be considered an <i>adverse impact</i> .	Proposed project would have a significant presence in the view from bridge, in much the same way that the Riverwest building presently does. Loss of foundation ruins would result in change of setting and appreciation of the extent of the SAFWA. Proposed project would have an <i>adverse impact</i> on the setting of the WBMA from this perspective.
(6) <i>Minneapolis Main Post Office</i>	Contributing building to the SAFHD. Characterized by Kasota stone and polished granite wall surfaces; full-height window bays and bronze panels; broad, low massing; Art Moderne style and details. Considered architecturally significant in its own right. Although contributing to the district, the building does not have significant associations with its historical themes and is not part of the SAFWD.		Visual setting includes several non-historic buildings on South First Street. Setting along the riverside elevation creates a strong presence and is significant.	Proposed project would be visible from views across the river, but also strongly separated from the project by the presence of the Third Avenue Bridge. Project would not alter its visual association with the river or its architectural significance, resulting in <i>no adverse impact</i> .		Views toward proposed project site include the Hall and Dann building, Third Avenue Bridge and Riverwest apartment building. Ruins in development site are not visible.	Proposed project would be easily viewed from the historic building and have a strong presence. Because the views towards the WBMA are not an important aspect of this property's historical significance, the project would have <i>no adverse impact</i> views from on this property.	Proposed project would have a significant presence in the view from the Post Office building, and would alter the perception of the WBMA from that site. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.

Historic Property	Historic character and significance	Current views toward historic property	Description of visual setting of historic property	Impacts of proposed project on visual setting of historic property	Current view towards proposed project from historic property	Description of current view towards proposed project from historic property	Impacts on views towards proposed project	Impacts of proposed project on setting of WBMA from historic property
(7) Stone Arch Bridge	Contributing structure to the SAFHD and SAFWD. Characterized by curved alignment and series of stone arches. Iconic symbol of the mill district, historically linking east and west bank by rail. Also considered to have engineering significance.		The bridge is visually prominent within the district and its visual setting includes views of both the WBMA and the EBMA.	The proposed project may be visible within some views of the bridge and is located near its western terminus. The project would not have a significant impact on those views and would not impact the engineering significance, resulting in <i>no adverse impact</i> .		Views toward the proposed project site include much of the WBMA, including modern buildings such as the Riverwest apartment building, and the modern backdrop of the downtown skyline. The project site is mostly perceived as open space.	Located near the western terminus of the Stone Arch Bridge, the proposed project would have a visual presence in views to the west. Because the bridge links the WBMA to the EBMA, views toward those areas are significant and the proposed project would result in an <i>adverse impact</i> on that view.	Proposed project would be visible in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
(8) East Bank Milling Area (EBMA)	Contributing area comprised of buildings, structures and sites to the SAFHD and SAFWD. Counterpart to the WBMA, collection of mills and ancillary features, dominated by the Pillsbury “A” Mill and its surrounding complex. Pillsbury “A” Mill is a National Historic Landmark.		The visual setting of the EBMA is centered on the Pillsbury complex, which includes mills and elevators. Views include modern high-rise buildings and a pastoral layer of riverside parkland.	Views of the EBMA, located across the river from the proposed project site, would not include views of the proposed project. The project would have <i>no adverse impact</i> on the visual setting of the EBMA.		Views toward the proposed project area include the entirety of the WBMA. The proposed project area appears as open space and has a backdrop of the Riverwest apartment building. The open space results in the lack of a clear definition of extent of WBMA and the historic waterpower area. From this perspective, it is not clear whether it is modern open space or part of the historic district. Portions of the Hall and Dann building are visible.	The proposed project would have the effect of limiting the visual presence of the WBMA to that area down-river from Fifth Avenue South, and would more clearly define the project site as non-historic. The Hall and Dann building would not be visible. Due to the further intrusion of a modern building within the historic viewshed, the change in the perception of the WBMA, the proposed project would have an <i>adverse impact</i> on the view from the EBMA.	Proposed project would be visible in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
(9) Nicollet Island	Area located within the SAFHD. Southern portion of the island includes buildings related to nearby industrial district. This area of Nicollet Island is characterized by historic industrial buildings within what is now a park setting. Views from the island toward other historic properties, including the WBMA are significant.		The visual setting of Nicollet Island takes in the context of the historic properties on the island, as well as the adjacent shorelines of the east and west banks. The southern portion of the island has the strong visual presence of the Hennepin Avenue and Third Avenue bridges.	The proposed project would not be visible in most significant views to and within Nicollet Island. The project would have <i>no adverse effect</i> on the visual setting of Nicollet Island.		Views towards the proposed project area are dominated by the Third Avenue Bridge and the Falls of St. Anthony Dam, beyond which, the Riverwest apartment building creates a strong presence.	The proposed project would not obstruct views of the Third Avenue Bridge or the dam. Portions of the building would be visible beyond and through the bridge, but most would be obscured by the presence of the bridge. Views from Nicollet Island would have <i>no adverse impact</i> from the proposed project.	Proposed project would be visible, but not have a significant presence from this location. Its presence would have <i>no adverse impact</i> from this location.

Historic Property	Historic character and significance	Current views toward historic property	Description of visual setting of historic property	Impacts of proposed project on visual setting of historic property	Current view towards proposed project from historic property	Description of current view towards proposed project from historic property	Impacts on views towards proposed project	Impacts of proposed project on setting of WBMA from historic property
<i>(10) Contributing Archaeological Resources in Mill Ruins Park</i>	Mill foundations, tailraces and other structures within the WBMA have been excavated and stabilized within the Mill Ruins Park. As contributing sites to the SAFWD, these sites play an important role in the interpretation of the historical significance of the district.		Many of the exposed ruins and tailraces are within an area significantly below the S. First Street grade, on that street's east side. Important views towards that location relate the ruins to the standing mills between Portland Avenue and Eighth Avenue, and to the Stone Arch Bridge. Excavations of a group of mills upriver from Portland Ave. are on the same grade as S. First Street; many views of this area include views of the ruins on the proposed project site.	The visual setting towards the currently interpreted and exposed ruins of the Mill Ruins park (between Portland and Eighth Avenues) would not be significantly impacted by the proposed project. The proposed project would have a significant presence on views of the archaeological sites upriver from Portland Avenue that are currently being excavated and the removal of the extant ruins on the proposed development site would have an <i>adverse impact</i> on the visual setting for those sites.	 View from lower sites  View from upper sites	Views towards the proposed project from the lower archaeological sites include partial views of the Stone Arch Bridge and several contributing mill buildings in the WBMA. Views from the upper sites towards the project area include a direct view onto the proposed project site, with views of the extant ruins, as well as modern, non-contributing buildings.	Proposed project would be visible from both locations. Although visible from the lower sites, the project would not obscure views of associated mill properties and would be placed within a view where modern buildings are already present. Views towards the project area from the upper sites would result in the loss of the visual association of the mill ruins and the creation of a significant modern building. The loss of historical visual context for the mill ruins would result in an <i>adverse impact</i> on this resource.	Proposed project would be visible in this view of the WBMA, significantly altering the visual setting from this perspective. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
<i>(11) Upper Harbor Terminal System – St. Anthony Falls Lock and Dam</i>	The lock and dam system includes buildings and structures completed in 1963. Likely areas of significance are engineering, transportation and commerce.		Visual setting of the lock and dam includes the WBMA, the Stone Arch Bridge and the Third Avenue Bridge, although those features likely do not contribute to the property's historical significance.	Views towards the lock and dam would include the proposed project, which is located adjacent to the lock canal structure and would have a significant presence. Because many of the historical resources that surround the lock and dam are not associated with the potential significance of this property, the new construction would have <i>no adverse impact</i> to the lock and dam.		Views towards the proposed project include direct views of the parcel, which encompass the historical ruins, the Fuji Ya building, as well as modern infill.	Views towards the proposed project from the lock and dam would be dominated by the proposed project. Views in this direction from the lock and dam likely would not, however, be an important character-defining feature of this potential historic property, and therefore would be considered to have <i>no adverse impact</i> .	Proposed project would be visible in this view of the WBMA. The scale, massing and materials of the non-historic building in the WBMA would result in an <i>adverse impact</i> to the setting of the WBMA from this perspective.
<i>(12) Chicago, Milwaukee, St. Paul & Pacific (Milwaukee Road)</i>	The Milwaukee Road complex is listed on the NRHP for its historical and architectural significance. It includes three extant components: the station, trainshed, and freight house.							

Historic Property	Historic character and significance	Current views toward historic property	Description of visual setting of historic property	Impacts of proposed project on visual setting of historic property	Current view towards proposed project from historic property	Description of current view towards proposed project from historic property	Impacts on views towards proposed project	Impacts of proposed project on setting of WBMA from historic property
<i>Station</i>	The station is characterized by the brick depot and clock tower.		Visual setting for the depot includes modern infill within the complex and its significant associations with the train shed and freight house. Across Third Avenue South is the historic Federal Building.	Portions of the proposed project would be visible in views toward the station building. Views would not affect the historical associations with the trainshed or freighthouse. Although significantly taller than the clock tower, the proposed building two blocks away would not significantly impact the scale of the station. The proposed project would have <i>no adverse impact</i> on the visual setting of the station.		Views towards the proposed project from the front façade of the station include views of the associated freighthouse, as well as adjacent modern infill located between the station and the freighthouse. Other aspects include the 39-story Carlyle building currently under construction.	The proposed project would be visible from the station. Although the proposed project likely would be seen above as a backdrop to the freighthouse, the visual associations between the freighthouse and the station would remain intact. The project would have <i>no adverse impact</i> on views toward the proposed project.	Portions of the proposed project may be visible, but do not have a significant presence from this location. Its presence would have <i>no adverse impact</i> from this location.
<i>Trainshed</i>	The trainshed is characterized by its long, truss roof, support posts, decorated brackets, and its association with the station.		Visual setting includes the station building, adjacent modern infill, and frontage along Washington Avenue.	Proposed project would not be seen in views of the trainshed and would have <i>no adverse impact</i> on this historic property.		Views towards the proposed project from the trainshed are dominated by adjacent modern infill.	Upper portions of the proposed project may be visible from the trainshed, but would have <i>no adverse impact</i> on significant views.	Portions of the proposed project may be visible, but do not have a significant presence from this location. The project would have <i>no adverse impact</i> on the setting of the WBMA from this location.
<i>Freighthouse</i>	The freighthouse is characterized by the two-story massing, cream brick walls, fenestration, and by its association with the station building.		Visual setting includes the adjacent infill buildings, a surface parking lot, and the Federal Building across Third Avenue South.	Proposed project would be visible in views of the historic building, but would not obscure views of it. The project would not impact the significant associations with the station building and would have <i>no adverse impact</i> .		Views towards the proposed project from the freighthouse include a surface parking lot, the Hall and Dann building and the modern Riverwest apartment building.	Proposed project would be visible in views from the freighthouse, beyond the Hall and Dann building. Significant views from the freighthouse include those towards the station building; therefore the changes in view towards the project site would have <i>no adverse impact</i> .	Portions of the proposed project may be visible, but do not have a significant presence from this location. The project would have <i>no adverse impact</i> on the setting of the WBMA from this location.
(13) Minneapolis Post Office/Federal Building	The building is listed on the NRHP for its historical and architectural significance. Characterized by the strong Beaux Arts style elements such as the formal colonnade, stone entablature and symmetrical arrangement. Important Minneapolis example of the City Beautiful Movement.		Visual setting includes modern infill on many sides of the property, including the 39-story Carlyle building under construction. The property retains its presence on the entire block.	In most views of the historic building, the proposed project would not be visible. Where it is visible, the impact would be minimal. The proposed project would have <i>no adverse impact</i> on the visual setting of this property.		Views from the historic property to the site include views of a surface parking lot, the Hall and Dann building and the modern Riverwest apartment building.	Proposed project would be visible beyond the Hall and Dann building. The relationship to the WBMA is not a character-defining feature and therefore would have <i>no adverse impact</i> to this historic property.	Portions of the proposed project may be visible, but do not have a significant presence from this location. The project would have <i>no adverse impact</i> on the setting of the WBMA from this location.

5.8.1 Visual Analysis Summary

The 106 Group analyzed the effects to 13 historic resources, or groupings of historic resources, near and around the proposed development site to determine the effects of the project on the visual aesthetic qualities of the historic resource. Individual properties proximate to the project area and larger groupings of properties beyond the project area were assessed for 1) impacts of the proposed project on the visual setting of a historic property, and 2) impacts on views towards the proposed project from the historic property. Adverse impacts were based on the historical significance and historical character of each property; in most cases where a property was a contributing property to the SAFHD or the SAFWA, thematic and physical associations to those districts were considered to be significant.

The proposed project was found to have an adverse impact on the visual setting of four historic properties: the WBMA, the Hall and Dann Barrel Company Factory, the Minneapolis Eastern Railway Company Enginehouse, and the contributing archaeological resources in Mill Ruins Park. Not surprisingly, these resources are located within the WBMA in close proximity to the proposed project area. Other nearby resources, such as Bridge L8900, the Third Avenue Bridge, the Upper Harbor Terminal System Lock and Dam, or the Minneapolis Main Post Office were found to have historical associations, such as engineering or architecture, that would not be impacted by changes in visual setting. Resources such as Nicollet Island, the EBMA, the Chicago, Milwaukee, St. Paul & Pacific complex, or the Minneapolis Post Office/Federal Building did not have visual settings that include the proposed development site.

The proposed project was found to have an adverse impact on views toward the proposed development site for seven properties: the WBMA, the Hall and Dann Barrel Company Factory, the Minneapolis Eastern Railway Company Enginehouse, the Third Avenue Bridge, the Stone Arch Bridge, the EBMA, and the contributing archaeological resources of the Mill Ruins Park. Each of these properties has significant historical associations or relationships with views towards the proposed project site; proposed changes in those views were perceived to be significant enough and out of keeping with historical precedent such that they would be considered adverse impacts. Other properties either did not have important historical associations with views towards the project site, or views of the project would be minimal.

Similar analysis was conducted to determine the effects of the proposed project on the setting of the WBMA. Although unrelated to the historic properties used for the above analysis, the locations of those properties were used for this analysis since they were sited in a variety of locations around the WBMA. Adverse impacts were found where the changes in the scale, massing and materials of the proposed building would result in changes to the perception of the WBMA as a historic property, and to the inclusion of the proposed project parcel within that historic district. In locations where the proposed

project and the WBMA were clearly visible, the scale, massing, and materials of the project were found to have an adverse impact on the setting of the historic district. The proposed project significantly affected the perceived use of the parcel, the perceived boundaries of the waterpower area, and the linkages to other contributing properties to the WBMA and the SAFWA, and the appearance of a cohesive historic district.

5.9 CUMULATIVE EFFECTS ANALYSIS

Potential cumulative effects stemming from the construction of the proposed project are expected to be minimal. Many parts of the SAFHD and most of the WBMA have been fully developed and/or the historic buildings have been rehabilitated for contemporary use. At approximately 38 units, the Wave development is not expected to be the impetus for further development or for demand on local amenities. The removal of archaeological resources contributing to the district for the erection of a new development would not be precedent setting, as similar efforts are currently underway for the Phoenix Lofts project in the EBMA, the Whitney project in the WBMA, and other projects along the riverfront.

The 106 Group has identified one potential cumulative effect to historic resources stemming from the proposed project. The proposed project includes the construction of public parking facilities for use by the Minneapolis Park and Recreation Board, which will increase parking capacity in the vicinity of the WBMA and the Mill Ruins Park. The cumulative effect of this action would likely result in greater access and visitorship to the historic district and to the Mill Ruins Park. It can be anticipated that the increased visitorship would result in the enhanced appreciation for the historic resources of the district and for the preservation of the extant resources of the Mill Ruins Park. This effect is considered to have a positive effect on historic resources.

Further cumulative effects could not be identified at this time.

6.0 MITIGATION STRATEGIES

6.1 PROPERTIES IN DEVELOPMENT SITE

A number of different options are included here for consideration to avoid and minimize physical damage to the archaeological features and the Fuji Ya building. These options include: 1) building design alternatives that would minimize effects to historic resources; 2) archaeological data recovery and mitigation; and 3) interpretive potential of historic resources. Table 3 provides a detailed summary of alternative to reduce or remove adverse effects.

6.1.1 Design Options

- Incorporate walls and foundations into modern divider, with clear distinction of old and new
- Incorporate walls and foundations into new building – as much as possible in the lobby and falls overlook area, the spa and retreat area, and Fuji Ya building to maximize public access
- Preserve walls and foundations under transparent flooring to view wall ruins from above
- Apply appropriate preservation treatment per the *Secretary of Interior's Standards* to exposed walls of Columbia and Bassett
- Move parking spaces to western extent of site to preserve ruins *in situ*
- Develop railcar scale pit as an interpretive element in public space
- Move north wall and foundation, including the arched door and windows of the Columbia, intact, to external north façade of building

6.1.2 Archaeological Data Recovery and Mitigation

- Expose walls and foundations to determine precise dimensions and function
- Archaeological data recovery to excavate the mill turbine shafts and associated features to the east of the Fuji Ya building
- Archaeological investigation to evaluate and mitigate wheel house
- Archaeological data recovery to excavate to the interior basements of the Columbia and Occidental

6.1.3 Interpretation

- Develop railcar scale pit as an interpretive element in public space
- Retrieve railcar scale and incorporate into public space in alternative location
- Provide interpretive information in conjunction with preserved exposed walls and foundations

- Incorporate interpretation into the broader St. Anthony Falls Heritage Zone and Mill Ruins Park interpretive planning efforts in consultation with the St Anthony Falls Heritage Board and the Minneapolis Park and Recreation Board
- Conduct further analysis and publication of historical information about the sites and their contribution to the historic district

The goal is to apply the most options that are feasible, but the final effects cannot be fully analyzed until the options are realized and incorporated, specifically, into the design. Preservation *in situ* should be the priority. If this is not possible, then other mitigation options include but are not limited to archaeological data recovery, interpretation on and off site, and further analysis and publication of historical information about the sites.

6.2 PROPERTIES OUTSIDE OF THE DEVELOPMENT SITE

Adherence to the *Secretary of the Interior's Standards and Guidelines for Rehabilitation* and to the Minneapolis HPC Guidelines for the WBMA would significantly reduce the adverse effects of the proposed project on surrounding historic properties and on the setting of the WBMA. Specifically, the alternative design solutions could:

- Utilize building materials compatible with the materials of the historic district
- Design window and door openings with a vertical emphasis
- Re-shape massing so the building resembles the massing of the historic mill buildings once on the site
- De-emphasize the presence of the building in terms of scale, massing and materials, so as to focus attention on the extant historic resources.

TABLE 3. RECOMMENDED ALTERNATIVES TO REDUCE OR REMOVE ADVERSE EFFECTS

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
Columbia Flour Mill					
	1	Wall	Subsurface	West wall of the Columbia Flour Mill, 4ft thick and estimated to be more than 25 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>
	2	Wall	Surface / Subsurface	North wall of the Columbia Flour Mill, 4ft thick and more than 25 ft high	<p>Incorporate wall into new building</p> <p>Reduce number of parking spaces or move parking spaces to preserve ruins <i>in situ</i></p> <p>Move wall, intact, to external north façade of building</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p> <p>Develop as an interpretive element in public space</p>
	3	Arched Window	Surface / Subsurface	Arched Window constructed within the limestone wall comprising the north wall of the Columbia Flour Mill - bricked up for the most part	<p>Incorporate wall into new building</p> <p>Reduce number of parking spaces or move parking spaces to eastern and western extent of site to preserve ruins <i>in situ</i></p> <p>Incorporate wall into lobby and falls overlook</p> <p>Incorporate into spa and retreat area to maximize public access</p> <p>Move wall, intact, to external north façade of building</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p> <p>Develop as an interpretive element in public space</p>

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
	4	Arched Doorway / Window	Subsurface	Arched Doorway, partially blocked/filled with poured cement to make the opening half of what it was when originally constructed	Incorporate wall into new building Reduce number of parking spaces or move parking spaces to eastern and western extent of site to preserve ruins Incorporate into spa and retreat area to maximize public access Incorporate wall into lobby and falls overlook Move wall, intact, to external north façade of building Incorporate wall into modern divider, with clear distinction of old and new Develop as an interpretive element in public space
	5	Wall	Subsurface	South wall of the Columbia Flour Mill, 4 ft thick and more than 25 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	Incorporate wall into new building Preserve wall under transparent flooring so people can view the wall ruins from above Incorporate wall into modern divider, with clear distinction of old and new
NA	Hypothetical 5	Wall	Subsurface	Possible southern wall of Columbia Mill	Archaeological monitoring of construction activities under current sidewalk right-of-way.
	16	Wall	Subsurface	East wall of the Columbia Flour Mill 4 ft thick and over 9 ft high	Incorporate wall into new building Apply appropriate preservation treatment per the <i>Secretary of Interior's Standards</i> Incorporate wall into modern divider, with clear distinction of old and new Preserve wall under transparent flooring so people can view the wall ruins from above

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
	8	Grain Elevator	Subsurface	Grain elevator - storing and supplying grain for/to the Occidental and Columbia Mills	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>
	10	Wall	Subsurface	South wall of the Grain Elevator most likely 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface	Archaeological monitoring of construction activities
	Potential Archaeological Features Not Yet Exposed				<p>Archaeological data recovery to excavate to the interior basement of the mill and elevator</p> <p>Archaeological monitoring of construction activities</p>
Occidental Feed Mill					
	6	Wall	Subsurface	East wall of the Occidental Feed Mill 2 ft thick and estimated to be over 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>
NA	Hypothetical 6	Wall	Subsurface	Possible west wall of Occidental Feed Mill	<p>Expose wall to determine precise dimensions and function</p> <p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring to view wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
	7	Wall	Subsurface	West wall of the Occidental Feed Mill, 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring to view wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>
	9	Wall	Subsurface	South wall of the Occidental Feed Mill, most likely 2 ft thick and estimated to be more than 16 ft high with the top of the extant wall approximately 1-2 feet below the current parking lot surface	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Archaeological monitoring of construction activities</p>
	12	Wall	Subsurface	West wall of Occidental Feed Mill Add-on, 2 ft thick, and estimated to be more than 16 feet in height with the top of the wall 1-2 ft below the parking lot surface	<p>Incorporate wall into new building</p> <p>Preserve wall under transparent flooring to view wall ruins from above</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p>
	13	Void within rubble	Subsurface	Void in the rubble, may be the opening to a shaft or underground chamber or may be merely a void in the rubble fill	Further archaeological evaluation and mitigation prior to destruction
	Potential Archaeological Features Not Yet Exposed				Archaeological data recovery to excavate to the interior basement of the mill

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
Bassett Second Saw Mill					
	17	Wall	Subsurface	North wall of the Basset Saw Mill, 4 ft. thick and more than 9 ft high	<p>Incorporate wall into new building</p> <p>Apply appropriate preserve treatment per the <i>Secretary of Interior's Standards</i></p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Develop as an interpretive element in public space</p>
	18	Wall	Subsurface	Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant	<p>Incorporate wall into new building</p> <p>Apply appropriate preserve treatment to mill remains per the Secretary of Interior's Standards</p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p> <p>Preserve wall under transparent flooring to view wall ruins from above</p> <p>Develop as an interpretive element in public space</p>
	19	Wall	Subsurface	Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant	<p>Incorporate wall into new building</p> <p>Apply appropriate preserve treatment per the <i>Secretary of Interior's Standards</i></p> <p>Incorporate wall into modern divider, with clear distinction of old and new</p> <p>Preserve wall under transparent flooring so people can view the wall ruins from above</p> <p>Develop as an interpretive element in public space</p>

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
	15	Wheel House Wall	Subsurface	Possible wheel house walls which may have housed a turbine wheel as part of the water power system used to power all three of the projects mills	<p>Archaeological investigation to evaluate and mitigate wheel house</p> <p>Incorporate wall into new building</p> <p>Develop as an interpretive element in public space</p>
	20	Platform	Subsurface	Probable platform to support and aid the line shaft in transferring the turbines power throughout the 3 mills, the Occidental, Columbia and Bassett	<p>Incorporate wall into new building</p> <p>Apply appropriate preserve treatment per the <i>Secretary of Interior's Standards</i></p> <p>Incorporate platform into room feature, with clear distinction of old and new.</p> <p>Develop as an interpretive element in public space</p> <p>Preserve platform under transparent flooring so people can view the ruins from above</p> <p>Develop as an interpretive element in public space</p>
	Potential Archaeological Features Not Yet Exposed				<p>Archaeological data recovery to excavate the mill turbine shafts and associated features to the east of the Fuji Ya building</p>
Railroad Related					
	14	Scale Pit	Subsurface	Scale pit - underground room containing all machinery and components of a large railroad scale, accessible through arched walkway in Columbia Mill north wall	<p>Preserve room under transparent flooring so people can view the scale and other features from above</p> <p>Archaeological mitigation to expose wall to determine precise dimensions, function and if additional equipment/features are present</p>

Photo Documentation	Feature #	Feature Type	Feature Context	Description of Feature	Alternatives to Reduce or Remove Adverse Effects
	21	Scale	Subsurface	Components of a large railroad scale and associated machinery, in underground room accessible through arched walkway in Columbia Mill north wall	Preserve scales in room under transparent flooring to view scale and other features from above <i>in situ</i> Archaeological mitigation to expose & determine precise dimensions and function of scale pit, and to remove scale and any additional equipment for appropriate conservation and interpretation
	11	Retaining Wall	Subsurface	Wooden retaining wall constructed of 12"x12" wood timbers standing more than 10 ft high with the top of the wall 8 ft below the ground surface	No archaeological mitigation recommended - feature already documented

7.0 REFERENCES CITED

- Adams, Amanda S. and Mark W. Doperalski
2005 *Archaeological Data Recovery at the Phoenix Mill, Minneapolis, Hennepin County, Minnesota*. The 106 Group, St. Paul. Prepared for SchaferRichardson, Inc., Minneapolis.
- Agricore United
2006 *The Operation of a Grain Elevator*. Agricore United. Electronic document, waltonfeed.com, accessed May, 2006.
- Anfinson, Scott F.
1984 *Archaeological Potential on the West Side of the Central Minneapolis Waterfront: A Search for Archaeological Sites Along the Proposed West River Parkway Extension*. On file at the Minnesota State Historic Preservation Office. St. Paul.
- 1989 *Archaeology of the Central Minneapolis Riverfront Part 1: Historical Overview and Archaeological Potentials*. The Minnesota Archaeologist 48 (1-2).
- 1990 *Archaeology of the Central Minneapolis Riverfront Part 2: Archaeological Explorations and Interpretive Potentials*. The Minnesota Archaeologist 49 (1-2).
- 2001 *SHPO Guidelines for Archaeological Projects in Minnesota*. State Historic Preservation Office, St. Paul.
- Baker, J.T.
1908 *West Bank Tailrace Tunnels*. First Ed. 1899.
- Bell, M. Dwight
1942 *Columbia & Crown Roller Mill Sewers Hung in First Street Tunnel*. First Ed. 1899. M. Dwight Bell, Cons. Engr., Minneapolis. On file at Northwestern Architectural Archives, University of Minnesota, Minneapolis.
- Berg, Merlin H.
1982 *Stone Arch Revisited*. Typescript. On file at the Minnesota State Historic Preservation Office. St. Paul.
- Borchert, J. R., D. Gebhard, D. Lanegran, and J. A. Martin
1983 *Legacy of Minneapolis: Preservation amid Change*. Voyageur Press, Bloomington.
- Bradley, Betsy H.

2005 *Analysis of Effects for the Proposed Pillsbury "A" Mill Complex Project, Minneapolis, Hennepin County, Minnesota.* On file at the City of Minneapolis.

Coddington, Donn

1971 *St. Anthony Falls Historic National Register Nomination.* On file at the Minnesota State Historic Preservation Office St. Paul.

Delaware State Historic Preservation Office (SHPO)

2003 *Assessing Visual Effects on Historic Properties.* Electronic document, <http://www.state.de.us/shpo/information/visualeffects.shtml>, accessed November 2, 2004.

Foote, C.M.

1882 *Atlas of the City of Minneapolis, Minnesota.* C.M. Foote & Co., Philadelphia.

General Inspection Company (GIC)

1911 *Flour Milling District of Minneapolis, Minn.* Walter I. Fischer.

Hess, J.A. and C. Kudzia

1991 National Register of Historic Places. St. Anthony Falls Historic District, St. Anthony Falls Waterpower Area. On file at the Minnesota State Historic Preservation Office, St. Paul.

Hopkins, G.M.

1885 *A Complete Set of Surveys and Plats of Properties in the City of Minneapolis, Minnesota.* G.M. Hopkins, C.E., Philadelphia.

Kane, Lucile M.

1987 *The Falls of St. Anthony: The Waterfall That Built Minneapolis.* Minnesota Historical Society Press, St. Paul.

Kuhlmann, Charles B.

1929 *The Development of the Flour-Milling Industry in the United States.* Houghton Mifflin Company, Boston and New York.

Marsh & McLennan, Inc.

1933 *Standard Milling Company Northwest Consolidated Milling Company Minneapolis, Minn.* March & McLennan Inc., New York.

Minneapolis Heritage Preservation Commission (HPC)

1980 *St. Anthony Falls Historic District Guidelines.* On file at the Minneapolis Heritage Preservation Commission.

Minneapolis Riverfront Development Coordination Board (MRDCB)

1980 *Saint Anthony Falls Rediscovered.* Minnesota Historical Society, St. Paul.

Morrison, Andrew

1885 *The Industries of Minneapolis; Her Trade, Commerce, Manufactures and Representative Establishments*. J.M. Elstner and Co., Minneapolis.

Morriss, Richard K.

2000 *The Archaeology of Buildings*. Tempus Publishing Ltd., Stroud.

National Park Service (NPS)

1983 *The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*. *Federal Register* 48(190):44716-44740.

1990 *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. U.S. Government Printing Office, Washington, D.C.

2004 *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. Electronic document, <http://www2.cr.nps.gov/tps/standguide/index.htm>, accessed October 4, 2004.

North Star Publishing Company

1881 *History of Hennepin County and the City of Minneapolis including the Explorers and Pioneers of Minnesota and Outlines of the History of Minnesota*. North Star Publishing Company, Minneapolis.

Phoenix Publishing Company

189- *Pen and Sunlight Sketches, Minneapolis: its Wonderful Development, Resources, Commerce, Manufactures, Financial Interests, Public Institutions and Prospects, Handsomely Illustrated. Also Views of the Nation's Pride, the World's Columbian Exposition*. Phoenix Publishing Co., Minneapolis.

Prosser, Richard S.

1966 *Rails to the North Star: One Hundred Years of Railroad Evolution in Minnesota*. Dillon Press, Minneapolis.

Sanborn Map Company

1885 *Insurance Maps of Minneapolis, Minnesota*. Sanborn Map Company, New York.

The Millers' Journal (MJ)

1883 *The Columbia Flour Mill, Minneapolis, The Millers' Journal*. Vol. XVIII, No. 25, available through the Minnesota Historical Society, Donald N. Gregg Flour Milling Collection.

The Northwestern Miller (NM)

1881 Discussion of plans for the construction of the Columbia Flour Mill. The Northwestern Miller, 23 September. Minneapolis.

1885 Occidental Feed Mill advertisement. The Northwestern Miller, 10 July. Minneapolis.

1890 The Milling History of Minneapolis. The Northwestern Miller, Minneapolis.

1891 Roller mill use in Minneapolis. The Northwestern Miller, 27 February. Minneapolis.

1894 Upcoming improvements to the Occidental Feed Mill. The Northwestern Miller, 17 August. Minneapolis.

1895 Improvements to the technology of the Occidental Feed Mill. The Northwestern Miller, 18 September. Minneapolis.

1895 The Occidental Feed Mill's rye trade. The Northwestern Miller, 18 December. Minneapolis.

Tordoff, Jeffrey P.

1986 *Phase I Archaeological Testing of the Fuji-Ya Parking Lot and Palisade Mill Sites*. On file at the Minnesota State Historic Preservation Office, St. Paul.

Weeks, Kay D. and Anne E. Grimmer

1995 *Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. Electronic document, <http://www2.cr.nps.gov/tps/standguide/index.htm>, accessed July 19, 2004.

APPENDIX A: PROPOSED PLAN SCHEMATICS AND RENDERINGS



THE WAVE
Minneapolis, Minnesota

1st Street Perspective



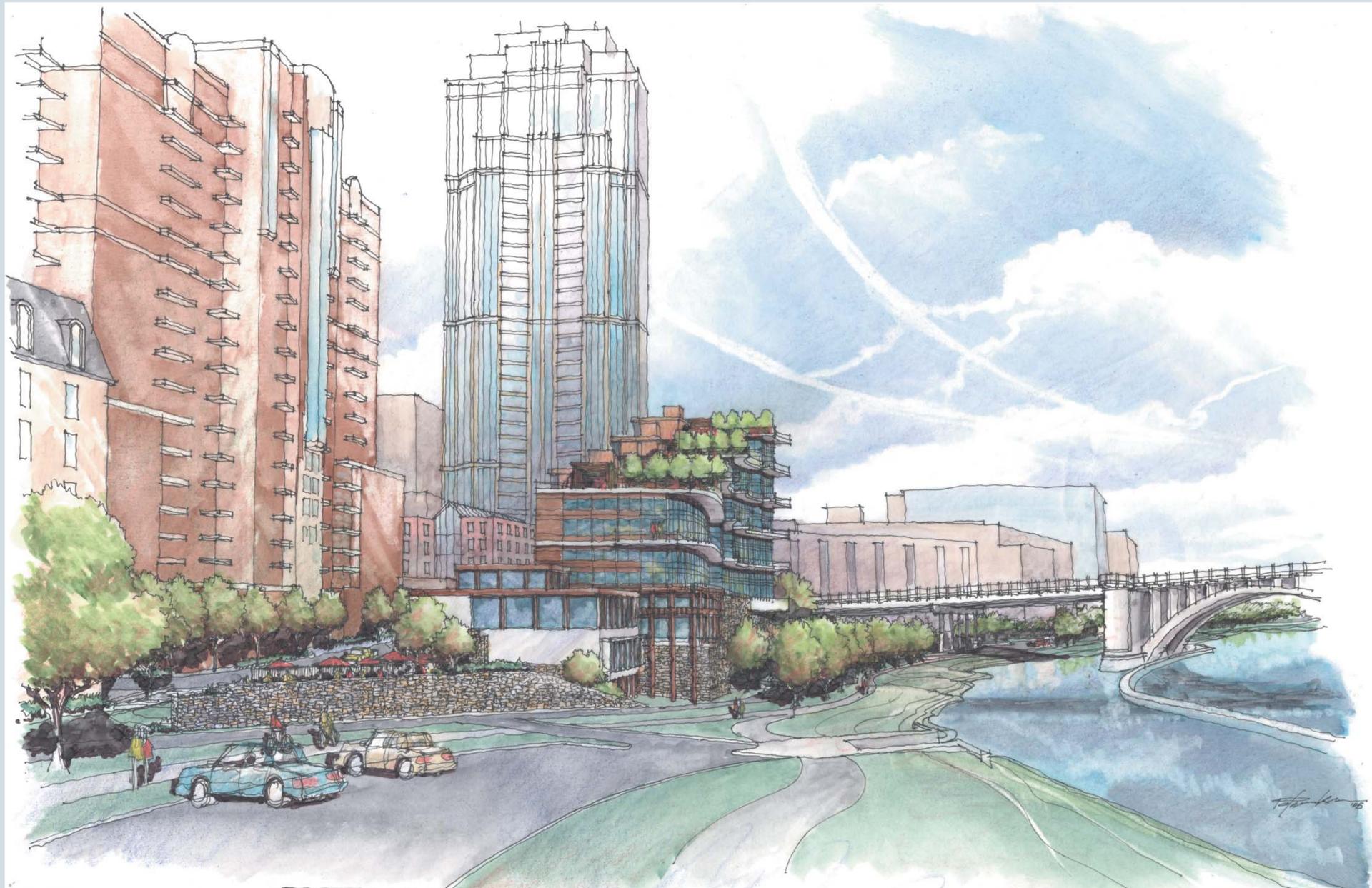


THE WAVE

Minneapolis, Minnesota

Aerial View Across River



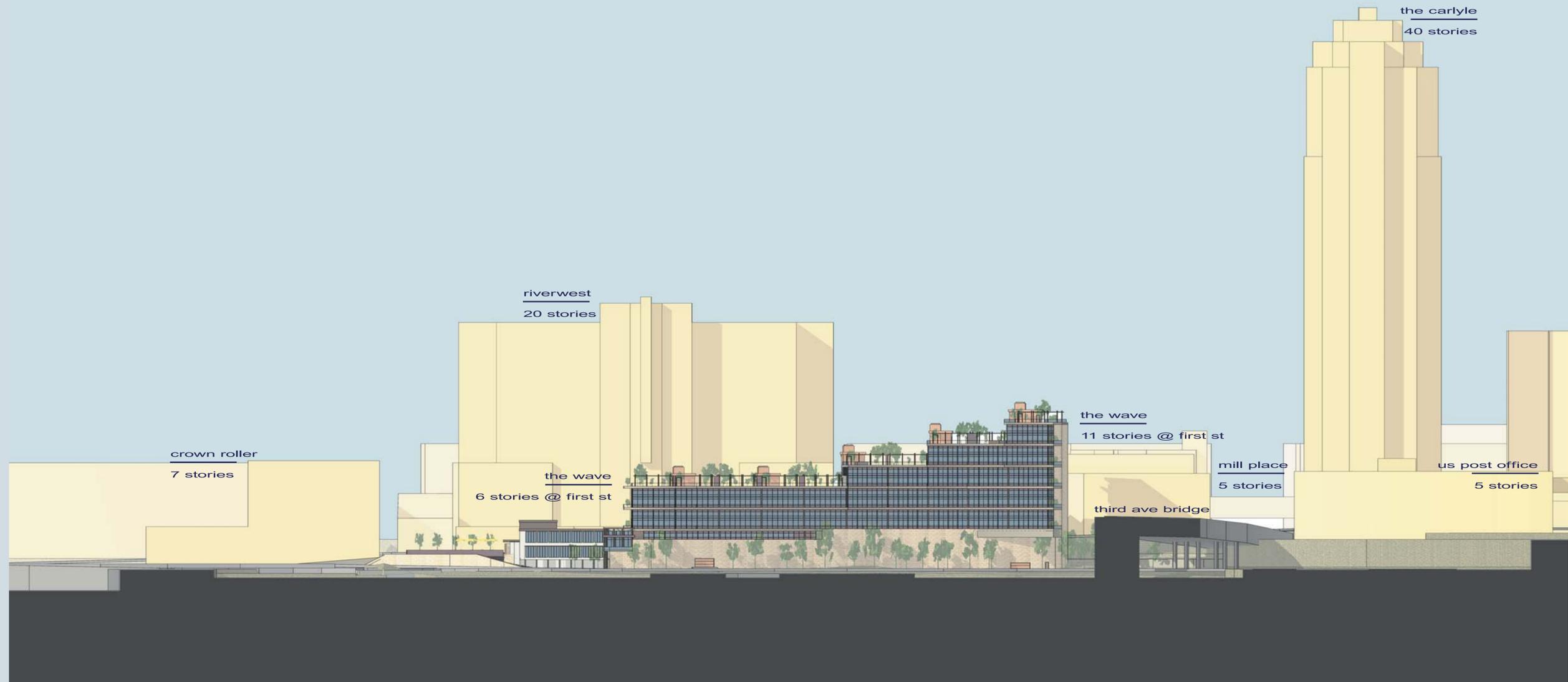


THE WAVE

Minneapolis, Minnesota

View From Stone Arch Bridge



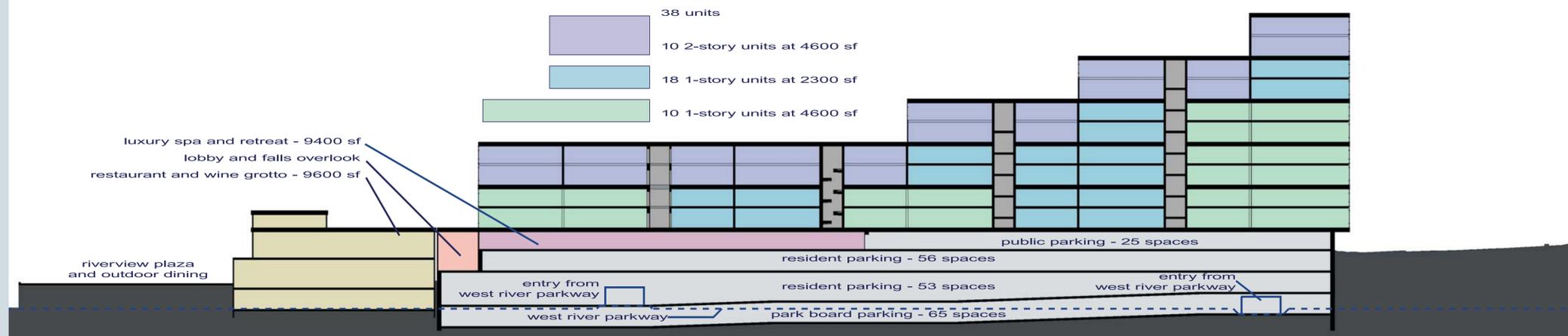


THE WAVE

Minneapolis, Minnesota

River Elevation





THE WAVE

Minneapolis, Minnesota

River Elevation and Sectional Diagram





THE WAVE

Minneapolis, Minnesota

Wave Profile with Riverwest





THE WAVE
Minneapolis, Minnesota

Panorama





THE WAVE
Minneapolis, Minnesota

Site Plan



APPENDIX B: MINNESOTA ARCHAEOLOGICAL LICENSE

MINNESOTA STATE LICENSE TO CONDUCT ARCHAEOLOGICAL INVESTIGATIONS ON STATE OR STATE SUBDIVISION LANDS (per MS 138.31-.42) - 2006

This license, number: **06-004** in effect through: **01.31.2007**

is issued to: **Anne Ketz** as *Principal Investigator*
The 106 Group Ltd.
370 Selby Avenue
St. Paul, MN 55102

Work shall be conducted according to the Terms and Conditions established by the State Archaeologist and the Director of the Minnesota Historical Society as specified in the Field Archaeology Act, MN ST 138.36. Cemetery authentications should be referred to the Office of the State Archaeologist. Human remains are not to be disturbed in any manner; if such remains are located, immediately contact the Office of the State Archaeologist or local police for additional information.

FOR: site identification and evaluation - **Wave Development**

RE: Hennopin County T29N/R24W/Section(s) 23/NE¼/SW¼; per city of Minneapolis and Heritage Development; sec also appended application materials; SHPO no.: *not indicated*

SPECIAL CONDITIONS:

NB: Excavation is to be by cultural or natural strata, or no greater than 5 centimeter arbitrary increments in soils which contain or might reasonably be expected to contain archaeological materials or features; if greater than 5 cm increments, must document rationale in Method/Field Procedures section of resulting report.

All project documents (field notes, photographs, etc.) and recovered cultural materials shall be curated at an institution which meets federal curation standards (Minnesota Historical Society per application/curation agreement). All artifacts and documents shall receive appropriate field and post-field conservation and treatment.

This license number must be cited on the report cover and any and all correspondence relating to the project.

The licensee must submit copies of related site forms, project reports and related materials directly to OSA.

Failure to conform to the Terms and Conditions of this license is sufficient for revocation and refusal to issue further licenses.



STATE ARCHAEOLOGIST

Date

[Signature]
4/12/06



MINNESOTA HISTORICAL SOCIETY

Date

[Signature]
4/12/06

The licensee is to provide a copy of this license to their parent organization and to the agency on whose behalf this research is undertaken.

APPENDIX C: MINNESOTA ARCHAEOLOGICAL SITE FORMS

MINNESOTA ARCHAEOLOGICAL SITE FORM**OFFICE OF THE STATE ARCHAEOLOGIST**

Fort Snelling History Center, St. Paul, MN 55111 (612) 725-2411

STATE HISTORIC PRESERVATION OFFICE

345 Kellogg Boulevard W., St. Paul, MN 55102 (612) 296-5434

OSA License #: 06-004

SHPO RC #:

Date(s) of Fieldwork: April 19, 2006 – April 28, 2006

 New Site Site UpdateSITE #: 21HE0363
05-57Site Name: **Bassett's Second Sawmill**

Field #: The 106 Group Project No.

LOCATIONAL INFORMATION (attach USGS topographic quad and sketch map with site location outlined)

County: Hennepin

City/Twp. Name: Minneapolis

SHPO Region: 4s - Central Lakes
Deciduous South

USGS 7.5' Quadrangle Map (name and year) Minneapolis South

Township: T29N Range: R24W Section: 23 ¼ Sections (at least 2): NE1/4 of the SW1/4

Township: Range: Section ¼ Sections (at least 2):

Township: Range: Section ¼ Sections (at least 2):

UTM Site Coordinates (use 1927 datum; identify center point only):

Zone: 15N

Easting: 479504.690743

Northing: 4980876.07775

Other locational information: **Bounded on the south by First Street, north by West River Parkway, west by the former Fuji Ya Restaurant****SITE CHARACTERISTICS**Acreage: 0.22 Site Dimensions (both horizontal and vertical/depth, in metric): 137 feet by 70 feet; 42m by 21m unknown depthFeatures (check all that apply): earthwork depression foundation other none
describe:Site Description (check all that apply and describe): single artifact artifact scatter lithic scatter earthwork/mound structural ruin rock alignment rock art cemetery/burial standing structure (SHPO structure # if known): _____ other:

describe

Inferred Site Function (must specify): **Site of former Bassett Sawmill and Wheelhouse**Current Land Use (check all that apply): cultivated woodland commercial unknown fallow recreational industrial other: parking lot and foundation of Fuji Ya grassland road residential

Surface Visibility

 excellent good fair poor none**None in parking lot, but excellent in basement of Fuji Ya**

Degree of Disturbance (check and describe):

 minimal moderate heavy destroyed unassesseddescribe disturbance type(s): *Building has been removed and replaced by an asphalt parking lot; foundations intact*

Current Threats to Site:

 erosion development agricultural none known other:

SITE #: Site Name: Bassett's Second Sawmill Field #: 05-57e

Major Exotic Materials (*i.e.*, "exotic" relative to local area; check all that apply): *N/A*

catlinite native copper Hixton orthoquartzite
 Knife River Flint obsidian other:

Diagnostic Type/Information (*e.g.*, Brainerd ceramics, machine-cut nails; describe decoration, function, manufacturer, etc.):

Ceramic
Lithic
Glass
Other

Additional information: **None of the historic period artifacts were found outside of mixed contexts. Most were in fill and therefore of minimal archaeological value in regards to dating the site.**

ENVIRONMENTAL DATA

Major Drainage System

Cedar River Des Moines River Lake Superior Minnesota River
 Mississippi River (*N of MN River*) Red River Rainy River
 Mississippi River (*S of MN River*) Missouri River St. Croix River

Watershed Index Map no. (MnDNR, Division of Waters, 1990) 20

Distance to Existing Water Source (*per USGS topographic map, in feet or miles*): *157 ft/48m*

Ancient/Former Water Feature (*name, type and distance to such feature*): *Mississippi River/157 ft /48 m*

Topographic Setting (*check all that apply*):

<u>Upland</u>	<u>Riverine</u>	<u>Lacustrine</u>
<input type="checkbox"/> general upland	<input type="checkbox"/> alluvial fan	<input type="checkbox"/> inlet/outlet
<input type="checkbox"/> bluff edge	<input type="checkbox"/> terrace	<input type="checkbox"/> peninsula
<input type="checkbox"/> hilltop	<input type="checkbox"/> stream-stream junction	<input type="checkbox"/> island
<input type="checkbox"/> glacial beach ridge	<input checked="" type="checkbox"/> bluff-base	<input type="checkbox"/> isthmus
<input type="checkbox"/> wetland	<input type="checkbox"/> cave/rockshelter	<input type="checkbox"/> shoreline
<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____	<input type="checkbox"/> other:

HISTORIC SITES ONLY:

Historic setting: rural urban other:

Type(s): industrial commercial domestic government other:

Historic transportation route (*e.g.*, road, waterway, rail); identify type, direction & distance: *West (right) bank of Mississippi River, Minneapolis Eastern Railway Company and Minneapolis Union Railway Company to the immediate north of building.*

OWNERSHIP INFORMATION

Ownership Type (*check all that apply*):

federal state local tribal private unknown

Land Owner (*name and address*) Minneapolis Park and Recreation Board, 2117 West River Road, Minneapolis, Minnesota 55411-2227

Significant historic owner(s) and period(s) of ownership, if known: J. B. Bassett, 1866 – 1897+, City of Minneapolis 1870 +

Year and Source of Ownership Information (*e.g.*, plat map, recorder's office, etc.) 1885 Sanborn Map; 1885 *The Industries of Minneapolis; Her Trade, Commerce, Manufactures and Representative Establishments*

SITE #:

Site Name: Bassett's Second Sawmill

Field #: 05-57e

INVESTIGATOR/REPORTER INFORMATIONType(s) of Investigation (*check all that apply*):

reconnaissance evaluation data recovery other:

Methods/techniques employed (*check all that apply*):

informant report small diameter soil coring (■ 1" diameter)
 surface survey geomorphological survey (*specify*):
 shovel testing geophysical survey (*specify*):
 excavation units other(s): Backhoe

Informant Name and Address: None

Artifact Repository (*name and accession nos.*): **None – all artifacts from unknown fill context.**Report Citation: *The Wave Development Analysis of Effects and Phase II Archaeological Evaluation, Minneapolis, Hennepin County, Minnesota The 106 Group, Ltd., n.d.*Major Bibliographic Reference(s) to Site: Anfinson, S.F., 1989 *Archaeology of the Central Minneapolis Riverfront Part 1: Historical Overview and Archaeological Potentials*. The Minnesota Archaeologist 48(1-2).Principal Investigator (*name and affiliation*): Anne Ketz, The 106 Group, Ltd.**ADDITIONAL NOTES** (*use space below or attach extra sheets, as needed*)

The Phase II investigation at the site of the proposed Wave Development was conducted in preparation for the Environmental Assessment Worksheet (EAW). The excavation of the sawmill was undertaken with one irregularly shaped trench, and examination of the remains of the mill located within the basement of the Fuji Ya. The trench ran from the northwest corner of the small triangular Fuji Ya parking lot to the southeast on the eastern end of the project area, with a total length of 27.5 m, with a maximum depth of 3.14 m. Shortly after removing the asphalt from the present parking lot surface, the top of a corner segment of a red brick foundation was located. The wall continued into the unexcavated soil matrix. Through examination of Marsh & McLennan Insurance Map from 1933, this structure is illustrated as an "Old Wheelhouse." According to historic tailrace maps and previous investigations, the draft tube and turbines for the Bassett Sawmill, the Columbia Flour Mill and the Occidental Feed Mill were located within this site, but were not encountered during this investigation due to equipment limitations. The site was not fully excavated due to the constraints of a phase II evaluation, the depth of the site and equipment limitations. The site was mapped and then backfilled for safety reasons. For further details, see technical report.

MAPS (*attach USGS topographic quad and sketch map with site location outlined*)

Form Completed by (*name and date*): Jennifer L. H. Tworzyanski, May 24, 2006

MINNESOTA ARCHAEOLOGICAL SITE FORM**OFFICE OF THE STATE ARCHAEOLOGIST**

Fort Snelling History Center, St. Paul, MN 55111 (612) 725-2411

STATE HISTORIC PRESERVATION OFFICE

345 Kellogg Boulevard W., St. Paul, MN 55102 (612) 296-5434

OSA License #: 06-004

SHPO RC #:

Date(s) of Fieldwork: April 19, 2006 – April 28, 2006

 New Site Site Update

SITE #: 21HE0364

Site Name: **Columbia Flour Mill**

Field #: The 106 Group Project No. 05-57

LOCATIONAL INFORMATION (attach USGS topographic quad and sketch map with site location outlined)

County: Hennepin

City/Twp. Name: Minneapolis

SHPO Region: 4s - Central Lakes
Deciduous SouthUSGS 7.5' Quadrangle Map (name and year) *Minneapolis South*

Township: T29N Range: R24W Section: 23 ¼ Sections (at least 2): NE1/4 of the SW1/4

Township: Range: Section ¼ Sections (at least 2):

Township: Range: Section ¼ Sections (at least 2):

UTM Site Coordinates (use 1927 datum; identify center point only):

Zone: 15N

Easting: 479462.210186

Northing: 4980901.53024

Other locational information: **Bounded on the south by First Street, north by West River Parkway, west by 3rd Avenue****SITE CHARACTERISTICS**Acreage: 0.18 Site Dimensions (both horizontal and vertical/depth, in metric): *160 ft by 50 ft / 49m by 16m, depth unknown*Features (check all that apply): earthwork depression foundation other none
*describe: limestone-block mill foundations*Site Description (check all that apply and describe): single artifact artifact scatter lithic scatter earthwork/mound structural ruin rock alignment rock art cemetery/burial standing structure (SHPO structure # if known): _____ other:*describe: limestone-block foundations*Inferred Site Function (must specify): **Site of Former Columbia Flour Mill and associated elevator**Current Land Use (check all that apply): cultivated woodland commercial unknown fallow recreational industrial other: grassland road residential

Surface Visibility

 excellent good fair poor none

Degree of Disturbance (check and describe):

 minimal moderate heavy destroyed unassessed*describe disturbance type(s): .building destroyed, foundations remain***Building destroyed but portions of walls and all foundations remain intact**

Current Threats to Site:

 erosion development agricultural none known other:

SITE #: Site Name: Columbia Flour Mill Field #: 05-57e

Major Exotic Materials (*i.e.*, "exotic" relative to local area; check all that apply): *N/A*

catlinite native copper Hixton orthoquartzite
 Knife River Flint obsidian other:

Diagnostic Type/Information (*e.g.*, Brainerd ceramics, machine-cut nails; describe decoration, function, manufacturer, etc.):

Ceramic
Lithic
Glass
Other

Additional information: **All artifacts from an unknown fill context**

ENVIRONMENTAL DATA

Major Drainage System

Cedar River Des Moines River Lake Superior Minnesota River
 Mississippi River (*N of MN River*) Red River Rainy River
 Mississippi River (*S of MN River*) Missouri River St. Croix River

Watershed Index Map no. (MnDNR, Division of Waters, 1990) 20

Distance to Existing Water Source (*per USGS topographic map, in feet or miles*): *148 ft/45m*

Ancient/Former Water Feature (*name, type and distance to such feature*): *Mississippi River/148 ft /45 m*

Topographic Setting (*check all that apply*):

<i>Upland</i>	<i>Riverine</i>	<i>Lacustrine</i>
<input type="checkbox"/> general upland	<input type="checkbox"/> alluvial fan	<input type="checkbox"/> inlet/outlet
<input type="checkbox"/> bluff edge	<input type="checkbox"/> terrace	<input type="checkbox"/> peninsula
<input type="checkbox"/> hilltop	<input type="checkbox"/> stream-stream junction	<input type="checkbox"/> island
<input type="checkbox"/> glacial beach ridge	<input checked="" type="checkbox"/> bluff-base	<input type="checkbox"/> isthmus
<input type="checkbox"/> wetland	<input type="checkbox"/> cave/rockshelter	<input type="checkbox"/> shoreline
<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____	<input type="checkbox"/> other:

HISTORIC SITES ONLY:

Historic setting: rural urban other:

Type(s): industrial commercial domestic government other:

Historic transportation route (*e.g.*, road, waterway, rail); identify type, direction & distance: *West (right) bank of Mississippi River, Minneapolis Eastern Railway Company and Minneapolis Union Railway Company to the immediate north of building.*

OWNERSHIP INFORMATION

Ownership Type (*check all that apply*):

federal state local tribal private unknown

Land Owner (*name and address*) Minneapolis Park and Recreation Board, 2117 West River Road, Minneapolis, Minnesota 55411-2227

Significant historic owner(s) and period(s) of ownership, if known: Columbia Mill Company, 1882 – 1891, Northwestern Consolidated Milling Company 1891 - 1941

Year and Source of Ownership Information (*e.g.*, plat map, recorder's office, etc.) **1885 Sanborn Map; 1885 The Industries of Minneapolis; Her Trade, Commerce, Manufacturers and Representative Establishments, Phoenix Publishing Company, 189-**

SITE #:

Site Name: Columbia Flour Mill

Field #: 05-57e

INVESTIGATOR/REPORTER INFORMATIONType(s) of Investigation (*check all that apply*):

reconnaissance evaluation data recovery other:

Methods/techniques employed (*check all that apply*):

informant report small diameter soil coring (■ 1" diameter)
 surface survey geomorphological survey (*specify*):
 shovel testing geophysical survey (*specify*):
 excavation units other(s): Backhoe and hand clearing

Informant Name and Address: None

Artifact Repository (*name and accession nos.*): None – all artifacts from disturbed fill contextReport Citation: *The Wave Development Analysis of Effects and Phase II Archaeological Evaluation, Minneapolis, Hennepin County, Minnesota The 106 Group, Ltd., n.d.*Major Bibliographic Reference(s) to Site: **Anfinson, S.F., 1989 *Archaeology of the Central Minneapolis Riverfront Part 1: Historical Overview and Archaeological Potentials*. The Minnesota Archaeologist 48(1-2).**Principal Investigator (*name and affiliation*): Anne Ketz, The 106 Group, Ltd.**ADDITIONAL NOTES** (*use space below or attach extra sheets, as needed*)

The Phase II investigation at the site of the proposed Wave Development, formerly the site of the Columbia Flour Mill, was conducted in preparation for the Environmental Assessment Worksheet (EAW). The exposed northern wall of the Columbia Mill (Feature 2) is constructed of limestone-blocks in keeping with the rest of the walls, and extends approximately 1 – 1.5 stories above ground, to roughly the grade of First Street. The mill was excavated using three trenches. Trench A ran north to south along the western wall of the mill (the eastern wall of the elevator), was approximately 15.2 m long with a maximum depth of 4.5 m. Trench B traversed east to west along the southern wall of the elevator and was roughly 39.8 m long and 1.2 m at its deepest point. Trench G ran to the north of the northern wall in an effort to examine an opening in the building and was 7.5 m long and 5.2 m at its deepest point. The Columbia measures approximately 49 m from east to west and 16 m from north to south. The site was initially built by the Columbia Mill Company, but was subsequently purchased by Northwestern Consolidated Milling in 1891. The site was not fully excavated due to the constraints of a phase II evaluation, the depth of the site and equipment limitations. The site was mapped and then backfilled for safety reasons. See technical report for further details.

MAPS (*attach USGS topographic quad and sketch map with site location outlined*)Form Completed by (*name and date*): Jennifer L.H. Tworzyanski, May 30, 2006

MINNESOTA ARCHAEOLOGICAL SITE FORM**OFFICE OF THE STATE ARCHAEOLOGIST**

Fort Snelling History Center, St. Paul, MN 55111 (612) 725-2411

STATE HISTORIC PRESERVATION OFFICE

345 Kellogg Boulevard W., St. Paul, MN 55102 (612) 296-5434

OSA License #: 06-004

SHPO RC #:

Date(s) of Fieldwork: April 19, 2006 – April 28, 2006

 New Site Site Update

SITE #: 21HE0365

Site Name: **Occidental Feed Mill**

Field #: The 106 Group Project No. 05-57

LOCATIONAL INFORMATION (attach USGS topographic quad and sketch map with site location outlined)

County: Hennepin

City/Twp. Name: Minneapolis

SHPO Region: 4s - Central Lakes
Deciduous SouthUSGS 7.5' Quadrangle Map (name and year) *Minneapolis South*Township: T29N Range: R24W Section: 23 $\frac{1}{4}$ Sections (at least 2): NE1/4 of the SW1/4Township: Range: Section $\frac{1}{4}$ Sections (at least 2):Township: Range: Section $\frac{1}{4}$ Sections (at least 2):

UTM Site Coordinates (use 1927 datum; identify center point only):

Zone: 15N

Easting: 479429.587986

Northing: 4980921.96392

Other locational information: **Bounded on the south by First Street, north by West River Parkway, west by 3rd Avenue****SITE CHARACTERISTICS**Acreage: 0.14 Site Dimensions (both horizontal and vertical/depth, in metric): 120 ft by 50 ft / 37m by 16m, depth unknownFeatures (check all that apply): earthwork depression foundation other none
describe: limestone-block mill foundationsSite Description (check all that apply and describe): single artifact artifact scatter lithic scatter earthwork/mound structural ruin rock alignment rock art cemetery/burial standing structure (SHPO structure # if known): _____ other:

describe: limestone-block foundations

Inferred Site Function (must specify): Site of Former Occidental Feed Mill and associated officeCurrent Land Use (check all that apply): cultivated woodland commercial unknown fallow recreational industrial other: grassland road residential

Surface Visibility

 excellent good fair poor none

Degree of Disturbance (check and describe):

 minimal moderate heavy destroyed unassessed

describe disturbance type(s): building destroyed, foundations remain

Current Threats to Site:

 erosion development agricultural none known other:

SITE #: Site Name: Occidental Feed Mill Field #: 05-57e

CULTURAL/TEMPORAL AFFILIATION

(check all that apply; include level of certainty: 1 = confirmed; 2 = probable):

Period: indeterminate Contact (1650-1837)
 Pre-Contact (9500 BC - 1650 AD) Post-Contact (1837-1945)

Pre-Contact Context: (if unable to discern specific context, check here)

- PaleoIndian Tradition indeterminate Folsom Lanceolate Point
 Clovis Eastern Fluted other:
- Archaic Tradition indeterminate Prairie Riverine
 Shield Lake-Forest other:
- Woodland Tradition indeterminate Fox Lake Laurel
 Early Transitional Lake Benton
 Brainerd Kathio Psinomani/Sandy Lake
 Black Duck Havana Related Southeastern MN Late
 other:
- Plains Village indeterminate Cambria other:
 Great Oasis Big Stone
- Mississippian Tradition indeterminate Silvernale other:
- Oneota Tradition indeterminate Blue Earth Orr other:

Contact Context: (if unable to discern specific context, check here)

- American Indian indeterminate Eastern Dakota other:
 Ojibwe Western Dakota
- EuroAmerican indeterminate British other: _____
 French Initial US

Post-Contact Context: (if unable to discern specific context, check here)

- Indian Communities & Reservations (1837-1934) St. Croix Triangle Lumbering (1830s-1900s)
- Early Agriculture & River Settlement (1840-1870) Railroads & Agricultural Development (1870-1940)
- Northern MN Lumbering (1870-1930s) Iron Ore Industry (1880s-1945)
- Tourism & Recreation (1870-1945) Urban Centers (1870-1940)

Dating Methods (check all that apply):

- artifact style/cross dating radiocarbon historic accounts Andreas atlas (1874)
- Sanborn maps (list years): 1885 plat maps (list years): _____
- other(s) (specify): Historic Mill District Maps

Specify context dates (if radiometric, cite lab no. and uncalib. date; note if AMS): None

MATERIALS PRESENT

Material Classes (check all that apply):

- | <u>Ceramics</u> | <u>Lithics</u> | <u>Biological Remains</u> | <u>Other Materials</u> |
|--|---|--|--|
| <input type="checkbox"/> Aboriginal | <input type="checkbox"/> projectile points | <input checked="" type="checkbox"/> animal | <input checked="" type="checkbox"/> glass |
| <input checked="" type="checkbox"/> EuroAmerican | <input type="checkbox"/> other flaked stone tools | <input type="checkbox"/> human | <input checked="" type="checkbox"/> metal |
| | <input type="checkbox"/> debitage | <input type="checkbox"/> unidentified bone | <input type="checkbox"/> FCR |
| | <input type="checkbox"/> ground/pecked stone | <input type="checkbox"/> floral | <input checked="" type="checkbox"/> other: Bricks, tires |

Additional information (e.g., temper, charcoal type, raw material, etc.): Historic and modern glass, metal, ceramic, brick, tires

SITE #: Site Name: Occidental Feed Mill Field #: 05-57e

Major Exotic Materials (*i.e.*, "exotic" relative to local area; check all that apply): *N/A*

- catlinite native copper Hixton orthoquartzite
- Knife River Flint obsidian other:

Diagnostic Type/Information (*e.g.*, Brainerd ceramics, machine-cut nails; describe decoration, function, manufacturer, etc.):

- Ceramic
- Lithic
- Glass
- Other

Additional information: **All artifacts from an unknown fill context**

ENVIRONMENTAL DATA

Major Drainage System

- Cedar River Des Moines River Lake Superior Minnesota River
- Mississippi River (*N of MN River*) Red River Rainy River
- Mississippi River (*S of MN River*) Missouri River St. Croix River

Watershed Index Map no. (MnDNR, Division of Waters, 1990) 20

Distance to Existing Water Source (*per USGS topographic map, in feet or miles*): *164 ft/50m*

Ancient/Former Water Feature (*name, type and distance to such feature*): *Mississippi River/164 ft /50 m*

Topographic Setting (*check all that apply*):

- | <u>Upland</u> | <u>Riverine</u> | <u>Lacustrine</u> |
|--|---|---------------------------------------|
| <input type="checkbox"/> general upland | <input type="checkbox"/> alluvial fan | <input type="checkbox"/> inlet/outlet |
| <input type="checkbox"/> bluff edge | <input type="checkbox"/> terrace | <input type="checkbox"/> peninsula |
| <input type="checkbox"/> hilltop | <input type="checkbox"/> stream-stream junction | <input type="checkbox"/> island |
| <input type="checkbox"/> glacial beach ridge | <input checked="" type="checkbox"/> bluff-base | <input type="checkbox"/> isthmus |
| <input type="checkbox"/> wetland | <input type="checkbox"/> cave/rockshelter | <input type="checkbox"/> shoreline |
| <input type="checkbox"/> other: _____ | <input type="checkbox"/> other: _____ | <input type="checkbox"/> other: |

HISTORIC SITES ONLY:

Historic setting: rural urban other:

Type(s): industrial commercial domestic government other:

Historic transportation route (*e.g.*, road, waterway, rail): *West (right) bank of Mississippi River, Minneapolis Eastern Railway Company and Minneapolis Union Railway Company to the immediate north of building.*

OWNERSHIP INFORMATION

Ownership Type (*check all that apply*):

- federal state local tribal private unknown

Land Owner (*name and address*) *Minneapolis Park and Recreation Board, 2117 West River Road, Minneapolis, Minnesota 55411-2227*

Significant historic owner(s) and period(s) of ownership, if known: *1883 – 1919 McAlister, Chase and Company*

Year and Source of Ownership Information (*e.g.*, plat map, recorder's office, etc.) *The Northwestern Miller, 1885*

SITE #:

Site Name: Occidental Feed Mill

Field #: 05-57e

INVESTIGATOR/REPORTER INFORMATIONType(s) of Investigation (*check all that apply*):

reconnaissance evaluation data recovery other:

Methods/techniques employed (*check all that apply*):

informant report small diameter soil coring (■ 1" diameter)
 surface survey geomorphological survey (*specify*):
 shovel testing geophysical survey (*specify*):
 excavation units other(s): Backhoe and hand clearing

Informant Name and Address: None

Artifact Repository (*name and accession nos.*): **None – all artifacts from unknown fill context.**Report Citation: *The Wave Development Analysis of Effects and Phase II Archaeological Evaluation, Minneapolis, Hennepin County, Minnesota The 106 Group, Ltd., n.d.*Major Bibliographic Reference(s) to Site: Anfinson, S.F., 1989 *Archaeology of the Central Minneapolis Riverfront Part 1: Historical Overview and Archaeological Potentials*. The Minnesota Archaeologist 48(1-2).Principal Investigator (*name and affiliation*): Anne Ketz, The 106 Group, Ltd.**ADDITIONAL NOTES** (*use space below or attach extra sheets, as needed*)

The Phase II investigation at the site of the proposed Wave Development was conducted in preparation for the Environmental Assessment Worksheet (EAW). The excavation of the feed mill was undertaken with four linear trenches; trench B ran from the southwest corner of the mill along the southern wall to the southeast corner, trench E was perpendicular to trench B and ran south to north originating at the southwest corner, trench K ran north to south along the eastern wall of the mill with trench J to the west of trench K. Shortly after removing the asphalt from the present parking lot surface, the top of the limestone block foundation from the Occidental Feed Mill was located approximately 20 – 25 cmbs in trenches B, E, and K. The walls extended into the unexcavated soil matrix. The mill itself is approximately 26.2 m from east to west, whereas the office is approximately 10.7 m from east to west. It is unknown precisely how far the mill extends to the north due to a failure to discover the northern wall during excavations. According to a 1911 map of the Flour Milling District published by Fisher, the western portion of the site was occupied by an office building, whereas the eastern roughly two-thirds was occupied by the mill itself. The site was not fully excavated due to the constraints of a phase II evaluation, the depth of the site and equipment limitations. The site was mapped and then backfilled for safety reasons. For further information see technical report.

MAPS (*attach USGS topographic quad and sketch map with site location outlined*)Form Completed by (*name and date*): Jennifer L.H. Tworzyanski, May 30, 2006

MINNESOTA ARCHAEOLOGICAL SITE FORM**OFFICE OF THE STATE ARCHAEOLOGIST**

Fort Snelling History Center, St. Paul, MN 55111 (612) 725-2411

STATE HISTORIC PRESERVATION OFFICE

345 Kellogg Boulevard W., St. Paul, MN 55102 (612) 296-5434

OSA License #: 06-004

SHPO RC #:

Date(s) of Fieldwork: April 19, 2006 – April 28, 2006

 New Site Site Update

SITE #: 21HE0366

Site Name: **Minneapolis Eastern Railway Company Features Associated with the Columbia and Occidental Mills**

Field #: The 106 Group Project No. 05-57e

LOCATIONAL INFORMATION (attach USGS topographic quad and sketch map with site location outlined)

County: Hennepin

City/Twp. Name: Minneapolis

SHPO Region: 4s - Central Lakes
Deciduous SouthUSGS 7.5' Quadrangle Map (name and year) *Minneapolis South 1991*Township: T29N Range: R24W Section: 23 $\frac{1}{4}$ Sections (at least 2): NE1/4 of the SW1/4Township: Range: Section $\frac{1}{4}$ Sections (at least 2):Township: Range: Section $\frac{1}{4}$ Sections (at least 2):

UTM Site Coordinates (use 1927 datum; identify center point only):

Zone: 15N

Easting: 479423.849926

Northing: 4980936.57698

Other locational information: **Bounded on the south by First Street, north by West River Parkway, east by the former Fuji Ya Restaurant****SITE CHARACTERISTICS**Acreage: 0.17 Site Dimensions (both horizontal *and* vertical/depth, in metric): **102.9 m by 8.8 m, approx. 8.2+ m below First Street Grade deep**Features (check *all that apply*): earthwork depression foundation other nonedescribe: **Railcar Pit Scale and Retaining Wall**Site Description (check *all that apply and describe*): single artifact artifact scatter lithic scatter earthwork/mound structural ruin rock alignment rock art cemetery/burial standing structure (SHPO structure # if known): _____ other:describe: *Pit Scale and retaining wall*Inferred Site Function (*must specify*): **rail yard associated with Columbia and Occidental Mills**Current Land Use (check *all that apply*): cultivated woodland commercial unknown fallow recreational industrial other: grassland road residential

Surface Visibility

 excellent good fair poor none

Degree of Disturbance (check and describe):

 minimal moderate heavy destroyed unassesseddescribe disturbance type(s): **Scale pit has been partially filled with debris, retaining wall buried under fill**

Current Threats to Site:

 erosion development agricultural none known other:

SITE #: Site Name: Minneapolis Eastern Railway Company Features Associated with the Columbia and Occidental Mills
 Field #: 05-57e

CULTURAL/TEMPORAL AFFILIATION

(check all that apply; include level of certainty: 1 = confirmed; 2 = probable):

Period: indeterminate Contact (1650-1837)
 Pre-Contact (9500 BC - 1650 AD) Post-Contact (1837-1945)

Pre-Contact Context: (if unable to discern specific context, check here)

- | | | | |
|--------------------------------|--|--|---|
| <i>PaleoIndian Tradition</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Folsom | <input type="checkbox"/> Lanceolate Point |
| | <input type="checkbox"/> Clovis | <input type="checkbox"/> Eastern Fluted | <input type="checkbox"/> other: |
| <i>Archaic Tradition</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Prairie | <input type="checkbox"/> Riverine |
| | <input type="checkbox"/> Shield | <input type="checkbox"/> Lake-Forest | <input type="checkbox"/> other: |
| <i>Woodland Tradition</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Fox Lake | <input type="checkbox"/> Laurel |
| | <input type="checkbox"/> Early | <input type="checkbox"/> Transitional | <input type="checkbox"/> Lake Benton |
| | <input type="checkbox"/> Brainerd | <input type="checkbox"/> Kathio | <input type="checkbox"/> Psinomani/Sandy Lake |
| | <input type="checkbox"/> Black Duck | <input type="checkbox"/> Havana Related | <input type="checkbox"/> Southeastern MN Late |
| | | | <input type="checkbox"/> other: |
| <i>Plains Village</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Cambria | <input type="checkbox"/> other: |
| | <input type="checkbox"/> Great Oasis | <input type="checkbox"/> Big Stone | |
| <i>Mississippian Tradition</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Silvernale | <input type="checkbox"/> other: |
| <i>Oneota Tradition</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Blue Earth <input type="checkbox"/> Orr | <input type="checkbox"/> other: |

Contact Context: (if unable to discern specific context, check here)

- | | | | |
|------------------------|--|---|---------------------------------------|
| <i>American Indian</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> Eastern Dakota | <input type="checkbox"/> other: |
| | <input type="checkbox"/> Ojibwe | <input type="checkbox"/> Western Dakota | |
| <i>EuroAmerican</i> | <input type="checkbox"/> indeterminate | <input type="checkbox"/> British | <input type="checkbox"/> other: _____ |
| | <input type="checkbox"/> French | <input type="checkbox"/> Initial US | |

Post-Contact Context: (if unable to discern specific context, check here)

- | | |
|---|--|
| <input type="checkbox"/> Indian Communities & Reservations (1837-1934) | <input type="checkbox"/> St. Croix Triangle Lumbering (1830s-1900s) |
| <input type="checkbox"/> Early Agriculture & River Settlement (1840-1870) | <input checked="" type="checkbox"/> Railroads & Agricultural Development (1870-1940) |
| <input type="checkbox"/> Northern MN Lumbering (1870-1930s) | <input type="checkbox"/> Iron Ore Industry (1880s-1945) |
| <input type="checkbox"/> Tourism & Recreation (1870-1945) | <input checked="" type="checkbox"/> Urban Centers (1870-1940) |

Dating Methods (check all that apply):

- artifact style/cross dating radiocarbon historic accounts Andreas atlas (1874)
 Sanborn maps (list years): _____ plat maps (list years): _____
 other(s) (specify): Historic Mill District Maps

Specify context dates (if radiometric, cite lab no. and uncalib. date; note if AMS): None

MATERIALS PRESENT

Material Classes (check all that apply):

- | | | | |
|--|---|--|---|
| <u>Ceramics</u> | <u>Lithics</u> | <u>Biological Remains</u> | <u>Other Materials</u> |
| <input type="checkbox"/> Aboriginal | <input type="checkbox"/> projectile points | <input type="checkbox"/> animal | <input checked="" type="checkbox"/> glass |
| <input checked="" type="checkbox"/> EuroAmerican | <input type="checkbox"/> other flaked stone tools | <input type="checkbox"/> human | <input checked="" type="checkbox"/> metal |
| | <input type="checkbox"/> debitage | <input type="checkbox"/> unidentified bone | <input type="checkbox"/> FCR |
| | <input type="checkbox"/> ground/pecked stone | <input type="checkbox"/> floral | <input checked="" type="checkbox"/> other: Bricks |

Additional information (e.g., temper, charcoal type, raw material, etc.): Glass; window glass fragments. Metal; wire nails.

Building Materials; bricks. Ceramics: modern stoneware and whiteware.

SITE #: Site Name: **Minneapolis Eastern Railway Company Features Associated with the Columbia and Occidental Mills**
Field #: 05-57e

Major Exotic Materials (*i.e.*, "exotic" relative to local area; check all that apply): *N/A*

catlinite native copper Hixton orthoquartzite
 Knife River Flint obsidian other:

Diagnostic Type/Information (*e.g.*, *Brainerd ceramics, machine-cut nails; describe decoration, function, manufacturer, etc.*):

Ceramic
Lithic
Glass
Other

Additional information: None of the historic period artifacts were found outside of mixed contexts. Most were in fill and were therefore of minimal archaeological value.

ENVIRONMENTAL DATA

Major Drainage System

Cedar River Des Moines River Lake Superior Minnesota River
 Mississippi River (*N of MN River*) Red River Rainy River
 Mississippi River (*S of MN River*) Missouri River St. Croix River

Watershed Index Map no. (MnDNR, Division of Waters, 1990) 20

Distance to Existing Water Source (*per USGS topographic map, in feet or miles*): *115 ft/35*

Ancient/Former Water Feature (*name, type and distance to such feature*): *Mississippi River/115 ft /35 m*

Topographic Setting (*check all that apply*):

<u>Upland</u>	<u>Riverine</u>	<u>Lacustrine</u>
<input type="checkbox"/> general upland	<input type="checkbox"/> alluvial fan	<input type="checkbox"/> inlet/outlet
<input type="checkbox"/> bluff edge	<input type="checkbox"/> terrace	<input type="checkbox"/> peninsula
<input type="checkbox"/> hilltop	<input type="checkbox"/> stream-stream junction	<input type="checkbox"/> island
<input type="checkbox"/> glacial beach ridge	<input checked="" type="checkbox"/> bluff-base	<input type="checkbox"/> isthmus
<input type="checkbox"/> wetland	<input type="checkbox"/> cave/rockshelter	<input type="checkbox"/> shoreline
<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____	<input type="checkbox"/> other:

HISTORIC SITES ONLY:

Historic setting: rural urban other:

Type(s): industrial commercial domestic government other:

Historic transportation route (*e.g.*, road, waterway, rail); identify type, direction & distance: *West (right) bank of Mississippi River, Railroad*

OWNERSHIP INFORMATION

Ownership Type (*check all that apply*):

federal state local tribal private unknown

Land Owner (*name and address*) Minneapolis Park and Recreation Board, 2117 West River Road, Minneapolis, Minnesota 55411-2227

Significant historic owner(s) and period(s) of ownership, if known: Minneapolis Eastern Railway Company

Year and Source of Ownership Information (*e.g.*, plat map, recorder's office, etc.) Landowner, 2006

SITE #:
with the Columbia and Occidental Mills

Site Name: **Minneapolis Eastern Railway Company Features Associated**
Field #: 05-57e

INVESTIGATOR/REPORTER INFORMATION

Type(s) of Investigation (*check all that apply*):

reconnaissance evaluation data recovery other:

Methods/techniques employed (*check all that apply*):

informant report small diameter soil coring (1" diameter)
 surface survey geomorphological survey (*specify*):
 shovel testing geophysical survey (*specify*):
 excavation units other(s): Backhoe

Informant Name and Address: None

Artifact Repository (*name and accession nos.*): **None – all artifacts from unknown fill context.**

Report Citation: *The Wave Development Analysis of Effects and Phase II Archaeological Evaluation, Minneapolis, Hennepin County, Minnesota* The 106 Group, Ltd., n.d.

Major Bibliographic Reference(s) to Site: Anfinson, S.F., 1989 *Archaeology of the Central Minneapolis Riverfront Part 1: Historical Overview and Archaeological Potentials*. The Minnesota Archaeologist 48(1-2).

Principal Investigator (*name and affiliation*): Anne Ketz, The 106 Group, Ltd.

ADDITIONAL NOTES (*use space below or attach extra sheets, as needed*)

A Phase II investigation at the site of the proposed Wave Development was conducted as part of an Environmental Assessment Worksheet (EAW) in April of 2006.

Pit Scale:

The excavation of the area just north of the Columbia Mill's north wall, Trench G¹, uncovered an underground room containing intact machinery. Upon examination the machinery appeared to be a fully intact railroad scale (Feature 21) resting in an underground chamber – a scale pit (Feature 14). The interior of the scale pit measures 4.4 m (14.4 ft) from north to south by 16.7 m (54.8 ft) from east to west. The scale pit is a subsurface railroad scale, which has been covered with fill. This feature is illustrated as a "Train Shed" on a 1933 Marsh and McLennan insurance map created for the Standard Milling Company and Northwestern Consolidated Milling Company. In a 1911 map of the district the area occupied by the scale pit is depicted as containing numerous sets of rails (GIC). The feature is populated by a variety of in situ machinery, such as a scale arm, ceramic light fixtures, an electric motor, a blower, etc. The ceiling of pit scale is supported by two parallel I-beams supporting a large iron beam on a floating spring type mechanisms that run virtually the entire length of the feature, which are tied together with a series of five I-beams, set perpendicular to the two I-beams, which are parallel to each other. The eastern and western walls of the scale pit are constructed of poured cement with timber and brick at the top. The site was mapped and then backfilled for safety reasons.

Retaining Wall:

The excavation of the area just south of West River Road, Trench C, uncovered a wooden wall. Upon examination the wooden wall appeared to be a fully intact retaining wall associated with the former rail yard. Trench C was excavated just south of West River Road in a northwest to southeasterly orientation, in an attempt to define if there were any archaeological remains on the northwestern portion of the project area. This trench was approximately 18 m (59 ft) in length, and 5.2 m (17 ft) deep at its deepest point. A wooden wall comprised of 0.305 m (1 ft) square timbers (Feature 11) was encountered in the southern wall of the eastern half of the trench 1.8 m (5.9 ft) below the surface. The soil in Trench C was determined to be fill due to the mixture of historic and modern glass, building debris and metal encountered. It should be noted that a railroad rail was excavated from this trench as well. The site was mapped and then backfilled for safety reasons.

¹ For a more detailed explanation of features and trenches, please refer to the attached Feature List and map.

MAPS (*attach USGS topographic quad and sketch map with site location outlined*)

Form Completed by (*name and date*): Jennifer L.H. Tworzyanski, June 13, 2006

APPENDIX D: FEATURE TABLE

Feature Table

Feature #	Trench	Feature Context	Feature Type	Length(m)	Height(m)	Thickness / Width(m)	Excavation Procedure	Associated Cultural Materials	Photo Documentation	Description of Feature
1	A	Subsurface	Wall	15	8	1.2	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		West wall of the Columbia Flour Mill, 4ft thick and more than 25 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface
Hypothetical 1	South of A	Subsurface	Wall	?	?	1.2?	NA	NA	NA	Possible southern wall of Columbia Mill
2	A	Surface / Subsurface	Wall	27.5	8.75	1.2	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		North wall of the Columbia Flour Mill, 4ft thick and more than 25 ft high
3	A	Surface / Subsurface	Arched Window	1.3	2.8	1.2	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Arched Window constructed within the limestone wall comprising the north wall of the Columbia Flour Mill - bricked up for the most part
4	A	Subsurface	Arched Doorway / Window	2.6	1.1	1.2	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Arched Doorway, partially blocked/filled with poured cement to make the opening half of what it was when originally constructed

Feature Table

Feature #	Trench	Feature Context	Feature Type	Length(m)	Height(m)	Thickness / Width(m)	Excavation Procedure	Associated Cultural Materials	Photo Documentation	Description of Feature
5	A	Subsurface	Wall	36	8	1.2	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		South wall of the Columbia Flour Mill, 4 ft thick and more than 25 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface
Hypothetical 5	A	Subsurface	Wall	36?	8?	1.2?	NA	NA	NA	Possible southern wall of Columbia Flour Mill
6	B & K	Subsurface	Wall	13	5 +	0.6	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		East wall of the Occidental Feed Mill 2 ft thick and over 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface
Hypothetical 6	Between B & K	Subsurface	Wall	7.2	?	0.6?	NA	NA	NA	Possible west wall of Occidental Feed Mill
7	B	Subsurface	Wall	4	5 +	0.6	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		West wall of the Occidental Feed Mill, 2 ft thick and more than 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface

Feature Table

Feature #	Trench	Feature Context	Feature Type	Length(m)	Height(m)	Thickness / Width(m)	Excavation Procedure	Associated Cultural Materials	Photo Documentation	Description of Feature
8	A & B	Subsurface	Grain Elevator	15	8 ?	8	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Grain elevator - storing and supplying grain for/to the Occidental and Columbia Mills
9	B	Subsurface	Wall	26	5 +	.6 ?	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		South wall of the Occidental Feed Mill, most likely 2 ft thick and more than 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface
10	A & B	Subsurface	Wall	15	5 +	.6 ?	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		South wall of the Grain Elevator most likely 2 ft thick and more than 16 ft high with the top of the extant wall approximately 1-2 feet below the parking lot surface
11	C & F	Subsurface	Retaining Wall	11 +	3 +	0.3	Backhoe and Hand Trowling	Historic and Modern Glass, Railroad Rail, Metal, Ceramic, Brick and Other within fill surrounding Feature		Wooden retaining wall constructed of 12"x12" wood timbers standing more than 10 ft high with the top of the wall 8 ft below the ground surface
12	B & E	Subsurface	Wall	6 +	2.5 +	0.6	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		West wall of Occidental Feed Mill Add-on, 2 ft thick, most likely more than 16 feet in height with the top of the wall 1-2 ft below the parking lot surface

Feature Table

Feature #	Trench	Feature Context	Feature Type	Length(m)	Height(m)	Thickness / Width(m)	Excavation Procedure	Associated Cultural Materials	Photo Documentation	Description of Feature
13	E	Subsurface	Void within rubble	1	1	2 +	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Void in the rubble, may be the opening to a shaft or underground chamber or may be merely a void in the rubble fill
14	G	Subsurface	Scale Pit	16.7	2.3	4.35	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Scale pit - underground room containing all machinery and components of a large railroad scale, accessible through arched walkway in Columbia Mill north wall
15	I	Subsurface	Wheel House Wall	7.8 x 4.8	2.25 +	0.3	Backhoe and Hand Trowling	Historic and Modern Glass, Metal, Ceramic, Brick and Other within fill surrounding Feature		Possible wheel house walls which may have house a turbine wheel as part of the water power system used to power all three of the projects mills
16	Fuji Ya	Subsurface	Wall	15	3.75 +	1.2	Documentation of the Basement of the Fuji Ya Restaurant	N/A		East wall of the Columbia Flour Mill 4 ft thick and over 9 ft high
17	Fuji Ya	Subsurface	Wall	28	3.75 +	1.2	Documentation of the Basement of the Fuji Ya Restaurant	N/A		North wall of the Basset Saw Mill, 4ft thick and more than 9 ft high

Feature Table

Feature #	Trench	Feature Context	Feature Type	Length(m)	Height(m)	Thickness / Width(m)	Excavation Procedure	Associated Cultural Materials	Photo Documentation	Description of Feature
18	Fuji Ya	Subsurface	Wall	9.2	3.62 +	1.2 ?	Documentation of the Basement of the Fuji Ya Restaurant	N/A		Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant
19	Fuji Ya	Subsurface	Wall	11.2	7.1 +	1.2 ?	Documentation of the Basement of the Fuji Ya Restaurant	N/A		Internal wall of the Bassett Saw Mill and eastern wall of the Fuji Ya Restaurant
20	Fuji Ya	Subsurface	Platform	3.4	1.35	2.8	Documentation of the Basement of the Fuji Ya Restaurant	N/A		Probable platform to support and aid the line shaft in transferring the turbines power throughout the 3 mills, the Occidental, Columbia and Bassett

APPENDIX E: BAG INVENTORIES

The Wave Development Phase II Archaeological Evaluation

Bag Inventory									
Bag #	Site	Method	Feature	Level	Sec	Depth	Exc	Date	Material
1	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Glass
2	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Metal
3	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Ceramic
4	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Chemical works cap, metal
5	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Glass
6	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Bone
7	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Metal
8	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Medallion, metal
9	Occidental	Trench B	Near 6	1-4 ft bg			MD	4/20/2006	Paper
10	Occidental	Trench B		1-4 ft bg			MD	4/20/2006	Glass
11	Columbia	Trench B		1-4 ft bg			MD	4/20/2006	Ceramic
12	Columbia	Trench B		1-4 ft bg			MD	4/20/2006	Metal
13	Columbia	Trench A		1-16 ft bg			JT	4/19/2006	Ceramic
14	Columbia	Trench A		1-16 ft bg			MD	4/19/2006	Glass
15	Columbia	Trench A		1-16 ft bg			MD	4/19/2006	Glass w/ olives
16	Columbia	Trench A		1-16 ft bg			MD	4/19/2006	Metal
17	Columbia	Trench A		1-16 ft bg			MD	4/19/2006	Metal Bowl
18	Columbia	Trench A		1-16 ft bg			MD	4/19/2006	Metal
19	Columbia	Trench A	Near 4	12-16 ft bg			MD	4/19/2006	Glass
20	Columbia	Trench A	Near 4	12-16 ft bg			JT	4/19/2006	Glass
21	Columbia	Trench A	Near 4	12-16 ft bg			MD	4/19/2006	Glass
22	Columbia	Trench A	Near 4	12-16 ft bg			JT	4/19/2006	7up Bottle, glass
23	Columbia	Trench A	Near 4	12-16 ft bg			JT	4/19/2006	Ceramic
24	Columbia	Trench A	Near 4	12-16 ft bg			JT	4/19/2006	Metal
25	Rail Related	Trench C		20-33 ft bg			MD	4/21/2006	Metal
26	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Glass
27	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Glass
28	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Glass
29	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Glass
30	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Glass
31	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Ceramic
32	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Metal
33	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Metal
34	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Metal
35	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Metal
36	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Metal
37	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Other

Bag Inventory									
Bag #	Site	Method	Feature	Level	Sec	Depth	Exc	Date	Material
38	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Building, Brick
39	Occidental	Trench E		0-6 ft bg			JT	4/24/2006	Building, Brick
40	Rail Related	Trench F		0-8 ft bg			MD	4/24/2006	Building, Brick
41	Rail Related	Trench F		0-8 ft bg			MD	4/24/2006	Building, Brick
42	Rail Related	Trench F		0-8 ft bg			MD	4/24/2006	Glass, bottle
43	Columbia	Trench B	Near 10	0-4 ft bg			JT	4/20/2006	Glass
44	Columbia	Trench B	Near 10	0-4 ft bg			JT	4/20/2006	Metal
45	Columbia	Trench B	Near 10	0-4 ft bg			JT	4/20/2006	Ceramic
46	Columbia	Trench G		20-26 ft bg			JT	4/25/2006	Glass
47	Rail Related	Trench G	Near 14	20-30 ft bg			JT	4/25/2006	Glass
48	Occidental	Trench B	Near 12	0-4 ft bg			JT	4/22/2006	Glass
49	Occidental	Trench B	Near 12	0-4 ft bg			JT	4/22/2006	Glass
50	Occidental	Trench B	Near 12	0-4 ft bg			JT	4/22/2006	Metal
51	Rail Related	Trench D		20-33 ft bg			JT	4/22/2006	Other, shoe
52	Rail Related	Trench D		20-33 ft bg			JT	4/22/2006	Building, Brick
53	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Building, Brick
54	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Building, Brick
55	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Building, Brick
56	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Building, Brick
57	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
58	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
59	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
60	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
61	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
62	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Glass
63	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Ceramic
64	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Bone
65	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Metal
66	Occidental	Trench B	Near 9	0-4 ft bg			JT	4/21/2006	Slag
67	Bassett	Trench I	Near 15	0-16 ft bg			JT	4/27/2006	Glass
68	Bassett	Trench I	Near 15	0-16 ft bg			JT	4/27/2006	Building Material
69	Bassett	Trench I	Near 15	0-16 ft bg			JT	4/27/2006	Ceramic
70	Bassett	Trench I	Near 15	0-16 ft bg			JT	4/27/2006	Metal
71	Columbia	Trench A		0-10 ft bg			JT	4/19/2006	Metal, elevator cup
72	Bassett	Trench I	Near 15	0-16 ft bg			JT	4/27/2006	Glass

Bag Inventory									
Bag #	Site	Method	Feature	Level	Sec	Depth	Exc	Date	Material
73	Columbia	Trench A	Near 1	0-10 ft bg			MD	4/19/2006	Metal, line shaft
74	Columbia	Trench A		0-10 ft bg			MD	4/19/2006	Metal, part of elevator conveyor
75	Columbia	Trench A		0-10 ft bg			MD	4/19/2006	Metal
76	Rail Related	Trench G	Near 14	20-30 ft bg			MD	4/25/2006	Metal
77	Columbia	Trench A	Near 1	0-10 ft bg			MD	4/19/2006	Metal
78	Occidental	Trench E	Near 12	0-6 ft bg			MD	4/24/2006	Glass
79	Occidental	Trench K	Near 6	0-12 ft bg			MD	4/27/2006	Ceramic
80	Occidental	Trench E	Near 12	0-6 ft bg			MD	4/24/2006	Ceramic
81	Occidental	Trench B	Near 9	0-4 ft bg			MD	4/21/2006	Glass, bottle
82	Rail Related	Trench C		20-30 ft bg			MD	4/21/2006	Metal, railroad rail (remained onsite)

APPENDIX F: PROJECT PERSONNEL

PROJECT PERSONNEL

Project Manager and Principal Investigator	Anne Ketz, M.A., RPA
Assistant to the Project Manager	Jennifer L. Bring, B.A.
Architectural Historian/Principal Investigator	William E. Stark, M.A.
Field Director	Mark Doperalski, B.S.
Field Archaeologists	Jennifer Tworzyanski, M.A., RPA Amanda Adams, M.A., RPA Jim Kunesh, B.A. Chris Moose, B.A. Mark Doperalski, B.S.
Backhoe Operator	John Buelow, Buelow Excavating
Graphics and GIS	Matthew Schillerberg Chris Evans B.A.