This project has been funded in part by the State of Minnesota from the Arts and Cultural Heritage Fund through the Minnesota Historical Society and with support from Hennepin County.
Fort Snelling West District - Historical Context Study and Development Guidelines

Prepared for
Hennepin County

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## Historical Context Study

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With the Fort Snelling Upper Post lying entirely within unincorporated Hennepin County, the County in 2006 updated the 1998 Fort Snelling State Park “Upper Bluff” Reuse Study as part of its Fort Snelling Base Relocation and Alignment Closure (BRAC) Grant. This work led Hennepin County to begin building stabilization efforts in partnership with the Minnesota Department of Natural Resources using Hennepin County Sentence to Serve (STS) Crews. In 2006 Hennepin County received a National Park Service Save America’s Treasures (SAT) Grant to continue these building stabilization efforts, again partnering with the Minnesota Department of Natural Resources and Hennepin County STS crews. In 2007 Hennepin County received a National Trust for Historic Preservation Johanna Favrot Grant to study open space and landscape issues at the Upper Post. In 2008 and again in 2010, Hennepin County received allocations of $500,000 and $1.2 million, respectively, from the Minnesota Legislature to continue and expand stabilization efforts on the Upper Post.

This report has been financed in part with funds provided by the State of Minnesota from the Arts and Cultural Heritage Fund through the Minnesota Historical Society. Hennepin County wishes to thank the Society for the grant, which enabled us to conduct a historical context survey of the interiors of the 17 extant buildings in the portion of the Fort Snelling West District that is within the National Register and State Historic Districts. This area is currently under review as part of a Hiawatha LRT Fort Snelling Station Area Plan, funded by a Federal Transportation Grant, which did not include funding for an interior survey.

Hennepin County would also like to thank the property owners in the West District for their assistance and input for this report, in particular: Steve Tharaldson of the US Department of Veterans Affairs Minneapolis Medical Center, Judd Reitkerk of the Minneapolis Park and Recreation Board, and John Andrews of the Northern Star Council of the Boy Scouts of America, and their staffs.

The interior context survey is an important supplement to the overall Historical Context Study of the Station Area Plan to inform reviewers, planners, and future developers of the historic nature of the fort’s former Quartermaster, Artillery, and Cavalry areas. This report is a critical step toward a land use plan to guide the redevelopment and reuse process.

The efforts at the site are growing in momentum, and the Minnesota Historical Society has allowed that momentum to continue and move toward implementation.

Patrick R. Conroy
Senior Administrative Manager
Hennepin County
Introduction

Study Area

This Historical Context Study evaluates the area of Fort Snelling west of Bloomington Road. It focuses on a portion of Fort Snelling that is listed on the National Register of Historic Places and also designated as a State Historic District. For the purposes of this study, the area is being referred to as the West District, which is not an historic name from its use by the Army. The West District was historically the support area of the fort and currently houses a mix of historic and non-historic buildings, open space, and parking lots.

This study also supplements a Johanna Favrot Grant-funded study of the adjacent National Historic Landmark Upper Post completed in 2008 and entitled, “Fort Snelling Upper Post Open Space & Landscape Development Guidelines.” The development guideline graphics from that study have been updated to coordinate with this report and are included, where appropriate, herein.

Property Ownership & Historic District Boundaries

Like the adjacent Fort Snelling Upper Post and nearby Historic Fort Snelling, the Period of Significance for the study area extends from 1819, when the Historic Fort was first built on the bluff overlooking the Minnesota and Mississippi Rivers, to 1946, when the property ceased being an active Army post. Some of the sites in the West District have remained in Federal ownership since then and some have been transferred to others.

The property owners in the West District study area are the US Department of Veterans Affairs (VA) Minneapolis Medical Center, the Minneapolis Park and Recreation Board (MPRB), the Northern Star Council of the Boy Scouts of America (BSA), and the US Navy Reserve. Two historic buildings (#237 and #239) that are included in this study are located outside the West District and the National Register and State Historic District boundaries. Both are on land owned by the VA that is leased by the Metropolitan Council. The GSA, MNDOT and Metro Transit also own or lease land west of the historic districts and are not included in this historical context study. See the map Fort Snelling Area Property Ownership for more information on property ownership.

The exact boundaries for both the National Register Historic District and the State Historic District are unclear and, as previously indicated, Buildings 237 and 239 are outside of them. In addition, both the Upper and Lower Posts are National Historic Landmarks; but the West District, which provided support to those areas, does not have landmark status. As development planning continues for the Fort Snelling area, the historic district boundaries should be re-studied to be clearly and legally defined, to include Buildings 237 and 239 and possibly exclude areas that have been greatly altered and don’t maintain their historic integrity, and to incorporate the West District, if appropriate, within the Landmark Historic District.
Study Purpose

This study is intended to add to past studies of Fort Snelling and contribute to a Hiawatha LRT Fort Snelling Station Area Plan being prepared simultaneously for Hennepin County by a consulting team led by Dan Cornejo and including LHB Architects and Planners and Kimley-Horn Associates. That report is studying the development potential for the larger Fort Snelling area. It is assumed that the Station Area Plan will encourage that the historic buildings at Fort Snelling be reused so that they can be saved for future generations and that appropriate new development also be encouraged to take place within the Fort Snelling area so that it once again becomes active and viable. This study strongly supports that.

Fort Snelling is an unincorporated area of Hennepin County and, as such, has no underlying governmental zoning controls. This report, like the Favrot Grant-funded report noted earlier, is therefore intended to be a substitute for a zoning ordinance, planning guidelines, or similar documents. Its purpose is to provide historical preservation, restoration, rehabilitation, and development guidelines and information for the West District so that developers interested in buildings or sites there understand the opportunities that exist as well as the parameters that will govern the work. This study, like a zoning or planning document, is a framework for development that doesn't specify exactly what use should go where or what specific buildings should look like. It is designed to provide flexibility in its interpretation.

This report also identifies the contributing West District historic buildings, open spaces, and landscapes that should be retained, as well as potential areas for new development. It specifically addresses where new development could take place and the sitting, massing, density, and other characteristics of such new development. It is important to note that this report is not meant to be an in-depth scholarly study. Rather, it is intended to provide an overview of the importance of the historic West District of Fort Snelling. As redevelopment ideas are brought forward, additional research will likely be needed by proposers to supplement, support, and otherwise inform their specific proposals.

Ultimately, any new development or rehabilitation in the West District will be judged and interpreted against the National Park Service (NPS) Secretary of the Interior's Standards for Rehabilitation, the overarching document upon which the guidelines in this study were developed. The procedure under which development proposals will be reviewed will be an NPS Federal Section 106 review process and, depending on the proposed development, a Historic Tax Credit review.

The guidelines contained in this study will be applied within that review structure, which will be led by the State Historic Preservation Office (SHPO) of the Minnesota Historical Society. NPS representatives may also take part if circumstances arise that warrant their involvement. Because of that, the study team included current SHPO and NPS representatives who have participated throughout the process. It is therefore assumed that, because of their involvement, the guidelines are a reasonable interpretation of the Standards at the time they were written. Also, while the guidelines are designed to address many questions that may arise, this report also provides direction for securing more detailed information from the Technical Preservation Services Division of the U.S. Department of the Interior and valuable reference information through SHPO.
As stated before, Fort Snelling has no underlying governmental zoning controls and, likewise, there is no Building Code or Permit Review authority specific to the area. Construction work at the Upper Post is reviewed by State of Minnesota Code Officials because it is State property. Recent construction at the Boy Scout’s Building 201 was also reviewed by State Code Officials because of the lack of other authority. It should therefore be assumed that, unless a new governmental structure is created at Fort Snelling that also designates Building Code and Permit Review to another entity, such reviews will be done by the State of Minnesota Building Code Officials.

No matter who does the Code and Permit Reviews, the Minnesota State Building Code will apply to construction work at the West District. Under the Code, historic buildings have some latitude when conforming to some Building Code requirements, such as accessibility. The Code Officials identified to review a specific project should be consulted early to determine to what extent this may apply.

The guidelines and information in this report have been prepared to be in accordance to the Secretary of the Interior’s Standards for Rehabilitation as interpreted by the study team. The Standards are ten basic principles created to help preserve the distinctive character of a historic building and its site, while allowing for reasonable changes to meet new needs. The Standards apply to historic buildings of all periods, styles, types, materials, and sizes. They apply to both the exterior and the interior of historic buildings, and also encompass related landscape features and the building’s site and environment and attached, adjacent, or related new construction. They are intended to be applied to projects in a reasonable manner, taking into consideration economic and technical feasibility. For information, they are listed in Appendix V.

The Standards will be subject to interpretation by reviewers on a case-by-case basis as appropriate to specific development proposals in the West District. Developers are strongly encouraged to meet early in the planning process with SHPO staff to discuss their ideas and see how the Standards are being interpreted at that time and how they may apply to the specific proposal.

The Secretary of the Interior’s Standards for Rehabilitation
Existing Building Identification Map
Demolished Building Identification Map
Historical Context Study

Introduction

Fort Snelling is often called the “Birthplace of Minnesota”, but also encompasses an area sacred to the Mdewakanton (Dakota) tribes. The fort, built between 1820 and the 1940s, served at various times as an Army outpost during settlement of the frontier; a Civil War era fort; headquarters for the Department of the Dakota; and as training and induction facilities during the Spanish-American War, Mexican Expedition, and World Wars I and II. Between the world wars, its amenities earned it the sobriquet “Country Club of the Army.” In 1946, the fort was decommissioned and turned over to the VA, and in the 1970s it was transferred to the State of Minnesota. The restored 1820s fort, sometimes referred to as the Lower Post, has been a living history museum operated by the MN Historical Society for 30 years. The Upper Post area is currently under utilized, but its 26 buildings have been mothballed awaiting future reuse.

The Historical Context Study summarizes the history of the site, the historic character of the West District, as well as providing specific information about each building. Historic zones are established based on the historic use of the site, their coherence of scale, period of construction, and circulation. The Historic Context Study is divided into the following five sections:

- Historical Context – Upper Post of Fort Snelling
- Historic Zones
- Historic Materials and Massing
- Fort Snelling Upper Post: Properties West of Bloomington
- Fort Snelling West District Interior Conditions

Much of the information in the “Historic Materials and Massing” section was based on “Design Guidelines For Minneapolis Park and Recreation Board Development at Fort Snelling Including Parade Ground, Quartermaster Area, Artillery Complex, and Cavalry Drill Hall,” April 20, 1999; Prepared for the Minneapolis Park and Recreation Board by Charlene K. Roise; Hess, Roise and Company.
Construction of Fort Snelling, originally known as Fort Saint Anthony, was begun in 1819. The fort’s first buildings were situated on a bluff overlooking the junction of the Mississippi and Minnesota Rivers. This area would later be known as Old Fort Snelling or the Lower Post. The fort’s original purpose was “to control the principle avenues of communication, provide support for the Indian agency,” quell conflicts among local Indian tribes, and deter white settlement in Indian territories. When the original fort was completed, it was surrounded by four stone walls.¹

By the mid-nineteenth century, the American frontier had moved well beyond the Mississippi River and Fort Snelling became a garrison where troops gathered to embark to other locations. “As the population of Saint Paul and Minneapolis grew and settlers flocked to the western prairies, the fort’s role continued to diminish. In 1856, Secretary of War Jefferson Davis withdrew the garrison.” The following year, Fort Snelling, estimated at roughly 8,000 acres, was sold to entrepreneur Franklin Steele and a group of investors for $90,000. Steele hoped to turn the fort into a town site. Steele surveyed the land and platted the City of Fort Snelling, which had it been built, would have obliterated the sites of both the Upper and Lower Posts of the fort. Although Steele failed to make the scheduled payments, he managed to retain possession of the property for some time.²

Once the Civil War began in 1861, the fort was commandeered by the military. When the war ended four years later, Steele’s hopes for a town at the fort had vanished, but he demanded either the return of his investment or legal title to the land. In 1868, Steele filed a claim of $162,000 against the government for its use of the fort during the Civil War, hoping that this “back rent” would offset the unpaid balance still owed from the 1857 sale. This process dragged on for several years. Finally in 1873, the government reached a compromise with Steele and he was given a deed to 6,395 acres of land that were formerly part of the Fort Snelling Military Reserve.³

The 1860s witnessed the first major expansion of facilities beyond the walls of the original fort to house troops for the Indian conflicts in Minnesota and the nation’s Civil War. Barracks, stables, and other buildings were erected west of the fort along the bluffs overlooking the Mississippi. Following the Civil War, the United States spent relatively little on the military, as it repaid the heavy debts incurred by that conflict. Still, “Army leaders began planning a reorganization to consolidate an inefficient collection of forts, cobbled together overtime, into a rational system of high-quality

Beginning in the late 1870s, Fort Snelling’s Upper Post was developed to the south of the original fort along the Minnesota River bluffs. The impetus for this expansion was the move of the headquarters for the Department of the Dakota from Saint Paul to the fort. The department, which had been established in 1866, oversaw all military activities and forts within Minnesota and the territories of Dakota and Montana. In June 1878, one newspaper noted, “The west walls of Fort Snelling are being pulled down, it is said with a view to the enlargement of the fort to an eight company post. But the changes that are being made may probably be attributed to an order which locates the headquarters of the Department of the Dakota at Fort Snelling instead of St. Paul.” The reporter speculated that government hoped to save money housing its staff at the fort instead of paying expensive city rents. During 1878, a Minneapolis newspaper periodically noted the building progress: “Nine new buildings are to be constructed at Fort Snelling, to be partially occupied by officers and partially by troops”; and “The Seventh cavalry is to arrive at Fort Snelling some time during the month, and fifty carpenters and ten stone masons are wanted to push the work on the buildings in course of erection.”

Although many buildings erected during this period have been demolished, a number survive. Building 22, originally known as the Ordinance Storehouse, was erected west of the original fort. If quartermaster records provide a correct construction date of 1878, this is the only building at the Lower Post that represents this period of growth. Ashlar blocks for this building and others in the newly established Upper Post were presumably mined from the walls of the old fort, which disappeared around this time.

The most significant development of this era, however, is the Upper Post. Funding for the headquarters for the Department of the Dakota was appropriated in 1880. The “clock tower” building represents a clear transition to the Upper Post. Construction of the Second Empire style brick building (Building 67; C-1), a landmark on Taylor Avenue, was begun sometime in 1880 and largely completed the following year. During this same period, a new Officers’ Row, consisting of single-family brick residences, was erected along Taylor Avenue.

By 1885, the walls surrounding the old fort had been demolished and only two towers remained in place. “All in all, the Lower Post had become a backwater. The army considered it a separate administrative unit—and of a distinctly lower rank than the Department of the Dakota.” The location of the quartermaster’s facilities illustrates the move from the old fort to the Upper Post. An 1878 map locates one quartermaster facility near the fort’s garrison house along with another quartermaster storehouse to the west, well beyond the fort walls, adjacent to the civilian employees quarters.

4 Roise, “Fort Snelling Buildings 17, 18, 22, and 30,” 4-6.
7 Clouse, “All that Remains,” 89, 91, 93, 95, 97.
Five years later, a map shows these quartermaster buildings are gone and a new quartermaster's complex is further west, beyond an old cemetery. (The Minnesota Historical Society’s Visitor Center is in the general vicinity of the cemetery; the bodies that had been interred there were moved to another location in the early twentieth century.) Other quartermaster buildings are along Bloomington Road at the intersection of Minnehaha Avenue. Quartermaster records indicate that a wood-frame storehouse, Building 217 (F-7), was erected at the corner of Minnehaha and Bloomington Road in 1879-1880. It seems unlikely that existing the building is from that date; if it is, it has been altered over time. In any event, the quartermaster definitely had facilities in that vicinity by the early 1880s. Other early structures include a forage house (Building 218/F-11), sawmill (Building 219/F-10), and mineral oil house (Building 239/F-15), all of stone.8

See the maps, Military Reservation Fort Snelling Minnesota, 1889, and Map of Military Reservation Fort Snelling Minn., 1893, for development of the new Quartermaster area west of the Lower Fort near the intersection of Bloomington Road and Minnehaha Avenue.

The Upper Post saw another expansion at the beginning of the twentieth century. During this period, the entire army was reorganized under the leadership of Secretary of War Elihu Root, who adopted a corporate model. His emphasis on efficiency resulted in the standardization of building plans, which had been introduced in the army in the 1860s but not used universally. The number and location of military posts was also under scrutiny, and Fort Snelling’s future was in doubt. Saved by politics, the fort was ultimately expanded rather than closed.9

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This brought cavalry and artillery units to the fort, which had been primarily an infantry post. New barracks, stables, and other buildings were erected north and west of the parade grounds to house these units. The upgrading of Highway 55 in the mid-twentieth century destroyed some of these buildings and severed most connections between the rest; subsequent demolition has removed more of these facilities. The most prominent survivor on the south side of the highway is Building 201 (F-42), the cavalry drill hall. Artillery stables, shops, and storehouses occupied the vacant land between the drill hall and Building 210.

More remains from another major component of the early twentieth-century expansion, the quartermaster’s area. A larger fort needed more provisions, so improvements to the quartermaster’s area were essential. Surviving examples from this era include a shops building (Building 210/F-43), two stables (Buildings 211/F-49 and 214/F-56), and storehouses (Building 222/F-14 and the original F-18), as well as two residences (Building 227/F-30 and F-31 and Building 229/F-38 through F-41). It was also during this period that a railroad spur was extended into the quartermaster area.

See the undated map, Fort Snelling Minn, for the arrival of the cavalry and infantry areas of the West District, as well as further development of the Quartermaster Area. This map shows Fort Snelling around 1917.

Yet another building campaign came in the late 1920s and the 1930s, in part because motorized vehicles usurped the role of horses for combat and transportation. An example of the impact of this change is illustrated in Building 211, which was erected as a stable for the quartermaster in 1909 and converted into a “tank and motor shed” housing forty-two vehicles in 1932. Some new buildings like the gas station (Building 215/F-57) and the Post Exchange oil and gas house (Building 220/F-58), both dating from 1932, also reflect the rise of motorized transportation. A deteriorating garage (Building T-228/F-45), which once had bays for ten cars, was moved here in 1920 from the cantonment that had been developed for World War I.

Work programs developed during the economic depression of the 1930s also shaped the quartermaster’s area. A large WPA warehouse complex (Building 230; demolished) was west of Bloomington Road near where the light-rail tracks now run. The CCC commissary warehouse (Building 223/F-61), constructed in 1935, was cobbled together with an interesting collection of salvaged materials. WPA laborers replaced wood
porches on the two residences on Bloomington Road with brick porches on concrete foundations. A powder magazine was moved in behind Building 222 from an unknown location in 1931.10

World War II brought much activity to the fort, but no new construction in the quartermaster’s area. The fort was decommissioned by the army in 1946, and the buildings have served a number of government and civilian uses since that time.

See the map, Fort Snelling and Environs, 1939, for a view of West District at the time that Fort Snelling was decommissioned.

See the 1939 map overlaying a current aerial for a reference for existing historic, demolished, and non-historic buildings in the West District.

See the chronological timeline, Fort Snelling West of Bloomington Road: A Timeline, in Appendix I for additional detailed information about the history of the West District.

10 Roise, “Fort Snelling’s Buildings 17, 18, 22, and 30,” 36.
1939 Fort Snelling Upper Post and West District Map
The study area includes several zones that were historically distinguished by use and building type: quartermaster, artillery, and cavalry. The topography throughout the area is flat and devoid of water features, so these factors did not influence development patterns. Instead, those patterns generally responded to roads—Bloomington Road and Minnehaha Avenue—that were in place prior to building construction.

Extant buildings are generally of masonry construction—locally quarried limestone for the earlier structures and brick for those dating from the late nineteenth and early twentieth centuries, with concrete block appearing in the 1930s. The few wood-frame structures are of varying vintages, and at least one was moved in from another location. A large group of wood-frame structures associated with artillery units has been demolished; two small brick structures from that complex have been relocated to the edge of the Polo Grounds. A powder magazine sheathed in corrugated metal was also originally elsewhere. The buildings are small in scale, most rising only one or two stories. The exception is a 1935 addition to Building 222, which replaced an earlier structure destroyed by fire. Rising three stories on a high basement, this building is also distinguished by its flat roof, which deviates from the gable roofs that appear on most other buildings.

In addition to the buildings, a few small objects are scattered around the area. Several concrete light standards survive, some with their original faceted lamps. The exposed aggregate of the concrete is typical of the 1920s. The function of a couple of posts is less obvious. One on the west side of Bloomington Road seems aligned with the former route of Leavenworth Avenue to the east. Perhaps the post was associated with a traffic control function. Some of the concrete sidewalks edging the road were likely products of federal relief projects in the 1930s.
Quartermaster Zone

The quartermaster was the first to establish a beachhead west of Bloomington Road, stimulated by the arrival of the Department of Dakota in the late 1870s. Quartermaster facilities soon flanked Minnehaha Avenue. Stables and a corral were on the north side of Minnehaha, and storehouses and other facilities, such as a sawmill, were to the south. The fort’s early twentieth-century expansion upgraded and expanded the Quartermaster Zone. The stables were replaced by more modern facilities, but the same use continued. A limited amount of housing—two multifamily structures—was added, presumably for the convenience of those overseeing the quartermaster’s operations. During the economic depression, this zone continued to supply activities at the fort and added federal relief programs, such as the Civilian Conservation Corps, to its scope. By this time, motorized transport had displaced horses, and buildings were adapted to serve this new function. Such changing needs, along with fires, tornadoes, routine maintenance, and other factors, resulted in some changes to buildings in this zone, but it still retains a sense of its early twentieth-century prime—far more than any other zone in this study.
Buildings: Most of the buildings changed names and uses and experienced some physical modification over time. For specific details, see the table, *Fort Snelling Upper Post: Properties West of Bloomington Road*, in the next section of this report. The buildings included in the Quartermaster Zone are:

- Building 210/F-43 (1907): Ordnance and Civil Works Service Office and Warehouse, Shops
- Building 211/F-49 (1909): Quartermaster Stable; Tank Park
- Building 214/F-56 (1910): Quartermaster Stable; Veterinary Hospital; Motor Repair Garage
- Building 215/F-57 (1932): Quartermaster Gas Station
- Building 217/F-7 (ca. 1915): Quartermaster Storehouse; Plumbing Shop
- Building 218/F-11 (1894): Forage House
- Building 219/F-10 (1895): Sawmill; Wheelwright and Other Shops
- Building 220/F-58 (1932): Post Exchange; Oil and Gas House; Auto Repair Shop
- Building 222/F-14, F-18, F-19 (1904/1914/1935): Subsistence/Quartermaster Storehouse
- Building 223/F-61 (1935): CCC Commissary Warehouse
- Building 224/F-16 (1902): Forage House; Shops and Warehouse
- Building 225/F-60 (1917): Storehouse
- Building 227/F-30, F-31 (1904): NCSO Quarters
- Building 228/T-228/F-45 (1917): Garage
- Building 229/F-38–F-41 (1907): NCO Quarters
- Building 239/F-15 (1892): Mineral Oil House

Landscape: Before this area was occupied by the quartermaster, it held fields of crops tended by soldiers from the fort. A small remnant of that agricultural use was echoed in the 1930s by a “nursery plat” just south of Building 229. When the Quartermaster Zone was laid out, the arrangement was pragmatic, based on use. The buildings were aligned on a rectilinear grid, with the primary axes being Bloomington Road and Minnehaha Avenue. Other minor roads and paths generally paralleled these corridors. There were two main deviations from this pattern. Minnehaha was responsible for one, as it angled to the northwest at the west edge of the Quartermaster Zone. By the early twentieth century, it was lined by small wood-framed houses for civilian employees. These are no longer extant, and the road's path has been obliterated by a parking lot. The other deviation resulted from diagonal railroad spurs on the zone’s southern edge. When the WPA established a warehouse complex along the spur line, paths fanned to it from the north. Today, a light-rail line follows close to the former alignment of the spur lines, the WPA warehouse complex has been demolished, and there is no trace of the radiating paths. A grove of pine trees in the vicinity appears to have been planted in the 1940s. The area was undeveloped and trees are not visible in a 1940 aerial, but by 1945 three distinct groves can be seen. The groves have thickened by 1953. By 1960, the grove closest to Bloomington Road appears to have thinned out, but the cluster nearest Building 229 is very dense. A 1969 aerial shows a building on part of the former Nursery Plat, but the grove nearest Building 229 remains. A small picnic area and sports field to the west of the grove appear to date from
after World War II.¹

Artillery Zone

The area north of the Quartermaster Zone once held stables, gun sheds, and other utilitarian buildings erected for the artillery units that arrived at Fort Snelling in the early twentieth century.

**Buildings:** Two brick workshops (Buildings 205 and 206) were moved across Bloomington Road to the north end of the Polo Grounds. The other buildings were razed in the 1990s. A tennis center has been developed in this area in the past decade.

**Landscape:** The landscape today is not historic. It comprises vacant land, parking lots, and a relocated road.

Cavalry Zone

Like the Artillery Zone, the Cavalry Zone was created for new units that were assigned to Fort Snelling in the early twentieth century. The cavalry area was bifurcated by the expansion of Highway 55. Two barracks and one of four original stables survive on the north side, which is not part of this study.

**Building:** Only one structure remains on the south side of the highway:
- Building 201/F-42 (1907): Cavalry Drill Hall

**Landscape:** While the integrity of the drill hall is good, its setting has been compromised by the construction of roads and other modern developments. The relationship between the drill hall and the Polo Grounds is at least somewhat maintained.

¹ Aerial photographs from Borchert Map Library, University of Minnesota.
**Materials and Massing: Introduction**

Extant and demolished buildings in the West District fall into four basic types: one- to two-story brick structures (1894-1910), single-story stone structures (1890s), one- to two-story clapboard-sided wood-frame structures (ca. 1879-1917), and single-story concrete and concrete-block structures (1930s). Building types reflect a hierarchy of function. Brick is used for the buildings housing the most important activities: the main storehouse (222), drill hall (201), non-commissioned officers’ quarters (227, 229), stables (211, 214), and shops (205, 206, 210, 218). Wood-frame buildings typically play a secondary and often more temporary role. Stone was a special-purpose material, used when a building’s function had a high potential to cause fires. Finally, concrete was the material of choice in the 1930s, the area’s last phase of construction.

In terms of both function and visual character, the early twentieth-century red-brick buildings dominate the area. Their understated Colonial Revival style should serve as the inspiration for the architectural form of major new construction northwest of Bloomington Road. The design of new ancillary structures could also be based on the red-brick buildings or could be influenced by the more modest wood-frame structures. Both structural types share a number of design elements—gable roofs, multiple-light double-hung sash windows, simple trim, rectangular forms—that should be considered for any new construction. Although slate or wood shingles may be prohibitively expensive or impractical, the color of modern roof materials should be related to slate (for brick buildings) or wood shingles (for wood-frame buildings).

**One-to-Two-Story Brick Buildings (1894 - 1910)**

Walls of the early twentieth-century structures are red face brick. Brick walls of the 1894 forage house (218) are buff colored. Limestone ashlar foundations edge low to relatively high basements. Most of these buildings have gable roofs; in some cases, the original slate sheathing has been replaced by asphalt shingles. Building 201 had a tile roof, and Building 218 wood shingles. The gable roofs of the former barns (211, 214) are topped by monitors; the monitors originally held pairs of louvered shutters alternating with pairs of windows, perhaps casements. Parapet walls with a semicircular apex trim the gable ends of the drill hall (201).

The designs of these buildings are utilitarian, and presumably follow standard army plans. A few details hint at the influence of a popular early twentieth-century style, the Colonial Revival: the buildings fronting on Bloomington Road (205, 206, 222, 227, 229) have boxed eaves above a plain fascia, with returns on the gable ends. A fanlight pierces each gable end of the two-family non-commissioned officers’ quarters (227). The Colonial Revival style was further expressed by the original colonnaded open porches of the quarters (212 [demolished], 227, 229), which were replaced by the current enclosed porches during the 1930s. A large addition to Building 222 also dates to the 1930s; while built of brick, its flat roof and streamlined design departs from the Colonial Revival spirit of the earlier structures.

Windows are mostly 6/6 or 8/8 wood sash. Sills are stone. Window and door lintels are segmental-arched or flat.

---

**Historic Materials and Massing**

Extant and demolished buildings in the West District fall into four basic types: one- to two-story brick structures (1894-1910), single-story stone structures (1890s), one- to two-story clapboard-sided wood-frame structures (ca. 1879-1917), and single-story concrete and concrete-block structures (1930s). Building types reflect a hierarchy of function. Brick is used for the buildings housing the most important activities: the main storehouse (222), drill hall (201), non-commissioned officers’ quarters (227, 229), stables (211, 214), and shops (205, 206, 210, 218). Wood-frame buildings typically play a secondary and often more temporary role. Stone was a special-purpose material, used when a building’s function had a high potential to cause fires. Finally, concrete was the material of choice in the 1930s, the area’s last phase of construction.

In terms of both function and visual character, the early twentieth-century red-brick buildings dominate the area. Their understated Colonial Revival style should serve as the inspiration for the architectural form of major new construction northwest of Bloomington Road. The design of new ancillary structures could also be based on the red-brick buildings or could be influenced by the more modest wood-frame structures. Both structural types share a number of design elements—gable roofs, multiple-light double-hung sash windows, simple trim, rectangular forms—that should be considered for any new construction. Although slate or wood shingles may be prohibitively expensive or impractical, the color of modern roof materials should be related to slate (for brick buildings) or wood shingles (for wood-frame buildings).
**Single-Story Stone Buildings (1890’s)**

Stone, a durable but cumbersome building material, was used for two structures where the threat of fire was a major consideration. Building 239, dating from 1892, held the highly flammable oil that powered the post’s lanterns, the major source of light before electricity was introduced. Building 219 was erected in 1895 as a sawmill and was later used as a wheelwright shop. The stone walls were not enough to prevent a fire in 1913, which partially demolished the structure; it was subsequently repaired.

The gable roof of Building 239 continues to be sheathed with corrugated metal as it has been since at least 1905. One window has been cut into each of the side walls, which were originally unbroken.

The metal roof of Building 219 has been replaced by modern asphalt shingles; the roof’s hipped configuration has been retained. Windows were originally 4/4 wood sash. The doorway in the southwest end was once wider and held double doors.

**Wood-Framed Buildings (1879 - 1917)**

Wood was used to construct a complex of stables and gun sheds for the artillery in 1903. Another construction campaign in 1916-1917 produced several one- and two-story utilitarian service buildings in the quartermaster area, including two garages (216, T-228), an office building (221), and a paint shop (225). Of this cohort, only the paint shop, now a storehouse, and one of the garages (T-228) survive. These buildings look very similar to a wood-frame storehouse (217), which property records claim was built in 1879. The powder magazine (237), with walls and a roof of corrugated metal, matches the scale and form of the other wood-frame buildings but is otherwise an anomaly.

The wood-frame structures northwest of Bloomington Road, regardless of their function, share similar attributes. All except the shed-roofed garage have gable roofs. The roofs, originally covered with slate, tile, or wood shingles, are now protected by asphalt shingles. Exterior walls are sheathed in clapboard; windows are typically multiple-light double-hung sash. Ornamentation is virtually nonexistent.

**Concrete and Concrete-Block Structures (1930’s)**

Fort Snelling was the focus of a number of federal relief projects during the Depression, and several buildings were produced as a result. The quartermaster oil station (215) is a small cast-concrete structure. The post exchange oil and gas house (220) is of rusticated concrete-block construction, while the CCC commissary warehouse (223) features smooth-faced concrete block. The latter building has a hipped roof; both oil stations have gable roofs. Concrete was also used for the stadium (demolished) on the parade grounds, a massive monolith with some Streamline Moderne detailing.

The design of these structures, particularly the CCC commissary warehouse and the stadium, is not sympathetic to the relatively homogeneous character of the other buildings developed in this area over a number of decades. Therefore, while the buildings produced during the Depression represent an important phase in Fort Snelling’s history, these structures are less appropriate as models for new construction.
FORT SNELLING UPPER POST: PROPERTIES WEST OF BLOOMINGTON ROAD
Prepared by Penny Petersen, Hess, Roise and Company
March 2010

Sources:
- Quartermaster/War Department inventory forms.

**EXTANT BUILDINGS**

<table>
<thead>
<tr>
<th>#</th>
<th>Other #</th>
<th>Use</th>
<th>Built</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>F-42</td>
<td>Cavalry Drill Hall</td>
<td>1907</td>
<td>Original: 244’-4” x 107’-10”, stone foundation, brick wall, tile roof. 1914: damaged by a tornado. 1922: spectators’ platform inside the building was extended the entire length of the hall. 1931: 477 theater-style chairs installed 1931 or later: arched doorways at ends of building and high windows partially filled in; garage doors added on south facade, and one was later filled in with brick Sometime after 1946: roof reclad with modern shingles.</td>
</tr>
<tr>
<td>210</td>
<td>F-43</td>
<td>Ordnance and CWS (Civil Works Service) Office and Warehouse, Shops</td>
<td>1907</td>
<td>Original: 28’ x 150”; stone foundation, brick walls, slate roof. 1936: several electric motors removed. Ca. 1936?: one double door on north has been in-filled with brick; gables have been added over doors on south side.</td>
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<td>#</td>
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</table>
| 211 | F-49    | Quartermaster Stable; Tank Park                   | 1909  | Original: 67’ x 195’; stone foundation, brick walls, slate roof.  
1916: fire damaged building, but it was repaired.  
1932: converted to tank and motor shed to house 42 vehicles; garage doors added.  
Ca. 1932?: small concrete-block addition attached to north end.                                                                 | ![Photo](image1.png) |
| 214 | F-56    | Quartermaster Stable; Veterinary Hospital; Motor Repair Garage | 1910  | Original: 67’ x 195’; stone foundation, brick walls, slate roof.  
1923: one-half of building converted to veterinary hospital.  
1931: partially destroyed by fire.  
1938: lab added for veterinarian.  
Ca. 1920s-1930s: a couple of single-story wings added to west side of building.                                                                 | ![Photo](image2.png) |
| 215 | F-57    | Quartermaster Gas Station                         | 1932  | Original: 12’ x 24’; concrete foundation, stucco walls, slate wall.  
Ca. 1940s?: walls on north end of structure removed to create sheltered exterior space; double door on west side replaced by single door; metal smokestack added. | ![Photo](image3.png) |
<table>
<thead>
<tr>
<th>#</th>
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<th>Use</th>
<th>Built</th>
<th>Comments</th>
<th>Photograph</th>
</tr>
</thead>
</table>
| 217| F-7     | Quartermaster Storehouse; Plumbing Shop  | 1879-1880, or ca. 1930s | Original: 26’ x 100’; stone foundation, wood walls, shingle roof.  
After WWI: dock along entire length of the front removed.  
Some researchers claim this is the oldest surviving wood structure at the fort, but photographic evidence suggests that this might not be true. While there was a building on this site by the 1880s, an early photograph appears to depict a shorter building with a window under a gable that is now gone. In various images, the number of chimneys varies from one to two. On the east facade, the number of doorways varies from three to one, and the number of windows from five to seven. The foundation now appears to be concrete. At the very least, this building was heavily modified at some point, perhaps in the 1930s. | ![Photograph](image1.jpg) |
| 218| F-11    | Forage House                              | 1894           | Original: 22’-2” x 77’; stone foundation, brick walls, slate roof.  
Note: Quartermaster records list the original roof material as “shingle,” but the existing slate may be original.  
Twentieth century: one window on the end of the building was enlarged. | ![Photograph](image2.jpg) |
## EXTANT BUILDINGS (Continued)

<table>
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<tr>
<th>#</th>
<th>Other #</th>
<th>Use</th>
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<th>Comments</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>F-58</td>
<td>Post Exchange; Oil and Gas House; Auto Repair Shop</td>
<td>1932</td>
<td>Original: 22’-6” x 60”; concrete foundation, concrete-block walls, shingle roof. (Replaced a very small gas station built in 1928.) Late 1930s: re-roofed by WPA. Rehab potential: The building is well suited to its current use.</td>
<td></td>
</tr>
</tbody>
</table>
### EXTANT BUILDINGS (Continued)

<table>
<thead>
<tr>
<th>#</th>
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<th>Use</th>
<th>Built</th>
<th>Comments</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>223</td>
<td>F-61</td>
<td>CCC Commissary Warehouse</td>
<td>1935</td>
<td>Original: 130’ x 135’; concrete foundation, concrete-block walls, asphalt shingles and built-up tar and gravel roof. (The first building labeled F-61, the Quartermaster Store House, was built in 1917 and salvaged in 1934.)</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>224</td>
<td>F-16</td>
<td>Forage House; Shops and Warehouse</td>
<td>1902</td>
<td>Original: 35’-4” x 184'-11”; stone foundation, brick walls, slate roof. Between 1933-1936: the CCC converted the building to Utility Shops and the full-length loading platform on the south side was removed and replaced by four smaller platforms; apparently parts of the limestone foundation were replaced.</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>225</td>
<td>F-60</td>
<td>Storehouse</td>
<td>1917</td>
<td>Original: 20’-6” x 77’-4”; concrete and concrete block foundation, wood walls, shingle roof.</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>
### Extant Buildings (Continued)

<table>
<thead>
<tr>
<th>#</th>
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<th>Comments</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>227</td>
<td>F-30 &amp;</td>
<td>NCO Quarters (2 families)</td>
<td>1904</td>
<td>Original: 27'-3&quot; x 37'-5&quot;; 2-story, stone foundation, brick walls, slate roof; 6/6 windows. 1938: original wood porch replaced by brick porch on concrete foundation by WPA labor.</td>
<td><img src="image1.jpg" alt="227 Photograph" /></td>
</tr>
<tr>
<td></td>
<td>F-31</td>
<td></td>
<td></td>
<td></td>
<td><img src="image2.jpg" alt="227 Photograph" /></td>
</tr>
<tr>
<td>228</td>
<td>F-45</td>
<td>Garage</td>
<td>1917</td>
<td>Original: 100’ x 20’; concrete foundation, wood walls, wood and paper roof. Bays for ten cars. 1920: moved here from WWI cantonment. Note: Probably served Buildings 227 and 229; is now overgrown by vegetation and collapsing.</td>
<td><img src="image3.jpg" alt="228 Photograph" /></td>
</tr>
<tr>
<td></td>
<td>(T228)</td>
<td></td>
<td></td>
<td></td>
<td><img src="image4.jpg" alt="228 Photograph" /></td>
</tr>
<tr>
<td>229</td>
<td>F-38</td>
<td>NCO Quarters (4 families)</td>
<td>1907</td>
<td>Original: 27’ x 76’; stone foundation, brick walls, slate roof; two-story. 1938: original wood porch replaced by brick porch on concrete foundation by WPA labor.</td>
<td><img src="image5.jpg" alt="229 Photograph" /></td>
</tr>
<tr>
<td></td>
<td>thru F-41</td>
<td></td>
<td></td>
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<td><img src="image6.jpg" alt="229 Photograph" /></td>
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</table>
### EXTANT BUILDINGS (Continued)

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</thead>
<tbody>
<tr>
<td>237</td>
<td>F-2</td>
<td>Powder Magazine</td>
<td>1904</td>
<td>Original: 30’ x 60’ stone foundation, corrugated-iron walls, corrugated-iron roof. Loading platform once ran along south side of building. Built on stone piers and raised above the ground. 1931: moved to this site; its original location is unknown.</td>
<td><img src="image1.jpg" alt="Photograph" /></td>
</tr>
<tr>
<td>239</td>
<td>F-15</td>
<td>Mineral Oil House</td>
<td>1892</td>
<td>Original: 19’ x 33’ stone foundation, stone walls, corrugated-iron roof. 1914: damaged by tornado. Twentieth century: Window on south side is added.</td>
<td><img src="image2.jpg" alt="Photograph" /></td>
</tr>
</tbody>
</table>
LANDSCAPE FEATURES AND OBJECTS
Copies of the maps that are referenced are available at the Minnesota Historical Society’s Fort Snelling Visitor Center. The aerial photographs are at the John R. Borchert Map Library, University of Minnesota.

<table>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Nursery Plat</td>
<td>Ca. 1930s</td>
<td>The “Nursery Plat” labeled on the 1939 map appears to be in place in 1937 aerials.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grove</td>
<td>Ca. 1940s</td>
<td>The diagonal paths in this vicinity are in place in 1937 aerials. Few, if any, remain.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Play Area, Ball field, Parking Lot</td>
<td></td>
<td>The diagonal paths in this vicinity are in place in 1937 aerials. Few, if any, remain, having been obliterated by the contemporary parking lot.</td>
<td></td>
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<tr>
<td>#</td>
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<tr>
<td></td>
<td></td>
<td>Minnehaha Avenue</td>
<td></td>
<td>A road following the alignment of Minnehaha Avenue is apparent on maps by the 1880s. It is important to maintain the section that survives and, if possible, restore the alignment to the west that is now a parking lot.</td>
<td><img src="image1.png" alt="Minnehaha Avenue" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bloomington Road</td>
<td></td>
<td>A road following the alignment of Bloomington Road is apparent on maps by the 1880s. It is important to maintain.</td>
<td><img src="image2.png" alt="Bloomington Road" /></td>
</tr>
</tbody>
</table>
|        |         | Rail Corridors       | Ca. 1902 | 1882-1885: map shows a railroad edging the Mississippi River bluff, but there is no apparent spur line.  
1902: map shows a “proposed spur track”.  
Ca. 1910: an updated 1890 base map shows rail spur lines to Quartermaster area.  
1945: the spur lines are very clear in an aerial photograph.  
Note: the existing light-rail line (pictured) is near the alignment of the rail spur that was furthest to the south and served the WPA warehouse complex. | ![Rail Corridors](image3.png) |
### LANDSCAPE FEATURES AND OBJECTS (Continued)

<table>
<thead>
<tr>
<th>#</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Light Standards</td>
<td></td>
<td>Concrete light standards with original faceted lamps are typical of the 1910s-1920s.</td>
<td><img src="image1.jpg" alt="Photograph" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td></td>
<td>The function of this post/marker is not known.</td>
<td><img src="image2.jpg" alt="Photograph" /></td>
</tr>
</tbody>
</table>
# Other Use Built Demolished Comments Photograph

202 F-24 Gun Shed 1903, 1914 After 1996 Site is now parking lot.

203 F-22 Stables/Garage 1940 After 1996 Site is now occupied by sports field.

205 F-27 Workshop 1903 Ca. 2000: moved to the east to serve sports fields on parade grounds.

206 F-26 Workshop 1903 Ca. 2000: moved to the east to serve sports fields on parade grounds.
<table>
<thead>
<tr>
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<th>Built</th>
<th>Demolished</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>207</td>
<td>F-23</td>
<td>Gun Shed</td>
<td>1903, 1914</td>
<td>After 1996</td>
<td>Site is now part of Leonard H. Neiman Youth Athletic Complex (sports fields).</td>
</tr>
<tr>
<td>208</td>
<td>F-6</td>
<td>Garage</td>
<td></td>
<td>Before 1996</td>
<td></td>
</tr>
</tbody>
</table>
1910: addition of 32 new stalls for horses.  
1914: damaged by a tornado.  
1919: damaged by fire.  
1926: Quartermaster authorized removal of side stalls, likely indicating that it was no longer used for horses.  
1931: building converted to Motor Storage with capacity of 54 vehicles.  
1934: remodeled as CCC clothing and equipage warehouse. |
| 212 | F-44    | Barracks             | 1907   | Ca. 1990   | Original: 27’ x 112’ with 26’-10” x 40’ wings, stone foundation, brick walls, slate roof.  
1938: addition of two squad rooms and day room in basement. |

Photograph

35
<table>
<thead>
<tr>
<th>#</th>
<th>Other #</th>
<th>Use</th>
<th>Built</th>
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<th>Comments</th>
<th>Photograph</th>
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<tbody>
<tr>
<td>216</td>
<td>244</td>
<td>Garage (CCC)</td>
<td>1930s</td>
<td>Ca. 1990</td>
<td>Demolished.</td>
<td></td>
</tr>
<tr>
<td>221</td>
<td></td>
<td>Office Building</td>
<td>1917</td>
<td>1949</td>
<td>Materials salvaged.</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Other #</td>
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</tr>
<tr>
<td>226 or T226</td>
<td>F-3</td>
<td>Scale Office</td>
<td>Before 1996</td>
<td>Site is now empty.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>N/A</td>
<td>Office, Warehouse, Shops, WPA Warehouse</td>
<td>1938</td>
<td>After 1996</td>
<td>Original: 300’ x 80’, concrete foundation, concrete-block walls, built-up asphalt flat roof. Site is now part of the light-rail line tunnel.</td>
<td></td>
</tr>
<tr>
<td>236</td>
<td></td>
<td>Quartermaster Shed</td>
<td>Before 1996</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>244-247</td>
<td>F-51, F-52, F-54, F-55</td>
<td>NCO or Civilian Employee’s Quarters</td>
<td>1909-1910</td>
<td>After 1996</td>
<td>Original: four vernacular wood-frame houses, stone or brick foundations, wood walls, shingle roofs. 2009: now light-rail line parking lot.</td>
<td></td>
</tr>
</tbody>
</table>
**Fort Snelling West District Interiors Conditions Survey**

**Introduction**

During the course of preparing the Fort Snelling West District – Historical Context Survey and Treatment Guidelines the project team obtained a Minnesota Historical Society Legacy Grant to conduct an interior survey of the historic buildings of the West District. This survey is meant to supplement the Historical Context Study portion of the Station Area Plan. The survey was done on February 17th and 19th, 2010.

Interior surveys have been conducted at the adjacent Fort Snelling Upper Post and nearby Historic Fort Snelling, but up to this point, the West District has largely been ignored in previous studies. The intent of this interior survey was to bring the type of information available about the historic buildings within the West District up to a similar level as the rest of Fort Snelling. This information determined the Development Guidelines set by this report for the reuse of existing buildings, allowable additions, and allowable development on sites containing historic buildings to inform reviewers, planners, and future developers of the historic nature of the former Quartermaster’s area.

Where interior historic and character defining elements remain, they should be protected and retained where feasible. All work should be in compliance with the Secretary of the Interior Standards.

A summary of the building conditions can be found in Appendix III.
Fort Snelling West District
Interiors Conditions Survey
February 17 and 19, 2010

201 – Cavalry Drill Hall

The interior of this building was not surveyed. The Northern Star Council of the Boy Scouts owns the building and they are currently rehabilitating it for use as an “urban base camp.” This rehabilitation will go through the Federal Section 106 Review.

Building 201 - Exterior, south elevation
210 - Ordnance and CWS Office

Current Use:  
The building is owned by the VA.  
The building is vacant, but used for storage of miscellaneous items.

Structure:  
Brick load-bearing walls with stone foundation walls.  Roof structure not visible – assumed to be wood.  
Unfinished basement contains boiler and storage space.  
No usable attic space.

Condition of Interior:  
Interior walls are gyp or plaster, or CMU.  Most exterior brick walls are exposed, but painted.  Paint is peeling.  
Floor tiles (12x12±) in poor condition; loose and breaking.  
Some areas have lay-in ceiling grid, others areas have panels attached to structure.  
Double hung windows are in fair to poor condition, with broken glass.  
Appears to be watertight - did not see evidence of water damage.

Interior Historic/Character Defining Elements:  
No major features, but some unique artifacts remain: vault door; jail-style door in basement.

Rehabilitation Considerations:  
The exterior retains good integrity.  A number of original windows and the slate roof survive.  The interior has been unsympathetically modernized.  Most of the changes, however, appear reversible.
Building 210 - Interior, jail-style door in basement; vault door, first floor

Building 210 - Interior, underside of first floor

Building 210 - Interior, first floor

Building 210 - Interior, stair to basement
211 – Quartermaster Stable

Current Use:
The building is owned by the VA.
The building is vacant, but used for storage of miscellaneous items.

Structure:
Brick load-bearing walls and timbers support exposed wood structural framing.
Wood framing supporting mezzanine level has been strengthened with steel columns and beams. Concrete slab floor, no basement.

Condition of Interior:
Mezzanine is in fair to poor condition. Seems structurally sound, but floor is uneven with missing pieces; walls are in poor condition.
Wood framing appears to be in good condition; paint is peeling off.
Interior and exterior brick walls are in fair condition. They have been painted multiple times, and the paint is peeling off. Repointing is necessary.
Wood walls have been painted multiple times, and the paint is peeling.
Double hung windows are in poor condition, with rotted wood and broken glass.

Interior Historic/Character Defining Elements:
Exposed wood structural framing geometry and repetition is visually interesting.
Interior glass and wood office walls.
Hayloft.

Rehabilitation Considerations:
Reopening the windows in the roof monitor would enhance the interior. Although the horse stalls are gone, the interior retains a good deal of integrity. Finding an alternative for the garage doors would greatly help the building’s appearance as would removing the concrete-block addition on the north end, which is in poor condition. The addition might date from the period of significance, though, so its rehabilitation could be justified.
214 – Quartermaster Stable:

(Due to hazardous materials, the building is considered a health risk and the survey team was not allowed to enter. Photos taken from doorway.)

Current Use:
- The building is owned by the VA.
- The building is vacant.

Structure:
- Brick load-bearing walls with timber post and beam structure is visible.
- Concrete slab floor, no basement.
- Mezzanine or attic space may be present, but inaccessible during survey.

Condition of Interior:
- Water damage is visible on the walls and ceiling.

Interior Historic/Character Defining Elements:
- This building looks like 211 on the exterior, but the interior is very different. It was used most recently as a medical research area and it has a higher level of finish, with a full ceiling and acoustical tiles on the walls.
- It is assumed that the upper level once was similar to the hayloft of Building 211, but its condition is unknown.

Rehabilitation Considerations:
- The interior has been modernized, but the wood columns are reminders of the original structure. A dropped ceiling hides the monitor level.
- Removing the ceiling and reopening the windows in the roof monitor would enhance the interior.
215 – Quartermaster Gas Station

Current Use:
The building is owned by the VA.
Building is vacant.

Structure:
Unknown. Concrete foundation, with no basement. No usable attic.

Condition of Interior:
Very small former gas station, consisting of one room, with two doors and windows.
Building is in generally poor condition, in need of cosmetic and structural repairs.
Concrete floor is severely cracked, possibly heaving.

Interior Historic/Character Defining Elements:
No major features except its small size.

Rehabilitation Considerations:
The small size of this structure might make finding a reuse challenging, but the gas station is an important representation of the military’s shift in reliance from horses to motorized vehicles, and it should be retained in place.
Building 215 - Exterior, roof overhang

Building 215 - Interior
217 – Quartermaster Storehouse

Current Use:
The building is owned by the VA.
The building is vacant.

Structure:
Wood frame, concrete foundation. No basement or usable attic.

Condition of Interior:
Floor tiles (9x9±) in poor condition; loose and breaking.
Large joints in flooring exposed.
Exterior walls appear to be painted wood paneling of an unknown era.
Wood walls appear to be in good condition.
High ceiling, with panels attached to structure, appear to be in good condition.
No visible evidence of water damage.
Double hung windows appear to be in relatively good condition.

Interior Historic/Character Defining Elements:
Defining features include the board and batten ceilings and the openness of the spaces.

Rehabilitation Considerations:
Rehabilitation Considerations: The exterior has been modified over time, but it still represents the quartermaster function of this area. The interior has been modernized, most recently around World War II.
Building 217 - Interior, wood exterior wall

Building 217 - Interior, spaces are light and open

Building 217 - Interior, board and batten ceiling

Building 217 - Interior, flooring in poor condition
218 – Forage House

Current Use:
The building is owned by the VA.
The building is vacant, but used for storage of miscellaneous items.

Structure:
Building is small – one room. Brick load-bearing walls, wood roof truss, stone foundation. No basement or usable attic.

Condition of Interior:
Part of the room has a dark brown wood beehive ceiling, the other part is exposed structure.
Exterior brick walls are painted white.
At some point a large opening was filled in with clay tiles, painted white.
Appears to be structurally sound, but cosmetic repairs are necessary.
No visible evidence of water damage.

Interior Historic/Character Defining Elements:
Defining construction elements include the exposed wood roof structure, the wood ceiling, and the brick walls.

Rehabilitation Considerations:
Both the interior and exterior are little altered. The roof framing and brick walls are exposed on the east half of the interior and could be attractive features for a new use.
219 – Sawmill and Wheelwright

**Current Use:**
The building is owned by the VA.
The building is vacant, but used for storage of miscellaneous items.

**Structure:**
Stone load-bearing walls and foundation. Roof structure not visible – assumed to be wood. Building consists of two rooms.

**Condition of Interior:**
Plaster covering stone walls in extremely poor condition, with large cracks and large areas missing.
Double hung windows in fair to poor condition.
Wood ceiling is in fair condition.
Some areas of water damage are visible.
Many cosmetic repairs are necessary.

**Interior Historic/Character Defining Elements:**
Some of the windows have bars covering them – an indication that this building once held valuable items.
Defining construction elements include the wood ceiling.

**Rehabilitation Considerations:**
The exterior retains good integrity. This is also true on the interior, although some modern partitions have been added. The stone walls are exposed on the interior; there is an older wood-plank ceiling.
220 – Auto Repair Shop

Current Use:
The building is owned by the VA.
The building is still operating as an auto repair shop.

Structure:
Masonry load-bearing walls, concrete slab floor. Roof structure not visible – assumed to be wood.

Condition of Interior:
Building is in good condition, but dated.

Interior Historic/Character Defining Elements:
No major features except openness of service bays and arrangement of rooms: customer area; toilet; storage/office; and service.

Rehabilitation Considerations:
The building is well suited to its current use. It could also be rehabilitated for other uses appropriate to its size.
222 – Subsistence/Quartermaster Storehouse

Rehabilitation Considerations:
A combination of buildings of several vintages, Building 222 has a variety of spaces offering many options for reuse. Original features—such as the cooler rooms—should be retained, although the use could be altered. Many original windows also survive and should be retained if feasible. If it is necessary to address the high window sills in the 1935 section, the floors should be raised rather than dropping the sills.

Because of the large size of this building, and the differences between additions, each addition will be analyzed individually.
222 - 1904 “F18 and F19”

F18 and F19 were originally twin buildings running parallel to each other, and perpendicular to Bloomington Road. The majority of F19 was lost in a fire in 1929, however the east end is still in place. The 1935 Warehouse was built where the destroyed portion had been.

Current Use:
The building is owned by the VA. Used for storage of miscellaneous items.

Structure:
- Brick load-bearing walls with stone foundation.
- Brick columns support timber beams in the basement. First floor has timber columns and beams. Usable attic with wood framed roof structure.
- Basement level is half above grade, allowing for natural daylighting.

Condition of Interior:
- Cosmetic repairs are necessary.
- Double hung windows at basement, first floor and attic levels in fair condition.

Interior Historic/Character Defining Elements:
- Building F19 first floor has a higher level of finish, including decorative metal ceilings and beam covers.
- Building F19 has a board and batten ceiling in the attic level.
- First floor of F18 has a number of walk-in coolers, with wood paneled doors and heavy-duty hardware.
- Exposed wood roof structure in attic of F18.
- Exposed brick columns and wood floor structure in basement of F18.
- Some of the basement windows of F18 have bars covering them – an indication that this building once held valuable items.
222 - 1905 Root House

Current Use:
The building is owned by the VA.
The building is currently used for storage of cafeteria items.

Structure:
Brick load-bearing walls, concrete slab floor. Roof structure not visible – assumed to be wood. There is no basement or attic.
Building is entered at grade level on north elevation, which is several feet lower that adjacent 1904 Building F18.
Building consists of four main rooms, with several smaller rooms accessed through the main rooms.

Condition of Interior:
Portions of plaster walls have fallen, exposing exterior brick walls, and showing signs of water damage.
Paint is peeling from walls and ceiling throughout.
Cosmetic repairs are necessary.
Double hung windows on north elevation are in fair to poor condition.
South elevations windows appear to be awning, in fair to poor condition.

Interior Historic/Character Defining Elements:
Several historic light fixtures remain in one of the rooms – but interestingly, they do not match each other.
A terrazzo floor has been installed in one of the main rooms.
A beadboard-lined shaft extends from the ceiling to roof-top vent.
Some of the windows have bars covering them – an indication that this building once held valuable items.
Diagonal slat wood door connecting the Root House to F18.
222 - 1914 Annex

Current Use:
The building is owned by the VA.
The building is vacant, but used for storage of miscellaneous items.

Structure:
Brick load bearing walls with stone foundation.
First floor has timber columns and beams. Usable attic with wood framed roof structure.
This building provides a link between original buildings F18 and F19.

Condition of Interior:
Cosmetic repairs are necessary.

Interior Historic/Character Defining Elements:
It has the only two entrances facing Bloomington Road, one at the basement and one at the first floor.
Two skylights in the attic space add character to the space.
Office in basement with windows to interior areas.
Defining construction elements include wood columns and cast iron caps.
222 - 1935 Warehouse

Current Use:
The building is owned by the VA.
The building is currently in use as a warehouse.

Structure:
Cast-in-place concrete structure.
Four levels of open storage area, including basement.

Condition of Interior:
Some water damage is visible on the third floor.
Has a freight elevator (elevator is new, but looks like the location is original)
Cosmetic repairs will be necessary.
Warehouse-style windows span between exterior concrete columns.
Many of the window panes have been painted, may need to be replaced to restore visibility.

Interior Historic/Character Defining Elements:
Cast-in-place concrete structure with spanning warehouse-style windows is unique for Fort Snelling West District.
The first floor has several offices with windows to the interior.
The openness of the warehouse is defining of its use and construction.
223 – CCC Commissary Warehouse

Current Use:
The building is owned by the VA.
This building is currently used to store large equipment and vehicles.

Structure:
A combination of wood, steel and iron trusses, supported by steel columns and CMU exterior walls. There is no basement. Roof structure is exposed with no attic.

Condition of Interior:
Building interior is very industrial – quantity of cosmetic work required is dependent upon what type of use the building will have in the future.

Interior Historic/Character Defining Elements:
The exposed curved iron truss roof structures of the northern and southern parts of this building are a wonderful surprise discovered upon entry. It is likely that the trusses were relocated from a demolished building elsewhere.

Rehabilitation Considerations:
The rather drab exterior hides a unique framing structure of salvaged steel that is exposed—and should remain exposed—on the interior. The large spaces offer an opportunity for a variety of uses.
224 – Forage House

Current Use:
The building is owned by the VA.
The building is currently used for storage of medical equipment.

Structure:
Brick load-bearing walls with stone foundation. First floor has timber columns and beams. Roof structure is not visible, assumed to be wood. No usable attic.
Long building has four main rooms: a small room at each end; and two larger rooms in the center. (We were unable to enter and survey small room at west end.)

Condition of Interior:
Exterior and interior brick walls have visible cracking/separating – some repointing will be necessary.
Many cosmetic repairs will be necessary.
Double hung windows at first floor are in fair to poor condition.
(We did not have access to basement for survey.)

Interior Historic/Character Defining Elements:
Regularly space suspended light fixtures hang from the ceiling of the two large rooms, with exposed light bulbs.
Defining construction elements include: board and batten ceiling; wood columns and beams; and exposed brick walls.

Rehabilitation Considerations:
Although the interior has a modern dropped ceiling and some modern partitions, the brick walls remain exposed and original windows are in place.
Building 224 - Interior, exterior door

Building 224 - Interior, board and batten ceiling, exposed brick walls

Building 224 - Interior, Exposed brick interior wall, with infill

Building 224 - Interior

Building 224 - Interior, wood columns and beams
225 - Storehouse

Current Use:
The building is owned by the VA.
The building is currently used for storage of files.

Structure:
Wood framed walls and roof, CMU foundation. No basement or usable attic.
The long building has four main rooms with plaster walls and ceilings.

Condition of Interior:
Water damage is visible.
Cosmetic repairs are necessary.

Interior Historic/Character Defining Elements:
No major features.

Rehabilitation Considerations:
The straightforward interior has plaster walls and an older dropped ceiling.
227 – NSO Quarters
Survey team was not allowed to enter this building due to safety concerns. It may have interior features similar to the home on Officer’s Row in the Upper Post, including fireplaces, decorative stair balustrades, and decorative wood trim.

Current Use:
The building is owned by the VA.

Rehabilitation Considerations:
Although it was not possible to investigate the interior, the residential scale of this property could accommodate a variety of uses.

228 - Garage

Current Use:
The building is owned by the VA.
The building is vacant and collapsing.

Rehabilitation Considerations:
Given the poor condition of this building, rehabilitation is problematic. If the building is not able to be saved, it should be appropriately documented prior to demolition.

229 – NCO Quarters
Survey team was not allowed to enter this building due to safety concerns. It may have interior features similar to the home on Officer’s Row in the Upper Post, including fireplaces, decorative stair balustrades, and decorative wood trim.

Current Use:
The building is owned by the VA.

Rehabilitation Considerations:
Although it was not possible to investigate the interior, the residential scale of this property could accommodate a variety of uses.
237 – Powder Magazine

This building currently outside of the National and State historic districts, but it is strongly recommended that the district boundaries be redrawn to include it.

Current Use:
The building is on property leased by Metropolitan Council from the VA.
The building is vacant.

Structure:
One room building with exposed wood structure – timber columns and beams, wood roof trusses.

Condition of Interior:
Interior is very basic - quantity of cosmetic work required is dependent upon what type of use the building will have in the future. Building is not conditioned and appears to have no insulation.

Interior Historic/Character Defining Elements:
Very simple, corrugated metal clad building unique to Fort Snelling West District.
Defining construction elements include the exposed wood structure and wood walls up to roof line.

Rehabilitation Considerations:
The interior is wide open with wood columns, beams, trusses, and walls, and could accommodate a number of uses other than cold storage, but the openness should be retained as much as possible.
239 – Mineral Oil House

The survey team did not have access to this building.

The building has recently been restored. It is currently outside of the National and State historic districts, but it is strongly recommended that the district boundaries be redrawn to include it.

**Current Use:**

- The building is on property leased by Metropolitan Council from the VA.
- The building is vacant.

**Rehabilitation Considerations:**

- It was not possible to investigate the interior of this building, which appears to be in very good condition. The solid stone walls are character-defining features, so openings should not be enlarged or added.
Development Guidelines

Introduction

The West District’s wide variety of buildings and outdoor spaces offer diverse opportunities for new activities and investment. The Development Guidelines begin by identifying the Treatment Zones of the West District, describing within each zone the location and extent of reuse, additions, and new construction allowed. The remaining sections of the Development Guidelines provide information about how the rehabilitation and new construction may occur. The Development Guidelines are divided into seven sections:

- Treatment Zones
- Rehabilitation Guidelines
- New Construction Guidelines
- Landscape Guidelines
- Health and Safety Guidelines
- Sustainable Design Strategies
- Property Management During Development

Relationship to Secretary of the Interior Standards

The existing West District buildings are located within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards.

Definition of Primary and Secondary Elevations

All historic districts possess an architectural hierarchy which helps guide review and approval of modifications to exterior building elevations and the surrounding grounds. Usually building elevations most readily visible from the public right-of-way are considered “primary elevations” and those not visible from the street are considered “secondary”. Generally in the West District, by design and placement, the elevations facing and/or visible from Bloomington Road and/or Minnehaha Avenue would be the primary elevations, and the backs of the buildings are the secondary elevations.
However, many buildings in the West District are unique in that they may have more than one primary elevation. This could be due to visibility from both Bloomington Road and Minnehaha Avenue, their small size, placement on their site, or a combination of these factors. Examples include buildings 201, 210, 215, 217, 218, 219, 220, 224, 225, 237, and 239. Therefore, building elevation treatments will need to be carefully considered on a building-by-building basis.

**Primary Elevation Treatment**

- The fenestration (window and door placement) should be retained as closely as possible.
- All repairs and/or replacement elements should replicate the original in material, design, scale, profile and (if appropriate) protective finish.
- All roof and roof elements, such as dormers, chimneys and roof ventilators should be retained as originally designed. New construction and ramping should be avoided whenever possible.

**Secondary Elevation Treatment**

- While the original fenestration should be retained, some modifications may be appropriate.
- All repairs and/or replacement elements should replicate the original in material, design, scale, profile and (if appropriate) protective finish.
- New primary entrances can be introduced on secondary elevations.
- Necessary new construction and accessibility ramping should be located on these facades when possible.

**Street Naming - Tower Avenue**

There is a one-block long segment of road running east-west between Federal Drive and Bloomington Road, separating Treatment Zone G Building Parcels G1 and G2. The actual name of this street is not clear. Hennepin County Property maps list it as “Unknown”. Google Earth/Google Maps show it as “Airport Service Drive”. Bing maps and Mapquest show it as “Tower Road”. Tower Avenue was selected as the name to use for this report because historically a road named Tower Avenue followed a similar route.

*Much of the information in the following Guidelines sections was based on the “Fort Snelling State Park – Area J and Officers’ Row – Development Design Guidelines”, Winter 2003, prepared by the Minnesota Department of Natural Resources, the Fort Snelling State Park Upper Bluff Consultation Team and Thomas R. Zahn & Associates.*

*Information was also gathered from “Design Guidelines For Minneapolis Park and Recreation Board Development at Fort Snelling, Including Parade Ground, Quartermaster Area, Artillery Complex, and Cavalry Drill Hall,” April 1999; Prepared for the Minneapolis Park and Recreation Board by Charlene Roise; Hess, Roise and Company.*
West District Treatment Zones

Introduction

This study identifies seven Treatment Zones in the West District:

- F - in the former Cavalry area
- G - in the former Artillery area
- H1 - in the former Quartermaster stables area
- H2 - in the former Quartermaster warehouses area
- H3 - in the former Quartermaster Non-Commissioned Officers Quarters (NCO) area
- J1 - in the former Nursery Plat and current Grove/Play Area/Ballfield areas
- J2 – in the former Nursery Plat and current Navy Reserve area
- K - in the former Works Progress Administration (WPA) yard

The series of Zones begins with “F” because they are intended to serve as a continuation of the Development Zones A-E identified at the Upper Post by the “Fort Snelling Upper Post Open Space & Landscape Development Guidelines”, 2008.

Approach to the Future Level of Development

These guidelines recognize the fact that redevelopment of the historic buildings and open spaces in the West District may require some additional incentives to make that goal financially feasible. To that end, the buildings and open spaces of each Treatment Zone have been reviewed to determine how and where new development could appropriately take place to provide the additional density that may be necessary. Each of the development zones have areas identified as being favorable for new development, ranging from minimal changes limited to improving the accessibility of existing buildings to larger areas of open land available for new construction.

Areas available for new construction are identified as Building Parcels, and they are further defined in the Treatment Zone texts of this section of the study. A comparison of the historic and current aerial photographs and maps helped determine the level of development allowed in each treatment zone. Historic areas of the West District that are mostly intact, such as Treatment Zone H2, have more restricted development guidelines than areas with no remaining buildings or landscapes, such as Treatment Zone J1.
Allowable coverage of the building parcels was determined using a similar method of comparison. Historic building and hard surface coverage was calculated and for the purposes of determining allowable new coverage. Because the period of significance for the West District includes a time period when buildings were both added and demolished within the district, and changes within the last few decades have included additional demolition, determining appropriate building coverage for new structures within the West District Treatment Zones required the compilation of multiple reference sources. These sources included recent surveys and aerial photos, historic aerial photos (1937) and historic maps (1939). In addition, treatment zone boundaries from the Fort Snelling Upper Post Open Space & Landscape Development Guidelines (Favorot Guidelines) and proposed West District Treatment Zone Boundaries were referenced. Sources were imported into vector based software (AutoCAD), scaled relative to each other based on the most recent survey and existing buildings, and overlaid to form a composite. This composite presented an amalgam of building footprints, streets, curbs, hard-surface (pavements and other impervious surfaces) and property boundaries, which could be divided into distinct square foot areas for analysis.

Historic Building Coverage compared the area of historic building footprints, both existing and demolished within the boundaries of a proposed treatment zone, relative to the total area of the proposed treatment zone. Additional calculations compared historic building footprints relative to total treatment zone area minus no-build areas, such as boulevards and streets. The removal of no-build areas naturally yielded a higher historic coverage percentage however, this number was determined to be inconsistent with coverage calculations performed for Treatment Zones within the Upper Post (Favorot Guidelines), therefore, the lower percentage of historic building coverage was used as a basis for New Building Allowable Coverage.

Historic Hard Surface Coverage was determined utilizing the same composited vector document used for historic building coverage. In this case, the primary source was a 1937 aerial photo that illustrated pre-WWII conditions. Pavements were traced and vector lines created to allow area computation. These areas were then compared to total proposed treatment zone areas to determine the Historic Hard Surface Coverage percentage within that zone. These percentages were used as a basis for New Hard Surface Allowable Coverage.

Calculations are shown in Appendix II.
Upper Post Favrot Study Area

West District Area
**Treatment Zone F**

*Treatment Zone F* is located at the northern-most end of the study area. It is bordered by Bloomington Road on the east, the National Register District boundary and State Trunk Highway 55 on the north, Federal Drive on the west, and the legal boundary established by GSA and Department of the Interior deeds on the south. A portion of Treatment Zone F is within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards. There is no visible physical separation between Zone F and G, because the designation exists in the language of the deed only. Tower Avenue provides a natural boundary, and currently separates property ownership, however, the deeds must be acknowledged because they establish specific development criteria for the individual properties. For this reason Treatment Zones F and G are separate but related. See the Treatment Zone map.

Two building parcels have been identified within Zone F for potential new development: F.1 and F.2.

**Existing historic buildings:** #201 Cavalry Drill Hall (28,000 SF footprint) (highly visible from Highway 55)

**Current use of site:** This site is under the ownership of the Northern Star Council of the Boy Scouts of America. It is the site of their future Twin Cities “Urban Base Camp” in Building #201 and eventual headquarters in a future, adjacent building. The Northern Star Council property ownership extends south into Treatment Zone G, as well as south and west beyond the National Register District boundary into the area containing Building Parcel F.2.

**Allowable building re-use/additions:** Reuse of Building #201 is encouraged for uses compatible with its size. Work altering the exterior appearance of the building should be minimized. Additions and alterations to provide accessibility into and throughout the building, upgrade life safety systems, and rehabilitate it for reuse may be allowed where necessary. All work shall be in compliance with the Secretary of the Interior Standards and will be subject to a Section 106 Review, as required by agreements prepared when the property was transferred from Federal ownership to the Minneapolis Park and Recreation Board (MPRB). The Northern Star Council subsequently purchased the property from the MPRB.

**Allowable new construction, building placement, density, and setbacks:**

Building Parcel F.1 (19,300 SF) would be available for limited development, most likely as an extension of development occurring in Zone G.1.

- One new building will be allowed north of Tower Avenue, similar in scale to #201 (approximately 28,000 SF footprint). This building will be allowed to be on Building Parcels F.1, F.2, and/or G.1.
- Sightlines from Highway 55 to Building #201 must be maintained.
- Buildings should align with the street grid, perpendicular or parallel to Tower Avenue.

Building Parcel F.2 (21,400 SF) would be available for development.

- One new building will be allowed north of Tower Avenue, similar in scale to #201 (approximately 28,000 SF footprint). This building will be allowed to be on Building Parcels F.1, F.2, and/or G.1.
• Sightlines from Highway 55 to Building #201 must be maintained.
• Buildings should align with the street grid, perpendicular or parallel to Tower Avenue.

Allowable building height and materials:
• A two story building will be allowed in this zone, but the building height may not exceed the height of Building #201.
• Building should have a similar roof shape and pitch as Building #201.
• Stylistically appropriate roof elements (monitors, dormers, etc) are encouraged.
• Brick, unglazed ceramic or a durable clapboard scale siding should be used.
• No metal or synthetic primary cladding materials should be used.
• New construction should be recognized as being of its time.

Street presence: Building 201’s presence on Bloomington Road should be maintained and not be compromised.

Existing historic landscapes/features: NA

Allowable land uses: Zone F land and open space would be available for a wide range of uses compatible with its size and uses of adjacent properties within the West District and Upper Post.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
Treatment Zone G is bordered by Bloomington Road on the east, the boundary established by the GSA and Department of the Interior deeds on the north, Treatment Zone H1 on the south, and the National Register District boundary on the west. Treatment Zone G is within the National Register and State Historic District, so all new construction must be consistent with the Secretary of the Interior Standards.

There is no visible separation between Zone F and G when at the site, because the designation exists in the language of the deed only. Tower Avenue seems to be a natural boundary, but actually runs through Zone G. For this reason Treatment Zones F and G are separate but related. Because Zone G is bisected by Tower Avenue, two building parcels have been identified for potential new development: G.1 and G.2. See the Treatment Zone map.

Existing historic buildings: Historic buildings no longer remain on site.

Current use of site: The area north of Tower Avenue is under the ownership of the Northern Star Council of the Boy Scouts of America. It is the site of their future Twin Cities base camp and headquarters building. The portion of the site south of Tower Avenue is under the ownership of MPRB and currently contains sports facilities, including portions of an indoor tennis facility and a baseball diamond. These guidelines do not call for removal of these facilities. They would only apply if or when the MPRB wishes to cease these uses and/or sell the site.

Allowable new construction, building placement, density, and setbacks:

**Building Parcel G.1** (62,600 SF) would be available for a range of potential uses compatible with its size and uses of adjacent properties within the West District and Upper Post.

- One new building will be allowed north of Tower Avenue, similar in scale to #201 (approximately 28,000 SF footprint). This building will be allowed to be on Building Parcels G.1, F.1 and/or F.2.
- Setbacks along Bloomington Road should match the setback at Building #201.
- Buildings should align with street grid (perpendicular or parallel to Bloomington Road)

**Building Parcel G.2** (178,000 SF) would be available for a range of potential uses compatible with its size and uses of adjacent properties within the West District and Upper Post.

- Multiple new buildings will be allowed south of Tower Avenue, similar in scale to existing historic buildings #211 and #214 in Treatment Zone H1. Buildings arranged to create courtyards are encouraged.
- Allowable coverage of 17% would permit new building footprints to total 30,300 SF.
- Buildings should align with street grid (perpendicular or parallel to Bloomington Road)
- Setbacks along Bloomington Road should match the setback at Building #201.
- A buffer should be created between the historic West District and new development outside of the historic boundary. A no-build zone along the west National Register District boundary shall align with the west setbacks at building #211 and #214 (see Building Parcels H1.1 and H1.2).
Allowable building height and materials:
- Two story buildings will be allowed in this zone, but the building height may not exceed the height of Building #201.
- Buildings on Parcel G.1 should have a similar roof shape and pitch as Building #201. Buildings on Parcel G.2 should have a similar roof shape and pitch as Buildings #210 and #214. Stylistically appropriate roof elements (monitors, dormers, etc) are encouraged.
- Brick, unglazed ceramic or a durable clapboard scale siding should be used.
- No metal or synthetic primary cladding materials should be used.
- New construction should be recognized as being of its time.

Street presence: Buildings shall have pedestrian entrances facing Bloomington Road or Tower Avenue. Buildings shall be articulated with windows and/or architectural elements to complement other existing historic West District structures. First floor elevations should be slightly higher than the adjacent roadway but should not require a slope greater than 5% from the top of the curb elevation to the floor.

Existing historic landscapes/features: NA

Allowable land uses: Treatment Zone G land and open space would be available for a range of potential uses compatible with its size and uses of adjacent properties within the West District and Upper Post.

Parking strategies: Historically this zone contained a Motor Shed (#209), a Garage (#209), Stables (#203), and a corral. At one point Buildings #205 and #206 were used for tank storage. All of these buildings have since been demolished or moved, but a precedent for hard surface parking has been established and should be allowed in future development. Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
Treatment Zone H1

Treatment Zone H1 is bordered by Treatment Zone G on the north, Bloomington Road on the east, Minnehaha Avenue on the south, and the National Register District boundary on the west. Treatment Zone H1 is within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards. Six building parcels have been identified within Zone H1 for potential new development: H1.1, H1.2, H1.3, H1.4, H1.5, and H1.6.

Existing historic buildings:
- #210 Quartermaster Shops (4,300 SF footprint)
- #211 Quartermaster Stables (13,060 SF footprint)
- #214 Quartermaster Stables (14,870 SF footprint)
- #215 Quartermaster Gas Station (300 SF footprint)

Current use of site: This site is under the ownership of the VA and the Minneapolis Park and Recreation Board. Buildings are either vacant or used for storage.

Allowable building re-use/additions:
- Reuse of Building #210 is encouraged for uses compatible with its size. Additions and alterations to provide accessibility into and throughout the building, upgrade life safety systems, and rehabilitate it for reuse will be allowed where necessary. Work altering the exterior appearance of the building should be minimized.
- Reuse of Buildings #211 and #214 is encouraged for uses compatible with their sizes. In addition to allowing necessary additions and alterations to provide accessibility into and throughout the building, upgrade life safety systems, and rehabilitate the building for reuse, sympathetic additions will be allowed on the west sides of both buildings, identified as Building Parcels H1.1 and H1.2 (see below). Additions should be in a style and scale similar to the additions at Building #214. Work altering the exterior appearance of the building should be minimized, although a link between the buildings should not be discouraged as long as it an appropriate scale, existing character-defining features are not adversely affected, and the buildings continue to be perceived as two separate buildings.
- Reuse of Building #215 is encouraged for uses compatible with its size. However, because of its small size and lack of amenities such as toilets, it may be best to have a seasonal use, used for an information kiosk, or be restored to its original condition for viewing and interpretation.

Allowable new construction, building placement, density, and setbacks:

Building Parcel H1.1 (12,000 SF) would be available for sympathetic additions to Building 211.
- Allowable coverage of 20% would permit new addition footprints to total 2,400 SF.
- A buffer should be created between Building Parcel H1.1 and new development west of the historic boundary.
Building Parcel H1.2 (12,000 SF) would be available for sympathetic additions to Building 214.
- Allowable coverage of 20% would permit new and existing addition footprints to total 2,400 SF. (Two existing additions currently total 1,600 SF)
- A buffer should be created between Building Parcel H1.2 and new development west of the historic boundary.

Building Parcel H1.3 (20,800 SF) would be available for a range of potential uses compatible with the size and uses of adjacent properties within the West District and Upper Post.
- New construction should be similar in scale and proportions to Buildings #211 and 214.
- The main portion of new construction should not exceed the length or width of Buildings #211 and 214.
  o Maximum width: 70 ft±
  o Maximum length: 160 ft± (This dimension is 40’ less than the length of Buildings #211 and 214 to allow for a larger buffer space around existing Building #210.)
- “T”’s and “L”’s protruding from the main portion of the new construction may total to 2,400 SF. They should be on the west elevation and similar in size and scale to the existing additions on the west elevation of Building #214.
- New buildings should align with street grid, parallel to Bloomington Road.
- Setback along Bloomington Road should match the setback at Building #201.
- Construction on Parcel H1.3 may be linked to new construction on Parcel H1.4; however, the presence of the link should be minimized so that they each appear to be individual buildings when viewed from Bloomington Road or Minnehaha Avenue.

Building Parcel H1.4 (22,000 SF) would be available for a range of potential uses compatible with the size and uses of adjacent properties within the West District and Upper Post.
- New construction should be similar in scale and proportions to Buildings #211 and 214.
• The main portion of new construction should not exceed the length or width of Buildings #211 and 214.
  o Maximum width: 70 ft±
  o Maximum length: 200 ft±
• “T”’s and “L”’s protruding from the main portion of the new construction may total to 2,400 SF. They should be on the west elevation and similar in size and scale to the existing additions on the west elevation of Building #214.
• New buildings should align with street grid, parallel to Bloomington Road.
• Setback along Bloomington Road should match the setback at Building #201.
• Construction on Parcel H1.4 may be linked to new construction on Parcels H1.3 and/or H1.5 to increase area; however, the presence of the link should be minimized so that they each appear to be individual buildings when viewed from Bloomington Road or Minnehaha Avenue.

Building Parcel H1.5 (20,800 SF) would be available for a range of potential uses compatible with the size and uses of adjacent properties within the West District and Upper Post.
• New construction should be similar in scale and proportions to Buildings #211 and 214.
• The main portion of new construction should not exceed the length or width of Buildings #211 and 214.
  o Maximum width: 70 ft±
  o Maximum length: 160 ft± (This dimension is 40’ less than the length of Buildings #211 and 214 to allow for a larger buffer space around existing Building #215.)
• “T”’s and “L”’s protruding from the main portion of the new construction may total to 2,400 SF. They should be on the north elevation and similar in size and scale to the existing additions on the west elevation of Building #214. New buildings should align with street grid, parallel to Minnehaha Avenue.
• Setback along Minnehaha Avenue should align with historic footprint of Building #216 (now demolished).
• Construction on Parcel H1.5 may be linked to new construction on Parcel H1.4 to increase area; however, the presence of the links should be minimized so that they each appear to be individual buildings when viewed from Bloomington Road or Minnehaha Avenue.

Building Parcel H1.6 (22,000 SF) would be available for a range of potential uses compatible with the size and uses of adjacent properties within the West District and Upper Post.
• New construction should be similar in scale and proportions to Buildings #211 and 214.
• The main portion of new construction should not exceed the length or width of Buildings #211 and 214.
  o Maximum width: 70 ft±
  o Maximum length: 200 ft±
• “T”’s and “L”’s protruding from the main portion of the new construction may total to 2,400 SF. They should be on the north elevation and similar in size and scale to the existing additions on the west elevation of Building #214.
New buildings should align with street grid, parallel to Minnehaha Avenue.
Setback along Minnehaha Avenue should match the setback at Building #216.

Allowable building height and materials:
- Buildings with partial second floors will be allowed in this zone, but the building height may not exceed the height of Buildings #211 and #214.
- Buildings should have a similar roof shape and pitch as Buildings #211 and #214.
- Stylistically appropriate roof elements (monitors, dormers, etc) are encouraged.
- Brick, unglazed ceramic or a durable clapboard scale siding should be used.
- No metal or synthetic primary cladding materials should be used.
- New construction should be recognized as being of its time.

Street presence: Buildings facing Bloomington Road or Minnehaha Avenue shall have pedestrian entrances facing the streets. Buildings shall be articulated with windows and/or architectural elements to complement other existing historic West District structures. First floor elevations should be slightly higher than the adjacent roadway but should not require a slope greater than 5% from the top of the curb elevation to the floor.

Existing historic landscapes/features: Existing canopy trees along Bloomington Road should be maintained.

Allowable land uses: Zone H1 land open space would be available for a limited range of potential uses, such as parking or plazas. Use of the open space must be compatible with the size and uses of adjacent properties within the West District and Upper Post.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Species appropriate boulevard trees should be planted along Bloomington Road and Minnehaha Avenue to be consistent with historical documents. Shrub plantings at foundations and at building entries are allowed. Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
**Treatment Zone H2**

*Treatment Zone H2* is bordered by Bloomington Road on the east, Minnehaha Avenue on the north, Treatment Zone H3 on the south, and the National Register District boundary on the west. Treatment Zone H2 is within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards. One building parcel has been identified within Zone H2 for potential new development: H2.1.

**Existing historic buildings:**
- #217 Quartermaster Storehouse (2,740 SF footprint)
- #218 Forage House (1,740 SF footprint)
- #219 Sawmill (1,810 SF footprint)
- #220 Post Exchange (1,540 SF footprint)
- #222 Quartermaster Storehouse (19,000 SF footprint)
- #223 Commissary Warehouse (17,760 SF footprint)
- #224 Forage House (6,470 SF footprint)
- #225 Storehouse (1,620 SF footprint)

Two historic buildings are located outside of the National Register and State Historic District boundary:
- #237 Powder Magazine (1800 SF footprint)
- #239 Mineral Oil House (630 SF footprint)

**Current use of site:** This site is under the ownership of the VA. Buildings are either vacant or used primarily for storage, except for Building #220, which is a vehicle service shop.

**Allowable building re-use/additions:** Reuse of all buildings in Zone H2 is encouraged for uses compatible with their sizes. Additions and alterations to provide accessibility into and throughout the buildings, upgrade life safety systems, and rehabilitate them for reuse will be allowed where necessary. Work altering the exterior appearance of the building should be minimized.

**Allowable new construction, building placement, density, and setbacks:** Zone H2 presents an accurate depiction of what the Quartermaster’s area was like near the end of the Fort’s period of significance. Only one historic building (#221) is missing from the site. New construction should be restricted to the open space between Buildings #222, 223 and 224 so as to create an atrium or commons area that connects them to allow for more enclosed area. However, the area’s former use as rail spurs should be celebrated by any design, interior or exterior, in this area.

**Building Parcel H2.1** (24,800 SF) would be available for infill between Buildings #222, 223, and 224.
- Allowable coverage of 100% would permit the infill footprint to total 24,800 SF.
- Any new construction should be held back a minimum of 4’ from the existing building faces.
Allowable building height and materials:

- Height of new construction will be determined by the more restrictive of these two criteria: two stories; or less than the height of the adjacent existing building.
- Buildings should have pitched or flat roofs, depending on where they occur.
- Brick, unglazed ceramic or a durable clapboard scale siding should be used.
- Any infill should be recognized as being of its time. New construction may expand the materials palette to include contemporary items.

Street presence: Alterations to existing building should be minimized. Existing buildings face Bloomington Road and Minnehaha Avenue and their street presence should be maintained.

Existing historic landscapes/features: Multiple railroad spurs fed into the Quartermaster’s Area between Buildings #222, 223, and 224. The railroad lines have since been removed, but the area still serves as a shipping/receiving point. Designs acknowledging this historic feature are encouraged. Existing sidewalks and trees should be maintained.

Allowable land uses: Zone H2 land and open space uses would be limited to lawns and parking.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Species appropriate boulevard trees should be planted along Bloomington Road and Minnehaha Avenue to be consistent with historical documents. Shrub plantings at foundations and at building entries are allowed. Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
**Treatment Zone H3**

**Treatment Zone H3** is bordered by Bloomington Road on the east, Treatment Zone H2 on the north, Treatment Zone J on the south, and the Historic District boundary on the west. Treatment Zone H3 is within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards. Two sub-zones have been identified within Zone H3 for potential new development: H3.1 and H3.2.

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**Existing historic buildings:**

- #227 Non-Commissioned Officer (N.C.O.) Quarters (1,000 SF footprint)
- #228 Garage (2,000 SF footprint)
- #229 Non-Commissioned Officer (N.C.O.) Quarters (3,000 SF footprint)

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**Current use of site:** This site is under the ownership of the VA. The buildings are vacant.

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**Allowable building re-use/additions:**

Reuse of Buildings #227 and 229 is encouraged for uses compatible with their sizes. Historically these buildings were residential, however, due to the close proximity to the MSP Airport this should be discouraged. Offices could be an alternative use. Sympathetic additions to provide accessibility into and throughout the buildings and upgrade life safety systems should be allowed on the rear (west) sides of both buildings, identified as Building Parcels H3.1 and H3.2 (see below). Work altering the Bloomington Road facades of the buildings should be minimized.

Building #228 is damaged beyond repair. Following thorough documentation, this building may be demolished.

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**Allowable new construction, building placement, density, and setbacks:**

**Building Parcel H3.1** (1000 SF) would be available for sympathetic additions to Building 227.

- Additions will only be allowed on the west (rear) side.
- Additions to Building #227 would be allowed up the same size as the original building footprint (1000 SF without porches).
- Existing north, east, and south setbacks should be maintained; and new construction should be held back 2’ from the existing building faces.

**Building Parcel H3.2** (3000 SF) would be available for sympathetic additions to Building 229.

- Additions will only be allowed on the west (rear) side.
- Additions to Building #229 would be allowed up the same size as the original building footprint (3000 SF without porches).
- Existing north, east, and south setbacks should be maintained; and new construction should be held back 2’ from the existing building faces.
Allowable building height and materials:
- Two story additions will be allowed in this zone, but the building height may not exceed the height of Buildings #227 and #229.
- Additions should have a gabled roof.
- Brick or a durable clapboard siding will be allowed.
- New construction should be recognized as being of its time.

Street presence: The existing buildings face Bloomington Road and their street presence should be maintained.

Existing historic landscapes/features: Multiple railroad spurs fed into the northwest corner of Treatment Zone H3, near building #225. The railroad lines have since been removed. New open space design acknowledging this historic feature is encouraged.

Allowable land uses: Treatment Zone H3 land and open space uses would be limited to lawn along the front and sides of buildings #227 and 229, and lawn and parking in the rear.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Parking shall be west of the drive behind the buildings and in open lot(s) or garage structures similar to Building #228. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: This zone to be treated similarly to Officer’s Row in the Upper Post portion of Fort Snelling. Species appropriate boulevard trees will be planted along Bloomington Road to be consistent with historical documents. Front yard landscaping should be predominantly turf and relatively simple to be consistent with historical Upper Post landscape. Shrub plantings at foundations and at building entries are allowed, with coniferous tree massing between buildings. Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
Treatment Zone J1 is bordered by Treatment Zone H3 on the north and east, Treatment Zone J2 on the southeast, the Hiawatha LRT on the southwest, and the National Register District boundary on the west. Treatment Zone J1 is within the National Register and State Historic District, so all new construction must be consistent with the Secretary of the Interior Standards. Two building parcels have been identified within Zone J for potential development: J1.1 and J1.2.

Existing historic buildings: No historic buildings exist on the site.

Current use of site: This site is under the ownership of the VA. A surface parking lot covers much of the zone.

Allowable building re-use: NA

Allowable building additions: NA

Allowable new construction, building placement, density, and setbacks:

Building Parcel J1.1 (61,500 SF) would be available for a range of potential uses compatible with the sizes and uses of adjacent properties within the West District and Upper Post.
- Allowable coverage of 40% would permit new building footprints to total 24,600 SF.
- Buildings should align with the street grid (perpendicular or parallel to Bloomington Road)
- A buffer will be created between the historic West District buildings in Zones H2 and H3 and new development within Zone J.
- A buffer will be created between Building Parcels J.1 and J.2, acknowledging the historic route extending west from Leavenworth Avenue to the former railroad loading platform.

Building Parcel J1.2 (92,300 SF) This property would be available for a range of potential uses compatible with the sizes and uses of adjacent properties within the West District and Upper Post, and with the activities on the nearby MSP Airport property.
- Allowable coverage of 40% would permit new building footprints to total 36,900 SF.
- Buildings should align with street grid (perpendicular or parallel to Bloomington Road)
- A buffer will be created between Building Parcels J1.1 and J1.2, acknowledging the former route extending west from Leavenworth Avenue.
Allowable building height and materials:
- Two story buildings will be allowed in this zone, but the building height may not exceed the height of Building #201.
- Buildings should have a gabled or hipped roof.
- Brick or a durable clapboard siding will be allowed.
- New construction should be recognized as being of its time.

Street presence: Buildings shall be articulated with windows and/or architectural elements to complement other existing historic West District structures. First floor elevations should be slightly higher than the adjacent roadway but should not require a slope greater than 5% from the top of the curb elevation to the floor.

Existing historic landscapes/features: NA

Allowable land uses: Treatment Zone J1 land and open space would be available for a wide range of potential uses compatible with its size and uses of adjacent properties within the West District and Upper Post, and with the activities on the adjacent MSP Airport property.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
**Treatment Zone J2**

*Treatment Zone J2* is a triangular area of land bordered by Bloomington Road on the east, Treatment Zone J1 on the northwest, and the Hiawatha LRT on the southwest. Treatment Zone J2 is within the National Register and State Historic District, so all new construction must be consistent with the Secretary of the Interior Standards. One building parcel has been identified within Zone J2 for potential development: J2.1.

**Existing historic buildings:** No historic buildings exist on the site.

**Existing non-historic buildings:** Existing Navy Reserve buildings on site.

**Current use of site:** This site is under the ownership of the US Navy.

**Allowable building re-use:** Reuse of existing buildings is encouraged. Demolition is also allowable.

**Allowable building additions:** Additions to the existing buildings are allowed.

**Allowable new construction, building placement, density, and setbacks:**

**Building Parcel J2.1** (197,500 SF) The Navy Reserve plans to continue its presence on this land. If in the future they decide to leave, their property would be available for a range of potential uses compatible with the sizes and uses of adjacent properties within the West District and Upper Post, and with the activities on the adjacent MSP Airport property.

- Allowable coverage of 40% would permit new building footprints to total 79,000 SF.
- Buildings should align with street grid (perpendicular or parallel to Bloomington Road) or zone boundaries.
- Setbacks along Bloomington Road should match the setback of existing buildings on the site.

**Allowable building height and materials:**

- Two story buildings will be allowed in this zone, but the building height may not exceed the height of Building #201.
- Buildings should have a gabled or hipped roof.
- Brick or a durable clapboard siding will be allowed.
- New construction should be recognized as being of its time.

**Street presence:** Buildings facing Bloomington Road shall have pedestrian entrances facing the street. Buildings shall be articulated with windows and/or architectural elements to complement other existing historic West District structures. First floor elevations should be slightly higher than the adjacent roadway but should not require a slope greater than 5% from the top of the curb elevation to the floor.
Existing historic landscapes/features: NA

Allowable land uses: Zone J land and open space would be available for a wide range of potential uses compatible with its size and uses of adjacent properties within the West District and Upper Post, and with the activities on the adjacent MSP Airport property.

Parking strategies: Parking, drive lanes, and other paved areas shall not comprise more than 60% of the site. Monolithic (asphalt, concrete) or modular (concrete, brick, etc.) semi-pervious/pervious paving surfaces are encouraged.

Streetscape/landscape standards: Site development of the West District should be based on historic Army post precedents, and this area should not resemble suburban or rural sites and landscaping. Heavily landscaped open areas are discouraged. Parking lot screening, if provided, should be low vegetation or fencing compatible with the historic use. No ponds or open water of any kind will be allowed. When possible, existing historic light posts should be restored. New light fixtures should be of a similar style.
**Treatment Zone K** is bordered by the Hiawatha LRT on the east and the National Register District boundary on the south and west.

Treatment Zone 5 is within secured US Air Force property. Development guidelines for this area were not produced as part of this study.

**Existing historic buildings:** No historic buildings exist on the site.

**Current use of site:** This site is under the ownership of the US Air Force, currently leased to the MN Air National Guard.
Rehabilitation Guidelines

Introduction

The Rehabilitation Guidelines described in the following sections provides an overview of the maintenance, repair, and cleaning of historic materials and features, as well as suggested resources for additional information. Repair of existing features should always be the first choice; however, that is not always feasible, and recommendations for replacement are included in the following sections as well. The Rehabilitation Guidelines are divided into the following three parts: Materials, Exterior Features, and Interior Features.

Approach to Rehabilitation of West District Historic Buildings

It is anticipated that as new uses are introduced to the West District some modification to historic exteriors may be required to accommodate those new functions. To preserve the historical significance of the campus and its individual components, any modifications to the exterior of any building should be designed to minimize the adverse affect to a structure’s appearance and original building fabric. Modifications to primary elevations should be avoided whenever possible.

Relationship to Secretary of the Interior Standards

The existing West District buildings are located within the National Register and State Historic District, so all rehabilitation work and new construction must be consistent with the Secretary of the Interior Standards.

Historic West District Materials

The existing construction materials present in the West District generally consist of limited types and colors of masonry, wood, or corrugated metal sidings; along with hip or gable roofs of red, green, black, or gray slate or asphalt shingles or corrugated metal roofing. The following sections of the Rehabilitation Guidelines will look at treatment methods for Masonry, Wood, and Metal.

Exterior Historic/Character Defining Elements

In a previous section of this study the interior historic and character defining features were identified for each building. The exterior features will not be broken down by building because the existing buildings have retained many of their exterior historical features. These include, but are not limited to: porches, loading platforms, doors, windows, roofs, chimneys, roof ventilators, and foundations.
Masonry is the most common construction material found in the structures of the West District. Brick, stone, and to a more limited extent, concrete block are used as structural and exterior finish materials. Brick itself is a very durable and attractive material ranging in color from dark red to pale cream. Most remaining brick construction in the West District is dark red, however Building #218 is a golden yellow. The strength and beauty of locally quarried limestone and granite made it a popular choice for foundations throughout Fort Snelling, as well as for exterior walls in Buildings #219 and #239 in the West District. Concrete block is a rare and recent addition to Fort Snelling; however it was used for the exterior walls of Buildings #220 and #223.

**Maintenance**
- Moisture can enter masonry through leaky roofs, gutters or downspouts, poor drainage, or condition known as rising damp. Rising damp occurs when moisture is drawn up from the ground through masonry by capillary action.
- Masonry should be checked regularly for moisture penetration.
- Regular maintenance will help prevent deterioration.
- To allow for proper air circulation, vegetation should not be planted against exterior building walls.
- Invasive vines such as ivy should not be allowed.

**Joints/Repointing**
- Repair masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster work. Avoid total repointing if possible.
- Remove deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry. Harder mortars and other non-original materials may require mechanical cutting of the joints.
- New mortar joints should match the original in style, size, mortar composition, and color. It is especially important to repoint with a mortar of the same hardness as the original. Harder modern mortars with a high content of Portland cement can resist the warm weather expansion of the brick, causing cracking and spalling of the brick surface. In cold weather this same inflexibility may cause cracks to open up as the historic brick contracts.
- The mortar and masonry chemistry specifications should be determined by a masonry testing professional and should be included in the review submitted to the SHPO.

**Cleaning**
- Although cleaning masonry can have a dramatic impact on the appearance of a building,
it should nevertheless only be done to halt deterioration, and not merely to attain a “new” looking façade.

- Appropriate cleaning generally requires knowledgeable cleaning contractors who can demonstrate competence on a number of historic preservation projects over a number of years.
- Masonry should always be cleaned by the gentlest possible method.
- Based upon the type of surface, low pressure water washing together with natural bristle brush scrubbing may be sufficient. The pressure psi (pounds per square inch) should be specified in the review submittal to the SHPO.
- If painting or heavy grime must be removed, a chemical cleaner may be required. There are a wide range of chemical cleaners available and a qualified cleaning contractor should be consulted to evaluate the building and recommend a treatment.
- Whatever treatment is selected, a test patch should first be tried and allowed to weather for a few weeks or months. If the results of the test are satisfactory and no damage is observed, it should be safe to proceed.

**Sandblasting**

- Abrasive cleaning methods are strongly discouraged.
- Sandblasting is especially harmful to masonry surfaces, eroding the hard outer layer to expose a softer, more porous surface that will weather rapidly and possibly cause materials to crack and spall.

**Painting**

- In general, exposed masonry should never be painted – unless it can be determined the surface was painted from the beginning.
- Cleaning and repointing of the masonry is always preferable to painting.
- When attempting to remove paint from masonry surfaces, chemical strippers should be the preferred method. Only if chemical paint removal proves impractical (due to a cementitious paint coat, for example) should previously painted brick or stone be repainted.

**Resources**

The following National Park Service publications contain more detailed information about masonry.

*Preservation Brief #1: The Cleaning and Waterproof Coating of Masonry Buildings.*
*Preservation Brief #2: Repointing Mortar Joints in Historic Brick Buildings.*
*Preservation Brief #6: Dangers of Abrasive Cleaning to Historic Buildings.*
Following masonry, wood is the most common exterior building material in the West District. Its broad use and universal popularity is due to its structural flexibility, economy, and strength. Window and door frames, doors, cornices, brackets, and other decorative façade elements were commonly made of wood. The exterior wood elements of the West District should, wherever possible, be retained and repaired rather than replaced. Only in cases of severe deterioration or structural inadequacy should replacement be used.

**Maintenance**

- Original exterior woodwork elements should be retained wherever possible.
- Regular maintenance will prevent deterioration.
- Check periodically for soft or rotted areas, splits, dampness and pest infestation.
- Vegetation that grows too closely to wood should be removed to allow for good air circulation.

**Stripping**

Aggressive paint removal techniques that would cause degradation and irregularities of the wood surface such as sandblasting, power driven mechanical strippers, or high-pressure water must be avoided.

- Hand scraping and sanding is recommended for removing damaged and deteriorating paint.
- Only in extreme cases should all paint (down to bare wood) be removed, such as where the paint has blistered and peeled.
- Use electrical hot air guns on decorative wood features and electric heat plates on flat wood surfaces when additional paint removal is required.
- Chemical strippers may be used to aid in the cleaning process – be certain to follow directions to thoroughly neutralize the chemicals after use, otherwise new paint will not adhere to the surface.
- It is generally not the goal to make the painted wood surface appear as it originally did. Solidly adhered but rough paint finishes are part of the history of the building.
Priming and Painting

Painting is the traditional method by which exterior wooden elements have been protected from moisture and other destructive environmental factors. It is more often thought of as a decorative element. Paint should provide the West District’s buildings wood and metal features with both a strong protective and a decorative surface layer. Oil based paints have traditionally been used on the wooden trim elements, however recent developments have greatly improved the quality and durability of latex paints. Painting systems should be carefully researched.

- Keep all surfaces primed and painted to prevent wood deterioration from moisture.
- For all new wood and field cuts, preparation should include a water repellent preservative pre-treatment and completely priming all edges and front and back sides.
- If a new coat of paint is necessary, it is vitally important to clean the existing wood surface before any work is done.
- Scrape and sand to remove loose paint down to the bare wood.
- Prepare existing bare wood with a water repellent preservative pre-treatment.
- Repainting should occur at approximately 4-7 year intervals, or longer with proper preparation and painting systems.

Repair

- Damaged or decayed sections can usually be repaired by renailing, the use of a dutchman, caulking, and filling.
- Epoxy pastes and epoxy consolidants can also be very effective in repairing even seriously rotted wood.
- Do NOT caulk under individual siding boards or window sills – this action seals the building too tightly and does not allow the building to “breathe”.
- Severely rotted or missing pieces may be reproduced by a good carpenter or millwork shop.
- Match the existing details when replacing woodwork.
- Adequately research appropriate wood replacement materials
- Use historic millwork specialists who can demonstrate competence on a number of historic preservation projects over a number of years.
Paint Colors
The buildings of the West District have a very limited palette of paint colors. The wood siding and trim colors are very muted or a simple white.
- Careful paint analysis or a paint conservator should be utilized to determine the building's original paint color(s).
- When repainting wood, the color selected should be the same for all trim elements, unless research indicates otherwise.
- The color should be compatible with the subdued palette found in the paint colors of the West District.
- All paint colors on the exterior of buildings should be specified in the SHPO review submittal.

Resources
The following National Park Service publications contain more detailed information about wood.
Preservation Brief #17: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character.
Preservation Brief #32: Making Historic Properties Accessible.
Preservation Brief #37: Appropriate Methods for Reducing Lead-Paint Hazards in Historic Housing.
Historic Materials: Metal

Cast iron, bronze, copper, and sheet metal are used in ornamental and practical roles in Fort Snelling’s historic buildings. Most of the examples of metal in the West District fall into the practical category – such as gutters, downspouts, structural supports, and corrugated siding and roofing. The decorative or utilitarian components in metal give buildings a human scale and liveliness. These architectural elements are essential to building character and appearance. They should not be removed unless absolutely necessary.

**Gutters and Downspouts**

Several buildings in the West District have exposed metal gutters and downspouts. These range from ornate copper, such as the warehouse of Building #222, to the simple utilitarian downspouts at 210, 224, and 222.

- Built-in gutters should be carefully evaluated in the context of an overall re-roofing design. In some cases they can be restored, but some buildings have roof edge designs that limit the ability of a built-in gutter’s effectiveness. In those cases covering them and using exposed cutters should be considered.
- New downspouts should replicate the original design. Open-faced downspouts are discouraged.

**Cleaning**

- Rust or paint buildup may be removed from metal by chemical treatment, low pressure dry grit blasting, or hand sanding.
- The blasting pressure in psi should be specified in the review submittal to the SHPO.
- If stamped metal is to be cleaned, a chemical paint remover should be used.
- Dry grit blasting should never be used on thinner, more flexible pressed sheet metal.

**Priming and Painting**

- A sound paint coat is essential to prevent rust and corrosion.
- All metals requiring painting should first be primed with a commercial metal primer, followed by two finish coats of appropriate paint.
- Metals that have historically been painted should always be kept painted. Metals that have not been painted, such as copper or lead-coated copper, should remain unpainted unless historical research indicates otherwise.
Replacement

- Reproductions of missing pressed metal ornaments can often be made by a sheet metal shop.
- If parts are missing, they can be reproduced in fiberglass or aluminum using existing pieces to make a mold.
- If the missing pieces are relatively free of ornamental detail, wooden pieces might be substituted.
- As with most other historic structure elements, it is better to repair the existing features than to replace them.
- If an element is replaced, it must replicate the original in appearance, design, profile and finish.

Resources

The following National Park Service publications contain more detailed information about metals.


Exterior Features

A building’s architecture is made up of a variety of significant yet often subtle components. These include, but are not limited to: its massing; construction materials; fenestration (window and door placement); roof profile, including chimneys and roof ventilators; projecting porches and entries; and stylistic detailing of those components. This section of the guidelines addresses the exterior features of the buildings in the West District – important features that give the historic buildings individual identity and character.

Porches, Loading Platforms, etc.
Several of the buildings were designed with porches. Most of these have been modified (Buildings #227 and #229) or lost entirely over time. However, there is photographic documentation of most of the buildings during the period of significance.

- When repairing or reconstructing a porch, determine if there is a historic picture of the building to help guide the renovation.
- In any repair or replacement, retain as much of the original fabric as possible.
- In repainting a porch or similar features, follow the painting principles discussed in the other sections of these guidelines.

Doors and Windows
Doors and windows help to define the architecture of historic structures in the West District. Many of the original windows and doors remain, but most will require some degree of repair or replacement.

- If wood is found to be deteriorated it may be repaired or replaced, depending upon the severity. In-place repair is preferred to retain as much of the original material as possible.
- Modifications to building interiors should not modify the patterns of fenestration on the primary exterior elevations.

Replacement doors
- It is better to repair than replace existing original doors.
- If replacement is necessary, the new door should replicate the original in material, design, profile and finish.

Replacement glass and windows
As stated in the introduction, repair of historic elements is preferable to replacement, and this is especially true for historic windows. The measures listed below should only be taken if repair is not possible.

- All replacement glass should be clear. Some types of Low “E” glass are also permitted and should be researched.
- When more energy efficient double-glazed windows are to be used as replacements, they
should match the original windows in size, profile and design.

- If wood windows are being replaced, the use of wood replacement windows is preferred. However, metal or clad wood windows may be acceptable if the original size, profile and design is maintained.
- Never replace a multi-pane window with a single large pane of glass, or vice-versa.
- If a single pane needs replacement, the replacement glass should match the older, companion glass.
- The size and division of window sash should match the existing pattern or historic photographic documentation.
- If double glazed, window muntins must be on the exterior and interior surfaces, as well as having a spacer between the panes.
- Hardware is often a troublesome repair problem. Window and door hardware which reproduces turn-of-the-century and earlier 20th-century forms is readily available.
- Replacement hardware should match the original in size, type, finish and quality.

**Storm Windows**

If storm windows are existing, or their historical presence was documented, they should be repaired or replaced. The use of storm windows provides an opportunity to conserve energy, protect window finishes, and increase the soundproofing of the structure.

- Exterior storm windows should conform with the size and shape of the existing sash and be painted to match.
- Storm windows may be double-glazed to increase soundproofing. If double glazed, window muntins must be on the exterior and interior surfaces, as well as having a spacer between panes.

**Roofs**

The buildings of the West District have a variety of roof coverings, shapes and conditions. Roof coverings include slate, asphalt shingles, and corrugated metal. While most of the roofs are gabled or hipped in shape, there are also examples of flat roofs.

- In all cases the roof profiles should be preserved in any roof work. This includes the shape of the roof, dormers, chimneys, roof ventilators, and fire walls.
- All roofs should be examined for potential leakage and repaired or replaced with replicating materials as necessary.
- Slate roofs should be retained and repaired wherever possible.
- If a roof is to be replaced, the new roofing material should replicate the original covering. If this is not possible, suitable materials that have the appearance of the original material may be approved.
Any hazardous asbestos roof tile should be removed and replaced with high-quality asphalt shingles matching the original in color, shape, and size.

Skylights should not be added to the roofs on any primary elevation.

Consultants that specialize in roofing should be utilized for particularly complex roof configurations.

**Chimneys and Roof Ventilators**

- Chimney stacks and roof ventilators should be inspected to determine condition and repaired where required.
- Chimneys and roof ventilators should not be removed, even if they are non-functioning.
- Any existing, non-functioning chimneys should be capped in an appropriate manner.
- In any exterior repair to existing chimneys, the brick and mortar mix should match the original brick and mortar mix in hardness, dimension, and color. See masonry guidelines.

**Foundations**

Foundations in the West District are made up of a variety of materials, including, but not limited to, granite blocks, limestone, brick, and concrete block. Repair and/or replacement of these materials and their related mortars will require professional analysis and approval.

- All foundations should be inspected to determine condition and repaired where required.
- Masonry replacement, if required, and all mortar joints should replicate the original in color, profile, and size.

**Resources**

The following National Park Service publications contain more detailed information about masonry.

- Preservation Brief #1: The Cleaning and Waterproof Coating of Masonry Buildings.
- Preservation Brief #2: Repointing Mortar Joints in Historic Brick Buildings.
- Preservation Brief #3: Conserving Energy in Historic Buildings.
- Preservation Brief #4: Roofing for Historic Buildings.
- Preservation Brief #6: Dangers of Abrasive Cleaning to Historic Buildings.
- Preservation Brief #17: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character.
- Preservation Brief #29: The Repair, Replacement, and Maintenance of Historic Slate Roofs.
Generally, the buildings of the West District are utilitarian on their interiors. Many have lost significant features through past remodeling projects or deterioration. Consequently, those remaining features such as ornamental wood doors and trim work need to be retained and restored as contributing elements of the historic importance of the structures.

**Historic Interiors**

While most of the interiors of the West District would not be considered highly significant, there are interiors that should be retained because of their architectural importance. An interior survey was conducted in Buildings #210, #211, #215, #217, #218, #219, #220, #222, #223, #224, and #225 in February 2010. See the “Fort Snelling West District Interiors Conditions Survey” in the Historical Context Study of this report for character defining features of each building.

**Approach to Rehabilitation**

While many of the buildings’ interiors may be modified to adapt to a new use, wherever possible the integrity of the original floor plan should be retained. If a project requires a modification of the floor plan, those changes should be specified in the SHPO review submittal.

**Interior Wood Elements**

- Interior wood elements should be examined and repaired where required.
- All repairs should match the original in wood type, profile, dimension, and finish.
- Painted interior wood elements should be evaluated to determine their original finish.
- Existing lead-based paint that is in good condition can be “encapsulated” under layers of new paint.
- Wood elements that were originally varnished to retain a natural wood look should be cleaned, or where necessary, stripped and revarnished.

**Resources**

The following National Park Service publications contain more detailed information about interiors.

- *Preservation Brief #17: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character.*
- *Preservation Brief #18: Rehabilitating Interiors in Historic Buildings.*
- *Preservation Brief #21: Repairing Historic Flat Plaster – Walls and Ceilings.*
- *Preservation Brief #28: Painting Historic Interiors.*
- *Preservation Brief #32: Making Historic Properties Accessible.*
Preservation Brief #34: Applied Decoration for Historic Interiors
Preserving Composition Ornament.


Preservation Brief #37: Appropriate Methods for Reducing Lead-Paint Hazards in Historic Housing.
New Construction Guidelines

Introduction

The Treatment Zones section of the Development Guidelines identifies allowable density, setbacks, building heights and materials in specified areas of new construction, either as additions to existing buildings or building parcels. This section provides supplementary information about additions and new construction as well as suggested resources for additional information.

Relationship to Secretary of the Interior Standards

New development must follow the Secretary of the Interior’s Standards for additions and new construction within an historic district so as to not compromise the existing historic integrity. New construction should be “of its time” so as to not lead someone to believe that it is part of the historic fabric of the site, while at the same time respecting the existing buildings on the site.

Materials

The Materials and Massing part of the Rehabilitation Guidelines identifies the existing materials present in West District - limited types and colors of masonry, wood, or corrugated metal sidings; along with hip or gable roofs of red, green, black, or gray slate or asphalt shingles or corrugated metal roofing. New development can creatively interpret how the existing materials palette may be used.

Additions

- Additions to existing buildings can be introduced to secondary elevations as long as the additions are not highly visible from the public right-of-way along Bloomington Road and/or Minnehaha Avenue.
- All additions should be compatible in design materials and detailing with the primary building.
- Additions should be designed and attached so as to clearly identify themselves as new construction and not part of the original building fabric.
- No addition should project above the roof of the primary building.

Elevators/Vertical Circulation Towers

- Elevators and vertical circulation towers can be attached to a secondary elevation, as long as the massing is not highly visible from the public right-of-way.
- Attached circulation towers cannot project above the roof ridge of the primary building.
- Interior elevator and vertical circulation towers should not project through the roof above the primary elevation.
**Detached New Construction**

- Limited new construction should be compatible with the surrounding buildings in massing, height, materials, and design detailing.
- New construction should be designed to clearly be defined as new construction and not original.
- Items like bus shelters, utility buildings, and other small structures should follow the Secretary of the Interior Standards. They should be of their time and compatible with their surroundings.
- Air supported structures, such as tennis domes, tend to be more permanent in nature and will need to follow the Development Guidelines.
- A precedent exists at the Fort Snelling for temporary structures, such as shelters for events at the athletics fields. These structures will continue to be allowed as long as they do not impact the existing historic structures.

**Resources**

The following National Park Service publication contains more detailed information about new construction.

**Introduction**

**Landscape Guidelines**

The Treatment Zones section of the Development Guidelines identifies existing historic landscapes and features, as well as new allowable land uses for each specified zone. This section provides supplementary information about treatment of the West District historic and non-historic landscape.

**Landscape Elements and Guidelines**

**Historic Landscape Elements**

The West District does not have the same formal landscaping as the adjacent Upper Post of Fort Snelling. The buildings of the West District were used for receiving and storage of goods and supplies, as well as stables for cavalry horses, which were later replaced with motor vehicles.

The grounds of the West District include a number of historic elements that give meaning to the historic landscape. These elements include the building organization, topography, vegetation, circulation system, structures, exterior furnishings, and historic objects. These elements should be retained and preserved in any proposed rehabilitation of the grounds.

New uses may require some modification to the West District landscape; however, they should be designed to cause minimal change to the ground’s distinctive materials, features and spatial relationships.

**Spatial Organization/Land Patterns**

Treatment Zone H2 is a good example of the West District spatial organization that has maintained many of the characteristics of the Quartermaster’s area. In the northern part of the zone the buildings are small, spaced quite far apart, and organized parallel or perpendicular to the main streets – Bloomington Road and Minnehaha Avenue. In the southern portion of the zone warehouse and storage buildings are grouped together around railroad spurs that provided supplies to the fort. Buildings very often had gravel or paved areas on multiple sides, providing space for storage and vehicle maneuvering. See Views Map.

- In areas where the land use and buildings have remained in place the spatial organization should be retained and preserved in any proposed rehabilitation of the site.

**Topography**

The West District sits on a primarily flat table of land above the Minnesota and Mississippi River valleys.

- No permanent modifications should be made to the topography of the significant landscape features of the Bloomington Road corridor.
- No topographic changes like earth berming should be introduced to the site.
Views Map

LEGEND

VIEWS
ENTRY VIEWS
INTERIOR VIEWS
PARADE AND POLO GROUND VIEWS
STUDY AREA
EXISTING BUILDING FOOTPRINT
DEMOLISHED BUILDING FOOTPRINT
View #1: Bloomington Road

View #2: Minnehaha Avenue

View #3: Interior view of former railroad spur location
View #4: Panoramic view from Minnehaha Avenue, looking east towards the West District

Views #5-6: View of Upper Post Polo Grounds (now athletics fields) from West District

View #7: View of Minnehaha Avenue from West District
View #8: View of Upper Post Parade Grounds (now golf course) from West District

View #9: View of Upper Post Parade Grounds (now golf course) from West District
Vegetation
The original West District landscaping was primarily limited to boulevard trees along Bloomington Road, and groupings of trees around the residences at Buildings #227, #227, and #212 (demolished). Many of these trees remain in place. See Vegetation and Historic Features Map.
- Existing boulevard trees should remain and be protected.
- New tree plantings along Bloomington Road and Minnehaha Avenue should be of one species (similar to elm trees in shape).
- Decorative shrubs should not be planted around the foundations of the historic structures.
- Any new utility installation should consider the significant vegetation in the site.

Circulation and Parking
The West District retains much of its original vehicular circulation system. Although now terminating at the airport to the south, Bloomington Road continues to serve as a major internal arterial for Upper Post. See West District Existing Circulation Patterns Map.
- Bloomington Road and Minnehaha Avenue should be preserved.
- Vehicular access, movement, and parking has long played a role in the West District. Design of new parking should be sensitive to existing buildings and features, but screening of surface parking may not be necessary or advisable.
- Roadway Surfaces: By 1941 a majority of the fort’s roads were concrete-surfaced. The rest had a bituminous coating or were covered with gravel. Roadway widths ranged from 40 to 15 feet, but were most often 27 feet or less.
- Walkways: Historically, the majority of Bloomington Road was edged by a 4-foot-wide concrete walkway. New sidewalks should comply with current codes.

Structures
- New exterior alterations or related new construction should not destroy historic materials or spatial relationships that characterize the property.
- All new structures should be compatible with the adjacent historic buildings and the West District’s period of construction.

Furnishings
- Any new pedestrian furnishings (sidewalks, lights) should be based upon early photographic documentation of the site.
- All new furnishings should be compatible with the West District’s period of construction and should be described in any SHPO review submittal.
Objects
From photographic documentation it appears that the West District grounds had few significant objects. These include, but are not limited to existing street lights and concrete posts along Bloomington Road.

- No original objects should be removed or relocated on the site unless absolutely necessary.
- All new objects should be compatible with the West District’s period of construction and should be described in any SHPO review submittal.
- See Vegetation and Historic Features Map for concrete post locations.

Signage
The West District must balance the desire for visual appeal with the necessity to maintain safety and to effectively direct both vehicular and pedestrian traffic throughout the site. Informational signs include directions and announcements, public parking, and other directional information to guide people to key areas on the campus. They need to be professionally designed, clear, and uniform with the other signage in the park.

- Less is more. Using the least required signage will help keep the appearance from being cluttered or overpowering. Researching the minimum requirements is imperative for controlling the proliferation of public signage.
- All public signage in the West District needs to be uniform and of high quality design and construction.
- Signage can be effectively placed on existing decorative light posts and on well designed sign posts.
- Signage should be color coordinated with a limited palette of colors complimentary to those of the surrounding buildings.
- Uniform signage should be developed to identify all public parking lots. Signs should be large enough and prominently displayed, but not overpower the surroundings. An easily identifiable logo would help in wayfinding.

Archaeology
Archaeology should be considered when reuse activities are undertaken at the West District buildings and grounds. Any ground disturbing activity could impact archaeological deposits. The following is a listing of some rehabilitation tasks that could require archaeological assessments:

- Foundation work
- Building additions/demolition/detached new construction
- Utilities
- Landscaping
- Roads, parking lots, pedestrian walkways, and accessibility features
- Any type of redevelopment activity which disturbs the grounds around a building should be described in any SHPO review submittal.

Resources
The following National Park Service publication contains more detailed information about new construction.
*Preservation Brief #36: Protecting Cultural Landscapes.*
Vegetation and Historic Features
Map
West District Existing Circulation Patterns Map
Health and Safety Guidelines

Hazardous Materials

Numerous buildings/areas in the West District have been determined to have hazardous materials:

- Asbestos-containing insulation and other materials (ACM) are present in many of the buildings.
- Lead-based paint likely is present in the buildings.
- One or more closed petroleum release sites.
- Drums and smaller container of miscellaneous building and equipment maintenance chemicals were stored in several buildings.

See Hennepin County memo dated March 10, 2010 in the Appendix IV for additional information.

Additional testing for hazardous materials should be undertaken to determine the complete extent of any contamination. Remediation of hazardous conditions (removal vs. encapsulation) should be based on the proposed use for a building, applicable regulatory requirements at the time the work is done, and the health risks and/or future costs to remove materials that may be only encapsulated initially.

Sound Abatement

Noise generated by the adjacent MSP International Airport will have an impact on uses at the West District. A primary effect of aircraft noise is its tendency to drown out or “mask” speech, making it difficult to carry on a normal conversation. Speech interference associated with aircraft noise is a primary cause of annoyance to individuals on the ground. The disruption of routine activities, such as radio or television listening, telephone use, or family conversation, causes frustration and aggravation.

Research has shown that whenever intrusive noise exceeds approximately 60 dB indoors, there will be interference with speech communication. To help understand that impact, the aerial photograph shown here represents the DNL (Day-Night Level) Noise Contours measured outdoors in 2006. In the West District, noise levels in Treatment Zones H2, H3, J1, J2, and K are above the 60 dB DNL line. Building #229 and non-historic buildings on the Navy Reserve property in Treatment Zone J are above the 65 dB DNL line. Residential uses in areas above 60 dB DNL should be avoided, but all future buildings located within this area need to be designed accordingly.
MACNoise Sound Abatement Map

MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT - 14 CFR PART 150 STUDY UPDATE that addresses sound mitigation can be found at:
http://www.macnoise.com/part150doc
Sound mitigation will be an important aspect for the reuse of any of the available developable property. It is important to note that buildings at the Upper Post do not qualify for any noise mitigation funding programs from the Metropolitan Airports Commission. The primary issues that need to be dealt with in sound abatement are as follows:

**Windows**
- Multiple layers of glass and multiple air spaces help reduce the transmission of sound.
- If existing windows remain, they should be well weather-stripped and combined with historically appropriate storm windows on the exterior.
- Additional glazing can also be added to the interior, if needed.
- A better sound seal is achieved with non-operable windows. Assuming that most of the buildings will be air conditioned, using non-operable windows is a possibility.
- New windows should utilize triple glazing. This can be done using historically appropriate triple-glazed units, or using double-glazed units with an additional historically appropriate glazed panel either on the interior or exterior.

**Wall Construction**
- The existing buildings’ masonry exterior walls appear to be well built and good sound insulators.
- Areas where stud walls occur should be well insulated for sound proofing.
- Additional methods of reducing sound transmission (sound board, resilient channels, sheet lead) can be used where critically necessary.

**Attics**
Good insulation at the roofs or in the attics will help reduce sound transmission. The pitched roofs of most of the buildings lend themselves to being able to provide good insulation coverage in the attics. The few flat roofed buildings will require more analysis, depending on their reuse.

**Roof Penetrations**
- Penetrations through the roof for elements such as pipes, ducts, stacked etc. should be well sealed where they go through the roof plane.
- Open penetrations such as attic vents should be designed in such a way that turns and/or baffles are introduced into the path of the air flow.
- Air flow paths can also be lined with acoustical insulation.
- Because of the proximity of the West District to the airport, it is recommended that an acoustical engineer be consulted to assess the sound issues related to a particular building’s reuse.
Sustainable Design Guidelines

Sustainable Design Strategies

Sustainable design principles should be used throughout any development in any zone within the Ft. Snelling Historic Districts. However, the sustainable strategies utilized must be sympathetic with the historic character of the site. For example, appropriate sustainable site design strategies might include porous pavements, rainwater harvesting and reuse, underground storage, infiltration systems, and similar methods that do not impose a design aesthetic that has never existed at the Upper Post, such as rain gardens, bioswales, storm water streetscaping, etc.

Likewise, new construction in the West District should be sympathetic to and in scale with the existing buildings at the site, yet “of its time”. Sustainable strategies may include solar orientation; daylighting; small scale vertical wind generators; photovoltaics; ground source energy systems; thermal displacement ventilation; grey water recycling; carbon reduction; use of materials based on a first cost, life-cycle cost, long-term environmental impact, energy conservation and pre- and post-construction emissions basis; using materials based on their recycled content and/or recyclability in the future; specifying a strict recycling program during construction; etc.

Rehabilitation of the existing buildings should also utilize any of the sustainable design strategies that are appropriate to the particular building but sympathetic to its historic character. The act of rehabilitating the buildings and utilizing their embodied material, cultural, and historical energy is a significant sustainable act in itself. Remember, historic preservation is the “queen of green”.

Sustainable Design Guidelines
Property Management During Development

Introduction

Stewardship of historic properties may require implementing an effective means of protecting a building while planning for a property’s future use. If a building or multiple buildings are to remain vacant during the development of the West District, “mothballing” measures should be taken to keep them from further deterioration.

Mothballing is the process of careful planning, implementing protective measures, including repairs, and monitoring the structure while it sits vacant. This process generally includes: documentation of significance and condition, stabilization of the building and its elements, securing the building through mothballing, and protecting the building from further damage by monitoring its condition during the interim.

Mothballing

Stabilization

- Buildings that remain vacant during the development phase need to be structurally stabilized. This measure needs to be based upon a professional condition assessment.
- If there is an indication of invasive damage by insects, birds, or rodents, extermination or pest control measures need to be introduced.
- The exterior envelope of the building needs to be secured from moisture penetration.

Mothballing

- A building needs to be secured from vandals and break-ins.
- Once a building is secure and weathertight, its interior should have good ventilation to prevent humidity buildup and the resulting mold, rot and potential insect infestations.

Monitoring Condition

- Once a building has been mothballed, it should be monitored to prevent further deterioration of materials from storms, undetected leaks, and unwanted intrusions.
- A regular schedule for surveillance, maintenance, and monitoring should be implemented.
Appendix I: Quartermaster Area Timeline
A map surveyed and drawn up in November shows many Lower Post buildings along Tower Avenue. (Although the roads are not labeled, this discussion will use their commonly used names.) Several buildings are identified as Post Quartermaster Stables and Shops. There is also an Artillery Stable further west along Tower Avenue, past the intersection of Bloomington Road. Meanwhile, at the intersection of Bloomington Road and Minnehaha Avenue, another set of quartermaster stables and shops can be seen. The map was revised during the 1880s, so it is difficult to tell which buildings were in place by 1879 and which were added some years later. In any event, the map confirms that the quartermaster area was well established on the west side of Bloomington Road by the early 1880s.  

Congress approves funds to construct new facilities at Fort Snelling. The $100,000 appropriation is for “headquarters’ offices, a residence for the commanding officer, and twelve buildings to house his staff.” This launches the development of the Upper Post.

The Quartermaster Storehouse is erected at the intersection of Minnehaha Avenue and Bloomington Road. The footprint of a structure in this location appears on several maps from the 1880s. The quartermaster records indicate the original building has a stone foundation. Some writers believe this is Building 217/F-17 and claim that it is the oldest surviving wood-frame structure at the fort. If this is the case, it appears to have undergone significant alteration over the years. One photograph, probably from the late nineteenth century, shows a window tucked under the gable on the south end of the building, one chimney near the south end of the roof, and three doorways and five windows on the west facade. Another photograph, apparently from the 1930s, shows two doors and seven windows on the east facade and two brick chimneys. In a 1996 photograph there is only one door with a small hood in the center of the west facade; the door is flanked by three windows on one side and two on the other. The two brick chimneys are gone, apparently replaced by metal smokestacks, and the window beneath the gable is no longer visible. A recent site inspection failed to reveal any cuts or repairs of the shiplap siding that would indicate a window once existed beneath the south gable or that there had been different openings on the west facade. The foundation appears to be concrete, not stone. Based on this information and on the overall appearance of the building, it seems likely to date from the first decades of the twentieth century. 

Congress approves another appropriation of $100,000 to erect more “buildings (probably fifteen) for quarters, mess-halls, kitchens &., for general service clerks, enlisted men, and civilian employees employed at department headquarters,” as well as stables, a forage house, and other utilitarian buildings, and infrastructure such as sidewalks and a water supply.

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1 E. B. Summers “Map # 1882-4, Plan View of Fort,” revised, at Fort Snelling Visitor Center.
3 Robert Clouse and Elizabeth Knudson Steiner, “All that Remains: A Study of Historic Structures at Fort Snelling, Minnesota” draft, 1998, prepared for the Division of Parks and Recreation, Minnesota Department of Natural Resource, 116; Quartermaster Records, available in Fort Snelling collection at the Minnesota Historical Society, Saint Paul (hereafter, Quartermaster Records). Originally, Fort Snelling buildings were identified by a letter referring to specific zone, followed by a number. In 1937-1938, these designations were changed to a numeric system that applied to the entire fort (Clouse and Steiner, “All that Remains,” 57). Both systems are referenced the first time a building is mentioned in this study; only the more recent numeric system is used thereafter.
Deputy Quartermaster-General Charles H. Tompkins makes a case for further expanding Fort Snelling in a report to the Senate: “The site selected for the headquarters’ buildings, the associations and surroundings of the neighborhood combine to invest Fort Snelling with a peculiar charm.” He notes the old fort, regarded with pride by pioneers, is midway between the cities of Saint Paul and Minneapolis, and is of interest to tourists. “I take the liberty of enlarging upon these facts, because I believe it will enhance the value of the many attractions of the place and heighten the interest felt by the people of Minnesota, if the establishment of the department headquarters, within sight of the famous old post, is made permanent, handsome, and complete in all details of structures and landscape culture.”

Construction of the Department of Dakota headquarters (Building 67/C-1) on Taylor Avenue is apparently begun this year.

1881 In April, the Minneapolis Tribune briefly notes that a Saint Paul seed dealer was “awarded the contract for supplying 325 bushels of Central Park (mixed) lawn grass for headquarters’ improvements at Fort Snelling.” The new headquarters building is nearing completion.

In May, the Tribune reports that “the chief commissary, department of Dakota, now has his office at Fort Snelling, with all the other headquarters offices.”

1882 A map of the Fort Snelling drawn by E. B. Summers depicts buildings grouped along the west side of Bloomington Road near the intersection of Minnehaha Avenue. Although none of the buildings are labeled, there is clearly a corral surrounded by stables. A contextual study of the army’s quartermaster notes that “quartermaster stables and corrals for the animals used to transport provisions were standard components of nineteenth-century western posts.”

1883 The Minneapolis Tribune reports that the army will ask Congress to provide funding to enlarge Fort Snelling. The army’s commanding general, Philip Sheridan, claims to be “familiar with the old post of Fort Snelling.” He explains, “It is a very old place, built originally with the idea of defense against Indians, and, in my opinion, is too contracted for an increased garrison. Near by there is a beautiful commanding site on the reservation, offering every facility for such a garrison as is proposed.” Sheridan thought the expenses required to refit the old post would be better spent on new facilities “constructed of brick and complete in all its appointments for 12 companies.”

1885 A group of structures is clustered around the intersection of Bloomington Road and Minnehaha Avenue. With the possible exception of Building 217, none of these buildings survive today. Cultivated fields are nearby.

6  Clouse and Steiner, “All that Remains,” 79.
7  “Fragments,” Minneapolis Tribune, April 29, 1881.
8  “Fragments,” Minneapolis Tribune, May 29, 1881.
10  “Fort Snelling,” Minneapolis Tribune, August 11, 1883.
11  Map of Fort Snelling Reservation, 1885, at Fort Snelling Visitor Center. While these buildings are not numbered on the 1885 map, a 1904 map does show buildings in the same position with numbers.
The walls that surrounded old Fort Snelling have been completely removed. Probably much of the stone has been reused for new buildings.12

1886 As of November 1, the Department of Dakota headquarters is transferred back to Saint Paul, and the Lower Post becomes even more of a backwater: “The facilities duplicated at both posts were apparently consolidated at the Upper Post. The newer, improved quartermaster’s compound on Bloomington Road at the intersection of Minnehaha Avenue, for example, seems to have absorbed the Lower Post facilities, which disappear from the maps of the late nineteenth century. Even the Lower Post cemetery was abandoned in the 1880s, at least for new burials.”13

1892 The Mineral Oil Building (Building No. 239/F-15) is erected. Both the foundation and walls are made of stone, while the gable roof is sheathed with corrugated iron, which is less flammable than wood. The structure, measuring 19’ by 33’, has a capacity of 10,000 gallons. The window on the south side of the building was added at a later date. Although the structure was not built according to any standardized quartermaster plans, prototypes for this building date back to at least the eighteenth century. A history of United States ammunition and explosive storage describes the sturdily built “Hessian Magazine” at Carlisle Barracks, Pennsylvania, which has fieldstone walls and a gable roof and dates from 1777. While a national context study of quartermaster standard plans does not specifically mention mineral oil buildings, its description of typical nineteenth-century ordnance storage facilities—“isolated small, windowless, one-story masonry buildings”—could be applied to Fort Snelling’s Mineral Oil Building as well.14

1894 The one-story, yellow-brick Forage House (Building 218/F-11) is erected. The hipped roof is shingled, the walls are brick, and the foundation is of stone. The building, which measures 22’-2” by 77’, can store forty tons of hay. Quartermaster records identify it both as a forage house and a quartermaster storehouse. Its design does not appear to be based on a standard plan.15

1895 The one-story, rectangular Sawmill (Building 219/F-10), which measures 19’ by 40’-6”, was not the product of a standardized plan. The foundation and walls are stone. The hipped roof is covered with tin, but will later be shingled. In time, this building will be converted into a wheelwright shop.16

1898 The Spanish-American War, which begins in April and is concluded by August, is fought for Cuban independence from Spain.

Units assembled at Fort Snelling are sent to suppress an uprising of an Ojibwa band at Leech Lake, Minnesota, considered the final fight of the “Indian Wars.”

1901 In August, the Minneapolis Journal notes that Major George E. Pond, chief quartermaster of the Department of Dakota, has been asked to prepare plans for improvements at Fort Snelling. His proposal, which will cost about $250,000 and take four years to complete, includes new barracks, officers’ quarters, a

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15 Clouse and Steiner, “All that Remains,” 117; Quartermaster Records. The Clouse study lists the roof as slate.
16 Clouse and Steiner, “All that Remains,” 118; Quartermaster Records.
drill hall, a railroad side track, roads, and a rifle range.\textsuperscript{17}

Late in the year, there is an announcement from Washington that Fort Snelling will be expanded. In the words of one observer, “Persistent efforts on the part of the Minnesota senators and representatives in the matter of the enlargement of Fort Snelling are beginning to show results.” Congress appropriates $15,000 to build a spur line from the existing Milwaukee Road tracks near Minnehaha Falls to the quartermaster’s area, “and for the beginning of a general system of improvement which is to be carried out.”\textsuperscript{18}

1902 The plans for the fort’s expansion are finalized “when William Carey Sanger, assistant secretary of war, affixed his signature to the general plan of the reconstruction and enlargement of this historic old army post.” Nine new buildings are envisioned including a storehouse, offices, barracks, stables, a large coal shed, a warehouse, a new water and sewer system, railroad tracks, and road and landscape improvements through the fort. It was anticipated that more than $600,000 would be spent on the improvements. Congressman F. C. Stevens hoped that the expanded fort would accommodate 2,500 men and 1,000 horses.\textsuperscript{19}

Another newspaper reports that Congressman Stevens “believes that the new artillery barracks, gun shed and stables can be constructed and the infantry quarters remodeled this season.” Old infantry buildings near the original fort would be razed to make way for new artillery quarters. Deputy Quartermaster Pond, who by this time has been promoted to colonel, notes that a quarter of a million dollars is available for improvements at the fort, but this must be spent by June 30, 1903. The budget deadline is not the only catalyst for completing this work. Pond explains, “There is at present no accommodation at Snelling for the artillery that will be sent here,” aside from a few outdated buildings that could serve as temporary officers’ quarters. “We shall have to erect this year the stables for the artillery, the gun sheds, the corrals, the barracks, the guard house and the administration building.” However, contracts were not let until the fall.\textsuperscript{20}

A map of Fort Snelling dating from this year shows buildings labeled “Quartermaster Stables” at the northwest corner of Minnehaha Avenue and Bloomington Road that have the same footprint as those seen on earlier maps. There is a “proposed spur track” shown to the west of the extension of Minnehaha Avenue, and two proposed stables are where Buildings 211 and 214 will be built within several years.\textsuperscript{21}

The Forage House (Building 224/F-16) is built. The one-story, brick building has a stone foundation, a slate gable roof, measures 35’-4” by 184’-11”, and is apparently bisected by a firewall. It has a capacity of 285 tons of baled hay and 350 tons of oats. Originally, there were four venting cupolas along the roof ridge. At some point, a loading platform is added running the length of south side of the building.\textsuperscript{22}

1903 Bids to construct a 6,740’-long railroad spur from near Minnehaha Falls to the fort are opened. M. J. Sheppard and Company of Minneapolis is the low bidder at $14,800.\textsuperscript{23}

\textsuperscript{17} “Plans for Enlargement,” Minneapolis Journal, August 3, 1901.
\textsuperscript{19} Carmody, “To Erect Nine New Buildings,” Minneapolis Tribune, May 14, 1902. The article noted that Congressman Stevens had been working on the expansion of Fort Snelling for four years.
\textsuperscript{21} George E. Pond, “Map 1902-2, Plan View of Fort Showing Proposed Scheme of Reconstruction and Enlargement to Accommodate One Regiment of Infantry and Two Batteries of Field Artillery,” at Fort Snelling Visitor Center.
\textsuperscript{22} Clouse and Steiner, “All that Remains,” 122; Quartermaster Records.
\textsuperscript{23} “Fort Snelling Spur,” Minneapolis Tribune, March 27, 1903.
A series of buildings for the artillery are erected along Bloomington Road. One study notes, “Fort Snelling expanded after the Spanish-American War to serve as a brigade post for domestic and international missions. As part of this 1903 expansion, storage and maintenance facilities were constructed for field artillery, including a stable (Building 202), horseshoeing shop (206), and gun sheds (207 and 209).” The construction of these buildings is based on standardized plans produced by the Office of the Quartermaster General.24

The Artillery Gun Shed (Building 202/F-24) is built from standardized plan 104-D, according to the Quartermaster Records. Situated adjacent to the site of where the Cavalry Drill Hall (Building 201) will be erected in a few years, the one-story, wood-frame gun shed measures 34’ by 191’ 4” and has a stone foundation and a slate gable roof.25

The one-story Artillery Work Shop (Building 205/F-27) measures 20’ by 45’ and has a stone foundation, brick walls, and a slate roof. Built as a horseshoeing shop for field artillery horses, it has room for three workers. Originally, the middle door on the northeast side is flanked by two garage doors, but these are removed at some point and replaced by windows. The building has no plumbing at first, but a toilet and sink are added at an unknown date. The original masonry chimney is replaced by a metal smokestack at some point. One study places the building in the historic context of the fort’s motor pool prior to World War II.26

Another Artillery Work Shop (Building 206/F-26) is erected south of Building 205 and is identical to it in size and materials.27

The one-story, wood-frame Artillery Gun Shed (Building 207/F-23) has a gabled slate roof and a stone foundation. It accommodates eighteen artillery guns. One study speculates that its plan is based standardized plan 104-D because it is very similar to Building 202, which does follow that plan. At some point the building was partitioned off to make an ordnance repair shop and some of the original overhead doors were replaced.28

The Artillery Stable (Building 209/F-21) measures 66’ by 184’, has a stone foundation, wood-frame walls, and a slate roof, and can hold 102 horses. Similar to other fort stables, this one-and-one-half-story building has a gable roof and clerestory that provides light to the hayloft. A HABS study notes that stable’s design follows O. Q. M. G. Plan #139-C and this same plan number is noted in Quartermaster Records. A quartermaster context study notes that stables were not only important to nineteenth and early twentieth century posts with cavalry and artillery, but “also were associated with installation or regional quartermaster logistical and supply activities.”29

Late in December a newspaper sums up progress at the fort, reporting that seventeen new buildings have been under construction and all but four are completed. The list includes barracks, artillery stables, gun sheds, a gymnasium, a guardhouse, a fire station, and workshops. The report predicts more buildings will be completed or remodeled by the end of 1904 including infantry barracks, bachelor officers’ quarters, captains’ quarters, a double set of

25 Ibid., Quartermaster Records.
28 “Fort Snelling, Building 207,” Historic American Buildings Survey No. MN-56-FF, 1992; Clouse and Steiner, “All That Remains,” 110; Quartermaster Records. The Quartermaster document does not specifically indicate the building was built according a standardized plan.
NCO quarters, a quartermaster storehouse, a subsistence storehouse, four cavalry stables, and two stable guard buildings.30

1904 The Subsistence/Quartermaster Storehouses (Building 222/F-18 and F-19) are built. Originally, there are two virtually identical buildings (F-18: Subsistence Storehouse; and F-19: Quartermaster Storehouse), aligned parallel to one another and the railroad spurs and perpendicular to Bloomington Road. Situated on the former location of post gardens, each of the three-story structures is approximately 32’ wide and 178’ long and has a stone foundation, brick walls, and a slate roof.31

The two-story double quarters (Building 227/F-30 and F-31) is erected on Bloomington Road just south of Building 222. The two-family residence is probably occupied initially by noncommissioned army officers (NCO) associated with the quartermaster’s facilities, but is later used by naval control shipping officers (NCSO). A context study of quartermaster facilities observes that “duplexes were the most common housing types for NCOs from 1890 to World War I,” and adds that “NCO housing was located next to the area where the resident NCO worked. For example, the hospital steward’s house was built next to the hospital.” The same study notes that beginning in the 1890s, the “Army began another effort to standardize officer housing for better cost control.” The building has a stone foundation, brick walls, a slate roof, and six-over six windows, and measures 27’-3” by 37’-5”. The porches were altered in the 1930s.32

Like many of the buildings at the fort from this era, the quarters exhibit the Colonial Revival style. The quartermaster study notes: “Following close on the boisterous Victorian era of the late 1800s, the Colonial Revival style gained popularity as a wave of patriotism, combined with increasingly mature national awareness and a desire to return to the ‘good old days’ swept the country. If the middle class was attracted to Colonial Revival buildings, new in the 1890s and 1900s, so were architects who designed them for the Army and members of congress who appropriated funds for their construction.” The study added that during this period “Colonial Revival architecture dominated Army construction.”33

The Powder Magazine (Building 237/F-2) is built at an unknown location; it was later moved to this site. The one-story structure measures 30’ by 60’. Its walls and roof are corrugated iron, presumably to deter fires, and the three vents on the gable roof facilitated circulation and cooling. At one time, a loading platform ran along the south side of the building. One study notes, “Aboveground magazines built during the late eighteenth to early twentieth century follow no standardized plan. They vary in size, shape, construction material, and architectural/engineering features.” Yet, this magazine exhibits some features that would later become standard to store smokeless powder, which was formulated in the 1880s. By World War I, “most aboveground magazines were rectangular in shape with flat or gabled roofs.” Smokeless power or Class II magazines were of lighter construction than the Class 1 variety. “The construction of smokeless power magazines varied from other standard magazines because smokeless power required protection from moisture and high temperatures and the walls and ceilings had to be tightly constructed to eliminate any cracks. Magazines were built of frame construction on wooden or concrete piers. Outside walls, which extended to the ground level, were of corrugated sheet asbestos,” and had roof ventilators. The standard Class II smokeless powder magazine was 32’ by 96’, almost twice as large as the 1904 magazine.34

30 “Take Care of Boys,” Minneapolis Tribune, December 28, 1903.
31 Clouse and Steiner, “All that Remains,” 120; Quartermaster Records.
34 Clouse and Steiner, “All that Remains,” 128; Quartermaster Records; Murphy et al., “Army Ammunition and Explosives Storage,” 67–68.
In April, a newspaper lists all the buildings that have been completed since April 1903: a post exchange and gymnasium, fire station, commissary and quartermasters’ storehouses and stable, guard building, hay shed, two artillery stables, two gun sheds, two artillery barracks, officers’ quarters, and two non-commissioned staff officers’ quarters. Sewer and water lines have been extended to the new buildings, and the utility system has been improved with an electrical plant and a pump house and water tank. The article also notes that “the parade grounds which were formerly rough, have been graded and seeded out, and shade trees have been set out throughout the reservation.” Another article reports that the quartermaster’s department is urging the construction of a cavalry drill hall because “after August there will be four squadrons of cavalry at the fort.”

1905 A 32’ by 97’ Root House (F-14) is erected along the north wall of Building 222/F-18. It has a slate gable roof, a stone foundation, and brick walls.

1906 In July, bids are opened for the Cavalry Drill Hall (Building 201/F-42), which has received an appropriation of $50,000 from Congress. A newspaper publishes a sketch of the design and notes it is a new type of drill hall “evolved after careful study by the experts in the office of the quartermaster general of the army. One of its most important features is that most of the illumination comes from a huge skylight, by which arrangement it has been possible to avoid the shadows cast by wall windows. The side shadows often frighten horses and so lead to accidents.”

1907 The Cavalry Drill Hall is completed and officially opens in November. It has a stone foundation, red brick walls, a tile roof, and measures 244’-4” by 107’-10”. A context study notes, “Drill and riding halls were constructed to provide indoor facilities for training activities. These buildings are large rectangular structures enclosing a great expanse of open interior space.” The study explains the difference between the two types of halls: “Cavalry riding halls were located near stable complexes, while drill halls were located near barracks.”

A one-story Shops Building (Building 210/F-43) is constructed based on standard plan No. 182. The 28’ by 150’ structure contains five shops and has a stone foundation, brick walls, and a gabled slate roof. At some point, gables are placed over two of the doorways on the north side, and one opening with double doors is filled in with brick.

In November, the four-unit Non-Commissioned Officer (NCO) Quarters (Building 229/F-38–F-41) is completed. Fronting on Bloomington Road, it has a stone foundation, brick walls, and a gabled slate roof. One-story open porches extend across the front of the building; they are rebuilt in the 1930s. The main building measures 27’ by 76’; wings projecting from the rear of the building are 18’ by 27’-3”. The four-unit quarters is built according to standard plan No. 85-B. Like its neighbor, Building 227, it features the Colonial Revival style.

1909 The Quartermaster Stable (Building 211/F-49), erected to shelter 106 animals, is constructed from standard plan No. 139-L. The one-and-one-half-story, 67’ by 195’ structure has brick walls resting on a stone foundation. A clerestory in the gable roof provides light to the hayloft. A context study of quartermaster structures describes army stables in the early twentieth century: “Stables typically were long, rectangular, gable-roofed structures, with doors

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36 Clouse and Steiner, “All that Remains,” 120; Quartermaster Records.
38 Clouse and Steiner, “All that Remains,” 104; “Fort Snelling Notes,” Minneapolis Tribune, November 24, 1907; USACE-Seattle, “Context Study of the United States Quartermaster General,” 110. The Clouse study identifies this as the “Cavalry Drill Hall, while a 1939 map calls it the “Riding Hall.”
39 Clouse and Steiner, “All that Remains,” 126 Quartermaster Records.
at the end elevations and windows along side elevations.” Most surviving examples are of brick or stone. The study continues, “The stables for different branches are located in distinct areas of the post. The quartermaster stables generally were one-and-a-half stories with the half story used as a hay loft; they typically display little architectural detailing.” The Fort Snelling stable shows only minor variations, such as the number of windows, from the standard plan.40

A Civilian Employee’s Quarters (Building 241/F-50) is moved from another location and placed on a brick foundation along Minnehaha Avenue. The single-family house measures 18’-3” by 26’-2”. The walls are wood and the gabled roof is shingled. Originally, the porch was open, but at some point it was enclosed. Within a few years, this area will have a cluster of vernacular wood-frame houses including Building 242/F-48 and Building 244/F-51.41

1910 Another Quartermaster Stable (Building 214/F-56) is erected as a companion to Building 211. Its overall design, dimensions, materials, and capacity match its neighbor.42

The Artillery Stable (Building 209) receives a 41’-4” addition to its northeast end that holds thirty-two stalls.43

Several Civilian Employee’s Quarters (Buildings 240/F-53, 245/F-52, 246/F-54, and 247/55) are added to the residential area along Minnehaha Avenue. They are joined by another house, Building 248, in the following year.44 45

1913 The former Sawmill (Building 219) is damaged by fire. It has been converted into a Wheelwright Shop.46

1914 Many buildings at the Upper Post are damaged or demolished by a tornado that sweeps through the area. These buildings include the Shops Building (Building 210), Quartermaster Stable (Building 211), Mineral Oil House (Building 239), Sawmill/Wheelwright Shop (Building 219), Cavalry Drill Hall (Building 201), Artillery Stables (Buildings 203 and 209), and Artillery Work Shops (Buildings 205 and 206).47

An Artillery Gun Shed (Building 202) is completely demolished by the tornado and rebuilt. Apparently, the replacement building is virtually identical to the original, with a stone foundation, wood walls, and slate roof. It has eighteen bays for the storage of artillery guns. At some date, the building was portioned off to create an ordnance repair shop.48

Another Artillery Gun Shed (Building 207) is also demolished by the tornado and rebuilt. The new structure measures 34’ by 191’-4”, and has eighteen bays

40 Clouse and Steiner, “All that Remains,” 113; USACE-Seattle, “Context Study of the United States Quartermaster General,” 336, 343-344, 379. The example of plan No. 139-L from Fort McPherson measures 67’ like the Fort Snelling stable, but is only 145’ long.
41 Clouse and Steiner, “All that Remains,” 131-132, 134.
44 Clouse and Steiner, “All that Remains,” 130, 135, 136, 137.
46 Ibid., 118.
48 Ibid., 105.
for the storage of artillery guns. A handwritten note in the quartermaster records notes that it is the “same as 202.”

An annex, measuring 21’-6” by 60’, connects the south ends of the Subsistence and Quartermaster Storehouse (Buildings F-18 and F-19) to form a single building (now Building 222). The annex has a stone foundation, brick walls, and a slate roof that match the earlier structures.

1916 On July 9, a Quartermaster Stable (Building 211) is damaged by fire, but is repaired at a cost of $12,000.

A one-story wagon shed with a gable roof (Building 216/F-59) is built at the corner of Minnehaha Avenue and Bloomington Road. The foundation is concrete, the walls wood, the roof tile, and the floors dirt. The building measures 33’ by 208’ and accommodates forty-nine wagons. At some later date, a 12’ by 40’ wing is added to house truck drivers.

1917 The wood-frame Quartermaster Storehouse (Building 225/F-60) is erected. The building measures 20’-6” by 77’-4”. At some point, the original wood-pier foundation is replaced by a concrete blocks and a masonry chimney is installed.

A one-story, ten-car garage (Building T-228/F-45) is built at the World War I cantonment. Measuring 100’ by 20’, it has a concrete foundation, wood walls, and a gabled roof of wood and paper.

A Quartermaster Warehouse (Building 223/F-61) is erected. It will later be salvaged.

A two-story Office Building (Building 221) fronting on Bloomington Road is erected. It measures 117’-8” by 19’. The foundation is concrete, the walls wood, and the gabled roof wood and paper.

1920 Building T-228 is moved to its current location behind Buildings 227 and 229 and presumably serves as a garage for these residences. A context study of quartermaster plans supports this idea, observing that garages were often installed behind family quarters. The study concludes that while “garages are minor support buildings in housing complexes, ... they are associated with the widespread use of the private automobile and incorporation of the car into domestic life.”

1922 The steam boiler in Building 219, which has served as a sawmill and wheelwright shop, is removed and the structure is converted into a blacksmith’s shop.

49 Ibid., 110; Quartermaster Records; HABS Study No. MN-56.
50 Clouse and Steiner, “All that Remains,” 120; Quartermaster Records.
51 Clouse and Steiner, “All that Remains,” 113; Quartermaster Records.
52 Quartermaster Records.
53 Clouse and Steiner, “All that Remains,” 123; Quartermaster Records.
54 Clouse and Steiner, “All that Remains,” 125.
55 Ibid., 121.
56 Quartermaster Records.
58 Clouse and Steiner, “All that Remains,” 118.
A spectators' platform inside of the Calvary Drill Hall (Building 201) is extended the entire length of the hall.\textsuperscript{59}

1923 This might be when one of the quartermaster stables, Building 214, is partially converted to a veterinary hospital for the fort's horses. The quartermaster records note the construction of a “veterinary wing” measuring 33'-6" by 80'-6".\textsuperscript{60}

1926 The quartermaster authorizes the removal of some side stalls from the Artillery Stable (Building 209). This perhaps indicates that the building was no longer being used for horses.\textsuperscript{61}

1928 The Post Exchange Oil and Gas House is built near the intersection of Bloomington Road and Minnehaha Avenue. It has wood walls, a concrete foundation, and measures 12'-4" by 8'-4". This building is replaced in 1932 by Building 220/F-58. A context study notes: “Gas station were constructed as minor support facilities during the wave of new construction of the late 1920s and 1930s when the Army modernized its posts and airfields.”\textsuperscript{62}

A report describes Building 225, a quartermaster storehouse, as “a temporary building, not in good condition.”\textsuperscript{63}

1929 One half of the second Quartermaster Stable (Building 214) might have been converted into a veterinary hospital for the fort's horses in this year.\textsuperscript{64}

1930 On November 13, the Root House that adjoins Building 222 burns down.\textsuperscript{65}

1930 A four-bay garage (Building 243/F-62) is erected near the residential neighborhood along Minnehaha Avenue to serve the houses. It measures 40'-6" by 22' and has wood walls and a shed-style roof of wood and paper. Apparently, the foundation is concrete. At some point, three additional bays were built, bringing the capacity to seven automobiles.\textsuperscript{66}

1931 The Powder Magazine, Building 237, is moved to its present location. At some point, the metal siding was extended to the ground and the three doors on the south side were converted to windows.\textsuperscript{67}

A fire damages one of the quartermaster's stables (Building 214).\textsuperscript{68}

\begin{itemize}
\item \textsuperscript{59} Ibid., 104.
\item \textsuperscript{60} Ibid., 114; Quartermaster Records. The Quartermaster account gives two different years, 1923 and 1928, for this event.
\item \textsuperscript{61} Ibid., 111; Quartermaster Records.
\item \textsuperscript{62} Ibid., 119; Quartermaster Records.
\item \textsuperscript{63} Ibid., 123.
\item \textsuperscript{64} Ibid., 120; Quartermaster Records.
\item \textsuperscript{65} Ibid., 133. This study also describes the foundation as “dirt.”
\item \textsuperscript{66} Ibid., 128.
\item \textsuperscript{67} Ibid.
\item \textsuperscript{68} Quartermaster Records.
\end{itemize}
The Cavalry Drill Hall (Building 201) has 477 theater-style chairs installed. At some point, arched doorways at the ends of the building, high windows are partially filled in, and garage doors are added along the south facade. One of the garage door openings is later filled in with brick.69

An Artillery Stable (Building 209) is converted to storage for fifty-four vehicles at a cost of $3,332 and its name is changed to Motor Storage Shed.70

1932 Garage doors are added to a Quartermaster Stable (Building 211) when it is converted to a tank and motor shed that accommodates 42 vehicles. At some point, a small, concrete-block addition with a gable roof is appended to the north end of the building.71

The Quartermaster Oil Station (Building 215/F-57) is erected. The one-story, rectangular building has a gable roof and rests on a concrete foundation. The exterior is covered with stucco. At some point, the double door on the west side is replaced a single door and a metal smokestack is added. Although the Clouse study lists the roof as slate, it is now covered with hexagonal asphalt shingles. At some point, the north end of the building is remodeled into a porch, suggesting it followed examples cited by a quartermaster context study: “The typical gas station consisted of a small, one-story building with several gasoline pumps in front. In some examples, a roof extended over the pumps.”72

The Post Exchange Oil and Gas House (Building 220/F-58) replaces the much smaller original building. The 22'-6” by 60' structure has concrete-block walls, asbestos shingles, and a concrete foundation. In the late 1930s, it was re-roofed by WPA workers. A context study observed that “gas stations are associated with automobiles as a major mode of transportation. They were constructed at military installations during the inter-war period, when the military began to provide many of the same services found in cities to installation residents. Pre-1940 gas stations are typically found at military installations with large resident populations.”73

1933 Between 1933 and 1936, the Forage House (Building 224) is converted into the Utility Shops and Warehouse. The costs of labor for the conversion are largely provided by the Civilian Conservation Corps. A full-length loading platform on the south side is removed and four smaller docks are built. Eight double doors are changed into double windows.74

1934 The Artillery Stable/Motor Shed Storage Building (Building 209) is converted into the CCC Clothing and Equipage Warehouse. There are several alterations including the installation of asbestos siding and a smokestack.75

A wood-frame, one-car garage (Building 251) with a gabled roof sheathed with asphalt and felt is erected north of the Minnehaha Avenue residential area. It measures 14'-6” by 18'-8” and has a concrete foundation and floor.76

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69 Clouse and Steiner, “All that Remains,” 104.
70 “Fort Snelling, Building 209”; Quartermaster Records; Clouse and Steiner, “All That Remains, 111. The quartermaster account gives August 15, 1931, as the date completed.
71 Clouse and Steiner, “All that Remains,”113; Quartermaster Records. The Clouse study does not mention the concrete-block addition, but its dilapidated condition suggests it has been in place for several decades.
72 Clouse and Steiner, “All that Remains,” 115.
74 Clouse and Steiner, “All that Remains,” 122.
75 “Fort Snelling, Building 209.”
76 Quartermaster Records.
1935  A modern four-story building with red brick walls, a concrete foundation, and a flat, tar-and-gravel roof is erected on the site of a section of the Quartermaster Storehouse (Building F-19) that burned down in 1929. The new warehouse, based on standard plan No. 6142, measures 145’ by 44’.77

The CCC Commissary Warehouse (Building 223) is erected on the site of the former Building F-61, which had been salvaged the previous year. The 130’ by 135’ concrete-block structure has a concrete foundation. The building’s two hipped roof are covered with built-up tar and gravel. At some point, the windows are modified and double doors are added.78

By this year, but probably earlier, the Wagon Shed (Building 216) has become a garage with a capacity of forty-eight vehicles. Concrete covers the original dirt floors. A temporary lean-to, measuring 12’ by 40’-6”, is added to the north side of the building.79

1936  Several electric motors are removed from the Shops Building (Building 210), which perhaps no longer serves as a shop. At some point, one of the double doors on the north side is filled in with brick and small, gable-roofed porches are added to doors on the north side.80

The motors removed from Building 210 are installed in Building 219, which apparently becomes the shops building.81

In September, “a small addition of temporary nature for the purpose of painting Motor Vehicles” is built on the Post Garage (Building 216).82

1937  The section of Building 222 that was formerly a root house is converted into the Post Bakery with the help of WPA labor. In May, a new Bennett oven, furnished by the Quartermaster Depot at Jeffersonville, Indiana, is installed.83

Between 1937 and 1938, the former Shops Building (Building 210) is converted into the Ordinance and CWS Warehouse.84

A formerly undeveloped area south of the quarters on Bloomington Road is now labeled on a map as the “Nursery Plat.”85

1938  The one-story Office, Warehouse, Shops (Building 230) is constructed of concrete blocks along a the railroad spur south of the quartermaster’s complex. A tall brick chimney rises from the asphalt roof of the 300’ by 80’ structure. The quartermaster records describe it as the WPA Warehouse.86

WPA labor replaces the open, wood porches on the quarters along Bloomington Road (Buildings 227 and 229) with enclosed, brick porches on concrete-

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77  Ibid.; Clouse and Steiner, “All that Remains,” 120.
78  Clouse and Steiner, “All that Remains,” 121.
79  Quartermaster Records.
80  Clouse and Steiner, “All that Remains,” 112.
81  Ibid., 118.
82  Quartermaster Records.
83  Ibid.
84  Ibid.
85  Aerial photograph dated July 1, 1937, Borchert Map Library, University of Minnesota-Minneapolis.
86  Clouse and Steiner, “All that Remains,” 127; Quartermaster Records. The Clouse study calls this the “Office, Warehouse, Shops” building.
block foundations.\textsuperscript{87} \textsuperscript{88}

A one-story residential structure (Building 257 or T-257) is erected in the vicinity of Building 230.\textsuperscript{89}

A portion of a former Quartermaster Stable (Building 214) is converted to a lab to serve the veterinary hospital that occupies the building.\textsuperscript{90}

1939  An Artillery Stable (Building 203) is destroyed by fire.\textsuperscript{91}

1940  Two garages (Buildings T203 and T203A) are erected adjacent to the Cavalry Drill Hall.\textsuperscript{92}

The Nursery Plat does not show any sign of trees.\textsuperscript{93}

1941  On December 7, the United States enters World War II.

1945  World War II ends.

An aerial photograph reveals three groves of trees growing in the Nursery Plat.\textsuperscript{94}

1946  Fort Snelling is decommissioned and turned over to the Veterans Administration.\textsuperscript{95}

1948  The former wagon shed (Building 216), now known as the Post Garage, is salvaged for its materials.\textsuperscript{96}

1949  The Office Building (Building 221) fronting Bloomington Road is razed and the materials salvaged.\textsuperscript{97}

1960  Leavenworth Avenue still exists.\textsuperscript{98}

\textsuperscript{87} Clouse and Steiner, “All that Remains,” 126; Quartermaster Records.
\textsuperscript{88} Quartermaster Records.
\textsuperscript{89} Clouse and Steiner, “All that Remains,” 46, 141.
\textsuperscript{90} Quartermaster Records.
\textsuperscript{91} Clouse and Steiner, “All that Remains,” 106. The Clouse study does not mention the year the stable was erected.
\textsuperscript{92} Ibid., 106; 107; Quartermaster Records; Quartermaster Map, “Plan View of Fort,” 1946, Fort Snelling Visitor Center; Historic American Buildings Survey Nos. MN-56-AA, MN-56-BB, and MN-56-CC.
\textsuperscript{93} Aerial photograph dated June 15, 1940, Borchert Map Library, University of Minnesota-Minneapolis.
\textsuperscript{94} Aerial photograph dated 1945, Borchert Map Library, University of Minnesota-Minneapolis.
\textsuperscript{95} Roise, “Fort Snelling’s Buildings 17, 18, 22, and 30,” 56-57.
\textsuperscript{96} Quartermaster Records.
\textsuperscript{97} Ibid.
\textsuperscript{98} Aerial photograph dated May 8, 1960, Borchert Map Library, University of Minnesota-Minneapolis.
1969 An aerial photograph shows Leavenworth Avenue with a line of trees and a worn path, but it is unclear if it is still used as a road.\(^9\)

A building now occupies a portion of the Nursery Plat, but two groves still exist.\(^{100}\)

1995 Sometime before 1996 the following buildings are razed: Garage (Building 208), Scale Office (Building 226 or T226), Quartermaster Shed (Building 236), Quartermaster Warehouse (Building 238), Barracks (Building 212), Garage (Building 213), and Wagon Shed/Garage (Building 213).

1996 Building 230, the former WPA Warehouse, is now used by the United States Navy.\(^{101}\)

Building 238, once located along the railroad spur tracks, has been razed by this time.\(^{102}\)

The Post Exchange Oil and Gas House (Building 220), built in 1932, is now privately owned and operated.\(^{103}\)

The former CCC Commissary (Building 223) was recently used by the Veterans Administration Fire Department.\(^{104}\)

Around this time, the former artillery buildings and the later adjacent garages (T-203 and T-203A) are razed, as are the former WPA Warehouse (Building 230) and the civilian employees’ quarters on Minnehaha Avenue. A tennis center is built on part of the artillery site.

2000 About this time, the Artillery Work Shops (Buildings 205 and 206) are moved to serve the sports fields developed on the Parade Grounds by the Minneapolis Park and Recreation Board.

2009 The former site of Building 230 is now crossed by a tunnel running beneath the airport for a light-rail transit line.

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100 Ibid.
101 Clouse and Steiner, “All that Remains,” 126.
102 Ibid. This building is not listed in the Clouse study, suggesting it was no longer extant in 1996.
103 Ibid., 119.
104 Ibid., 121.
Appendix II: Building Parcel Area, Coverage and Development Potential

Historic Building Coverage Calculation for West Treatment Zones
<table>
<thead>
<tr>
<th>Treatment Zone</th>
<th>Building Parcel</th>
<th>Parcel Area</th>
<th>*Allowable Coverage % or Building Size</th>
<th>Coverage SF</th>
<th>Floors</th>
<th>Total GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>F.1</td>
<td>19,300</td>
<td>One building similar in size to Bldg 201 to be located on F.1, F.2, and/or G.1</td>
<td>see total</td>
<td>2</td>
<td>see total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F.2</td>
<td>21,400</td>
<td></td>
<td>see total</td>
<td>2</td>
<td>see total</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>G.1</td>
<td>62,600</td>
<td></td>
<td>see total</td>
<td>2</td>
<td>see total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td></td>
<td></td>
<td>28,000</td>
<td></td>
<td>56,000</td>
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<tr>
<td>G</td>
<td>G.2</td>
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<td>17%</td>
<td>30,300</td>
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<td>60,600</td>
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<tr>
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<td>12,000</td>
<td>20%</td>
<td>2,400</td>
<td>1</td>
<td>2,400</td>
<td>only additions</td>
</tr>
<tr>
<td></td>
<td>H1.2</td>
<td>12,000</td>
<td>20%</td>
<td>2,400</td>
<td>1</td>
<td>2,400</td>
<td>only additions</td>
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<td>H1.3</td>
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<td>20,400</td>
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<tr>
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<td>H1.4</td>
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<tr>
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<td>H1.5</td>
<td>20,800</td>
<td>Similar to Bldg 211/214</td>
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<td>1.5</td>
<td>20,400</td>
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<td></td>
<td>H1.6</td>
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<td>Similar to Bldg 211/214</td>
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<td>1.5</td>
<td>24,600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
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<td></td>
<td>64,800</td>
<td></td>
<td>94,800</td>
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<tr>
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<td>H2.1</td>
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<td>100%</td>
<td>24,800</td>
<td>1+</td>
<td>24,800</td>
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<td>H3</td>
<td>H3.1</td>
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<td>Size of original Bldg 227</td>
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<td>2,000</td>
<td>only additions</td>
</tr>
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<td>H3.2</td>
<td>3,000</td>
<td>Size of original Bldg 229</td>
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<td>2</td>
<td>6,000</td>
<td>only additions</td>
</tr>
<tr>
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<td>total</td>
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<td>4,000</td>
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<td>8,000</td>
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<td>49,200</td>
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<td>J1.2</td>
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<td>40%</td>
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<tr>
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<td>total</td>
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<td>281,040</td>
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Notes:
*Allowable coverage based on calculation of total treatment zone area, including street boulevards and yard areas (most conservative)

Zone H1 and Zone H3 have very restricted parcel locations that can be almost completely covered

525,240 TOTAL WEST GSF
## Historic Building Coverage Calculation for West District Treatment Zones

<table>
<thead>
<tr>
<th>Treatment Zone</th>
<th>Zone Area</th>
<th>Zone Area less no-build buffers*</th>
<th>Historic Building #</th>
<th>Historic Building Footprint Area 1939</th>
<th>Historic Building Total 1939</th>
<th>Historic Coverage Calculation (Percentage of Total)</th>
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<tbody>
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<td>177,683</td>
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<td>206</td>
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<td></td>
<td></td>
<td>208</td>
<td>7,760</td>
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<td></td>
<td>209</td>
<td>15,780</td>
<td>68,119</td>
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<td>(Historic Building Total Area) divided by (ZONE Area less STREET &amp; BUFFER)</td>
<td>(Historic Building Total Area) divided by (Total ZONE Area)</td>
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<td><strong>H1</strong></td>
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<td>247,764</td>
<td>210</td>
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<td>211</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>212</td>
<td>5,260</td>
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<tr>
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<td>213</td>
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</tr>
<tr>
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<tr>
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<td></td>
<td>215</td>
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<tr>
<td></td>
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<td></td>
<td>216</td>
<td>10,400</td>
<td>51,150</td>
<td>21% 13%</td>
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<tr>
<td>(Historic Building Total Area) divided by (ZONE Area less STREET &amp; BUFFER)</td>
<td>(Historic Building Total Area) divided by (Total ZONE Area)</td>
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</tr>
<tr>
<td><strong>H2</strong></td>
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</tr>
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<td>218</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>219</td>
<td>1,810</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>220</td>
<td>1,540</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>221</td>
<td>2,540</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>222</td>
<td>19,000</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
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<td>223</td>
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<td>225</td>
<td>1,620</td>
<td>55,229</td>
<td>21% 18%</td>
</tr>
<tr>
<td>(Historic Building Total Area) divided by (ZONE Area less STREET &amp; BUFFER)</td>
<td>(Historic Building Total Area) divided by (Total ZONE Area)</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td><strong>H3</strong></td>
<td>149,749</td>
<td>75,280</td>
<td>227</td>
<td>1,000</td>
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<tr>
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<td></td>
<td></td>
<td>228</td>
<td>2,000</td>
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<tr>
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<td></td>
<td></td>
<td>229</td>
<td>3,000</td>
<td>6,000</td>
<td>8% 4%</td>
</tr>
<tr>
<td>(Historic Building Total Area) divided by (ZONE Area less STREET &amp; BUFFER)</td>
<td>(Historic Building Total Area) divided by (Total ZONE Area)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*no-build buffers include boulevard setbacks, yards, rail siding & viewsheds

N/A = Treatment Zone Area and Parcel Area are same

221 Building Numbers in Gray have been demolished
Appendix III: West District Reuse Study – Building Summary Spreadsheet
West District Reuse Study - Building Summary

Exterior Condition:

- **5 Excellent**: Virtually no work required.
- **4 Very Good**: Selective re-pointing of the masonry surfaces; selective replacement of stone sills, belt courses, and/or foundation stones; selective repair to fascias, soffits, etc.
- **3 Good**: The building appears structurally sound, but approximately 50% of the exterior may need repair, including such items as cracks in the masonry or mortar joints; more extensive tuckpointing of the masonry surface; more extensive repair or replacement of stone sills, belt courses, and/or foundation stones; and more extensive repair to fascias, soffits, etc.
- **2 Fair**: No apparent structural deficiencies in the floor, roof, and/or wall structure, but extensive work is necessary to restore it to original condition, including such items as cracks in the masonry or mortar joints; extensive tuckpointing of the masonry surface; extensive repair or replacement of stone sills, belt courses, and/or foundation stones; and extensive repair to fascias, soffits, etc.
- **1 Poor**: Structural deficiencies of the roof and/or wall structures are apparent, and the building either should not be entered or extreme caution should be taken if it is entered.
- **0 Beyond Repair**

Interior Condition:

- **5 Excellent**: With reestablishment of utilities (if necessary), the building could be immediately reused.
- **4 Very Good**: With reestablishment of utilities (if necessary), the building could be reused with minor patching of interior finishes and/or painting.
- **3 Good**: The building is not habitable as it exists. There may be some floor and/or plaster damage and extensive painting and finishing would need to be done.
- **2 Fair**: The building is not habitable as it exists. There may be sagging joists, buckled floors, and extensive plaster damage.
- **1 Poor**: The building is not habitable as it exists. There may be structural deficiencies in the roof and/or wall structure, and the building either should not be entered or extreme caution should be taken if it is entered.
- **0 Beyond Repair**
## West District Reuse Study - Building Summary

<table>
<thead>
<tr>
<th>Building</th>
<th>Original Use</th>
<th>Year Built</th>
<th>Year Vacant</th>
<th>Number of Floors</th>
<th>Basement</th>
<th>Building Footprint</th>
<th>Gross Floor Area</th>
<th>Hazardous Materials</th>
<th>2010 Ext. Cond</th>
<th>2010 Int. Cond</th>
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<tbody>
<tr>
<td>201 Cavalry Drill Hall</td>
<td></td>
<td>1907</td>
<td>no*</td>
<td>1</td>
<td>No</td>
<td>28,000</td>
<td>28,000</td>
<td></td>
<td>5*</td>
<td>5*</td>
</tr>
<tr>
<td>210 Ordnance and CWS Office</td>
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<td>1907</td>
<td>storage</td>
<td>1</td>
<td>yes</td>
<td>4,300</td>
<td>8,600</td>
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<td>3</td>
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<td>storage</td>
<td>1.3</td>
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<td>1932</td>
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<td>1</td>
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<td>2</td>
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<td>4</td>
<td>4</td>
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<td>3</td>
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<td>219 Sawmill; Wheelwright</td>
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<td>3</td>
<td>2</td>
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<td>220 Post Exchange; Auto Shop</td>
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<td>4.5</td>
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<td>222 Quartermaster Storehouse</td>
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<td>1904</td>
<td>storage</td>
<td>na</td>
<td>1.5</td>
<td>Yes</td>
<td>10,000</td>
<td>25,000</td>
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<tr>
<td>222 Quartermaster Storehouse</td>
<td></td>
<td>1935</td>
<td>no</td>
<td>na</td>
<td>4 (incl)</td>
<td>Yes</td>
<td>9,000</td>
<td>36,000</td>
<td>4</td>
<td>4</td>
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<tr>
<td>223 CCC Commissionary Warehouse</td>
<td></td>
<td>1935</td>
<td>no</td>
<td>na</td>
<td>1</td>
<td>No</td>
<td>17,760</td>
<td>17,760</td>
<td>3</td>
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<td>224 Forage House</td>
<td></td>
<td>1902</td>
<td>no</td>
<td>na</td>
<td>1</td>
<td>Yes</td>
<td>6,470</td>
<td>12,940</td>
<td>3</td>
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<tr>
<td>225 Storehouse</td>
<td></td>
<td>1917</td>
<td>yes</td>
<td>1</td>
<td>No</td>
<td>1,640</td>
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<td>227 NCO Quarters (2 families)</td>
<td></td>
<td>1904</td>
<td>yes</td>
<td>2</td>
<td>Yes</td>
<td>1,000</td>
<td>3,000</td>
<td></td>
<td>2</td>
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<tr>
<td>228 Garage</td>
<td></td>
<td>1917</td>
<td>yes</td>
<td>1</td>
<td>No</td>
<td>2,000</td>
<td>2,000</td>
<td></td>
<td>0</td>
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<tr>
<td>229 NCO Quarters (4 families)</td>
<td></td>
<td>1907</td>
<td>yes</td>
<td>2</td>
<td>Yes</td>
<td>3,000</td>
<td>9,000</td>
<td></td>
<td>2</td>
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<tr>
<td>237 Powder Magazine</td>
<td></td>
<td>1904</td>
<td>yes</td>
<td>1</td>
<td>No</td>
<td>1,800</td>
<td>1,800</td>
<td></td>
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<tr>
<td>239 Mineral Oil House</td>
<td></td>
<td>1892</td>
<td>yes</td>
<td>1</td>
<td>No</td>
<td>630</td>
<td>630</td>
<td>5</td>
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| Total                     | 121,660  | 190,809    |

* = currently being rehabilitated by the Northern Star Council of Boy Scouts of America
On February 17th and 19th, I accompanied representatives of the Veteran’s Administration (VA), the National Park Service, the Minnesota State Historical Society, Hess Roise, and Miller Dunwiddie as part of a team conducting historical building assessments at the VA-owned portion of Ft. Snelling Upper Bluff West District property (the “Property”). I’ve summarized below the environmental concerns that I saw during the visit.

At the time of my visit, a number of the buildings were in use by the VA for storage of office equipment, maintenance equipment and medical records. Some of the buildings were heated and most of the buildings appeared to be relatively well maintained.

- Asbestos-containing insulation and other materials (ACM) are present in many of the buildings. The ACM that I saw was in relatively good condition in most locations and was labeled as asbestos-containing. Based on the labeling, the VA likely has asbestos survey reports and operations and maintenance plans for the management of ACM in the buildings. I was able to walk-through all or at least parts of Buildings 210, 211, 215, 217, 218, 219, 220, 222, 223, 224 and 225 (see attached map). Building 214 (Veterinary Hospital & Garage) was placarded as being asbestos-contaminated and was not entered. We also did not enter the basement of Building 225 (Paint Shop), which was similarly placarded. Severely damaged suspect asbestos-containing insulation is present in the Building 210 (Shops & Warehouse) boiler room. Buildings 227, 228 and 229 (NCO Quarters and Garage) were not entered due to safety concerns (fall hazards due to damaged floors). Building 239 (Mineral Oil House) was not entered because the uncertainty regarding the building ownership. Crawlspaces beneath buildings were not entered.

- Lead-based paint likely is present in the buildings. While there were areas of severely-damaged paint, the majority of painted surfaces were in relatively good condition.

- Although it was not identified as a petroleum release site by the Minnesota Pollution Control Agency’s (MPCA’s) database, the owner of Neman’s Auto Service (the former Post Exchange Gas Station-Building 220) stated that fuel pumps, underground gas and used oil tanks, and contaminated soil were removed in the 1980s from the west end of this building. Residual contaminated soil likely still is present at this location. A 250-gallon aboveground storage tank, labeled “used oil” was present to the northwest of this building. A privately-owned, auto servicing business still operates at this location; however, fuel no longer is dispensed. Miscellaneous vehicle maintenance chemicals were used in connection with this business and small spills were observed on the concrete floor.
Building 215 (Gas Station/Quartermasters Oil House) is identified as a closed petroleum release site by the MPCA’s database. No signs of tanks were observed at this location but presumably underground and/or aboveground petroleum storage tanks were present at one time.

I observed cut-off piping penetrating the exterior wall of the boiler room as well as a manhole cover in the adjacent exterior area on the west side of Building 222 (Quartermasters Storehouse). These features suggest that an underground heating oil tank may be or have once been present in this location. According to VA maintenance staff, the boiler currently is natural gas-fired and they were not aware of the existence of a tank.

Drums and smaller container of miscellaneous building and equipment maintenance chemicals, including kerosene and Formalin (formaldehyde) were stored in several buildings with the largest quantities in Buildings 211 (Tank Park & Vehicle Shed) and Building 223 (CCC Warehouse). An emergency generator presumably with an attached tank and a portable petroleum storage tank were present in Building 223. However, I did not observe any signs of significant spills. The ground was covered with more than 1 foot of snow during my visit and, as a result, I was not able to directly view most of the ground surface for signs of spills or tank-related piping.

If Hennepin County’s evaluation of the property continues, I recommend that a Phase I environmental site assessment (ESA) be completed. For a property of this size and with this number of buildings, a Phase I ESA will probably cost $5,000 or more. The Phase I ESA should include a review of MPCA files to obtain additional information regarding the known petroleum release. Based on the above-listed concerns, the Phase I ESA will recommend that a Phase II ESA investigation (soil borings) be completed to evaluate whether contamination is present in the various locations described above.

In addition to the Phase I and II ESAs, Hennepin County should contract with a consultant to review the VA’s asbestos inspection reports and inventories that presumably exist for the buildings. Using this information, the consultant should complete field-checks of the buildings and complete an asbestos and lead-based paint survey/inventory for all of the buildings that are included with this property. Using this information, asbestos and lead-based paint management costs can be estimated.

c: Steve Tharaldson, Veteran’s Administration
    Chuck Liddy, Miller Dunwiddie
Appendix V: Secretary of the Interior’s Standards
The Secretary of the Interior’s Standards for Rehabilitation

The Standards (Department of Interior regulations, 36 CFR 67) pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior, related landscape features and the building’s site and environment as well as attached, adjacent, or related new construction. The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

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.

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.

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.

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

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

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.

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.

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

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.

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.