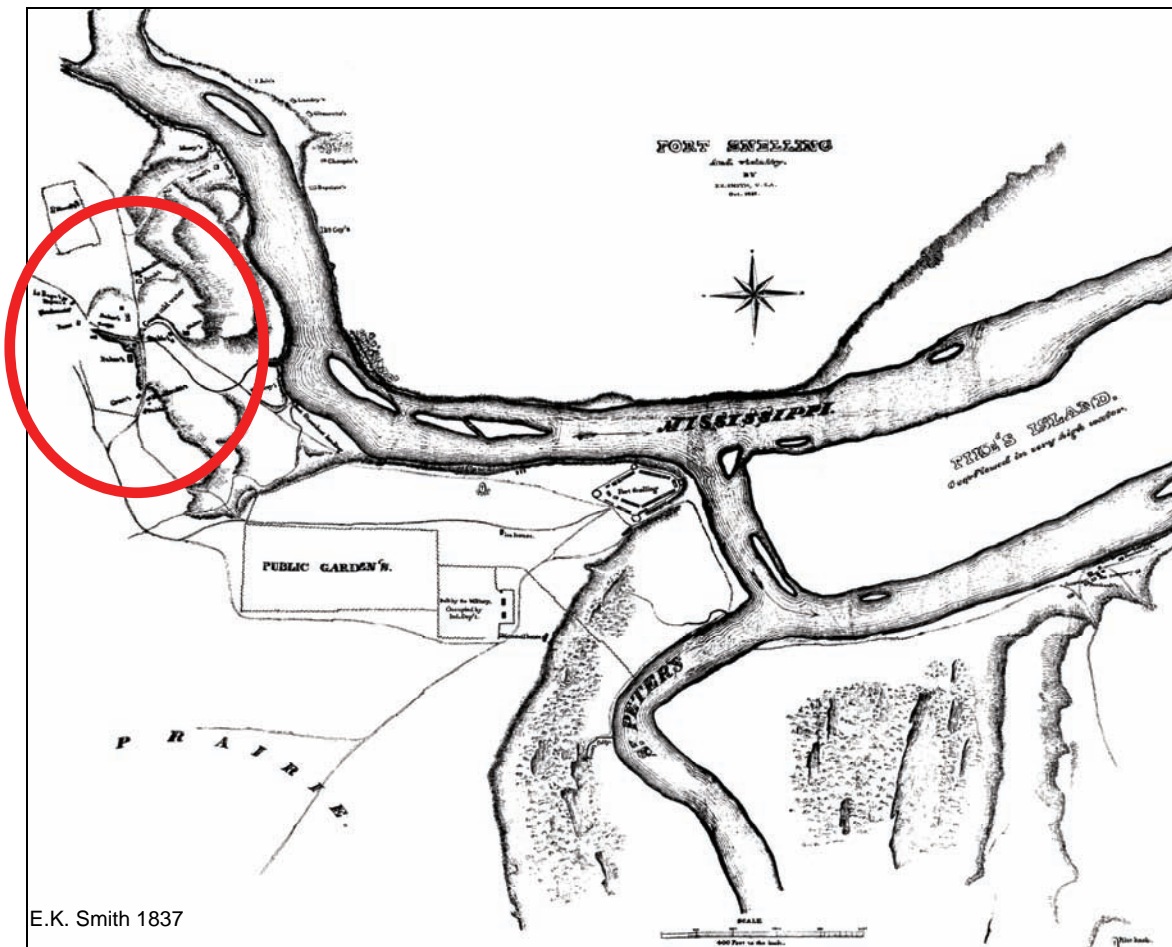


Archaeological Research at the former Twin Cities Bureau of Mines Testing Facility, Minnesota



by

Robert A. Clouse, RPA
Archaeology Department, Minnesota Historical Society
2001

Prepared for the National Park Service, Midwest Archaeological Center, Lincoln, Nebraska

TABLE OF CONTENTS

Table of Contents	i
List of Figures	ii
Management Summary	iv
Chapter 1: Introduction	1
Chapter 2: Theoretical Constructs	4
Chapter 3: Military Context	6
Chapter 4: Environmental Setting.....	11
Chapter 5: Historical Context and Growth of Fort Snelling	15
Chapter 6: History of the Camp Coldwater Locality	39
Chapter 7: Previous Archaeological Research.....	59
Chapter 8: Field Methods.....	60
Chapter 9: Project Results.....	65
Chapter 10: Management Recommendations	88
References.....	93

LIST OF FIGURES

1	Archaeological project area and boundaries of the former Bureau of Mines testing facility property and National Historic Landmark boundary.....	1
2	Detail of E.K. Smith's 1837 map showing the Camp Coldwater Locality.....	3
3	Location of Fort Snelling, Minnesota.....	11
4	Ca. 1823 topographic map of Fort St. Anthony (Fort Snelling) vicinity.....	22
5	1823 plan of Fort St. Anthony (Fort Snelling) by Joseph Heckle.....	23
6	1837 E.K. Smith map of Fort Snelling vicinity.....	24
7	1870 plan of Fort Snelling.....	26
8	United States Western Military Departments in 1874.....	28
9	1885 plan of the Fort Snelling reservation.....	30
10	1903 (corrected to 1905) topographical map of the military reservation.....	35
11	Detail of 1927 plan of Fort Snelling.....	38
12	Lawrence Taliaferro 1835 map of Fort Snelling vicinity.....	42
13	Portion of the 1838 E.K. Smith map of the proposed Fort Snelling military reservation showing extent of development at "Camp cold water".....	47
14	Detail of the 1839 Thompson map of the proposed military reservation.....	48
15	P. Ames Colby map of Fort Snelling drawn in 1841-42.....	49
16	Detail of the ca. 1870 plan of Fort Snelling.....	49
17	New waterworks complex at Camp Coldwater (looking northwest) ca. 1880.....	51
18	Detail of a ca. 1882-83 plan of Fort Snelling.....	52
19	Ca. 1898 photo (looking north) of reservoir and partially burned engineer's house...53	
20	Post-1899, but likely 1905, photograph of water works complex following construction of new brick engineer's house.....	53
21	Map showing detail of waterworks buildings at Camp Coldwater in 1912 plan.....	54
22	1935 aerial photo of Camp Coldwater Locality looking northeast.....	54
23	Topographic map of Camp Coldwater Locality, ca. 1938.....	56
24	Proposed grading plan for construction of Bureau of Mines Headquarters, ca. 1958.....	57
25	Base plan of Bureau of Mines buildings and property, ca 1985.....	58
26	Braun intertec 1996 testing areas.....	59
27	BOM property, numbered buildings and test units excavated between October 2000-August 2001.....	65
28	West wall profile of TU 18.....	67
29	North wall profile of TU 14.....	69
30	West wall profile of TU 19.....	69
31	West wall profile of TU 20.....	70
32	West wall profile of TU 22.....	70
33	East wall profile of TU 23.....	72
34	West wall profile of TU 24.....	72
35	West wall profile of TU 11.....	73
36	South wall profile of TU 1.....	74
37	North wall profile of TU 3.....	75
38	West and south wall profiles of TU 10.....	75
39	West wall profile of TU 2.....	77
40	East wall profile of TU 2.....	78

41	Plan view of TU 2	78
42	East wall profile of TU 25	79
43	West wall profile of TU 17	80
44	Early-19th-century artifacts from Locus 58 in TU 17	80
45	West wall profile of TU 4	81
46	East wall profile of TU 5	82
47	South wall profile of TU 26	82
48	East wall profile of TU 8	83
49	Plan view of Locus 39 in TU 8	84
50	East wall profile of TU 6	85
51	East wall profile of TU 7	85
52	East wall profile of TU 12	86
53	North wall profile of TU 13	86
54	West wall profile of TU 9	87
55	Recommendations for management areas on the BOM tract	91
56	Fort Snelling National Historic Landmark boundary and recommended boundary change	92

MANAGEMENT SUMMARY

The closure of the Twin Cities Bureau of Mines facility (BOM) and its possible transfer to a non-federal agency resulted in an archaeological survey and testing program to define cultural resources on the property. Research on historic maps and other documents show unequivocally that 19th -century military use and early historic settlement within the former military land grant and reservation extend into the tract of land formerly occupied by the US Bureau of Mines. The National Park Service (NPS), which was assisting the Bureau of Mines Closure Team on cultural resource matters related to the proposed transfer of the land out of federal control, requested this research in order to better understand the potential for and significance of archaeological resources on the property. This document reports on that research.

In order to evaluate the potential for cultural resources and document the status of existing archaeological resources within the BOM parcel, a cooperative agreement was signed between the National Park Service and the Minnesota Historical Society—the work to be executed by the Society’s Archaeology Department under the direction of the author. That agreement called for an archaeological evaluation of buried cultural resources on the former BOM tract in order to determine the extent of significant archaeological resources that might be in need of protection if the property left federal ownership. During the fieldwork phase it was thought that the property would leave federal ownership, however it now appears that that will not be the case. The land has been transferred to the Fish and Wildlife Service. While there appears no immediate need for protective measures, these field investigations and recommendation can provide the new federal land managers with information relevant to their stewardship of the property.

The testing program conducted in 2000 and 2001 produced management recommendations to provide for long term protection for resources in the Bureau of Mines property contributing to the Fort Snelling National Register District and Fort Snelling National Historic Landmark. The recommendations are based on test excavations, stratigraphy, recovered material culture, and historic documentation as presented below. A series of resource zones were established within the BOM property to assist in the preservation process. Based on findings from the current research and limited previous investigations, 5 management zones have been defined (see Figure 55):

1. Zone I is recommended for further testing to assess potential resources that may contribute to the NHL or NR District.
2. Zone II contains in situ cultural deposits and material culture dating to the period of significance of the NHL and NR District. This area also corresponds to the historically documented location of the early period of use at the Camp Coldwater settlement and waterworks development from the last quarter of the 19th century and first quarter of the 20th century. The intact strata and material culture in Zone II are buried well below the surface and general maintenance and continuing normal use should not adversely affect those resources.

3. Zone III does not appear to warrant inclusion in the NHL or NR and no further archaeological investigations appear necessary.
4. Zone IV does not appear to contain in situ cultural strata nor any material culture that is considered contributing to the significance of the NHL or NR District.
5. Zone V contains a late-19th-century military railroad grade however, the remainder of this area has yielded neither archaeological features nor strata contributing to the NHL or NR.

The NHL's existing western boundary through the BOM tract was initially drawn along topographic contours without knowledge of the archaeological resources in the area. Based on the findings of this research project, it is recommended that the Fort Snelling NHL boundaries be modified and moved to the west to include those areas delineated as Zone II. This zone clearly exhibits cultural strata and material remains in undisturbed contexts that contribute to the significance of the Fort Snelling NHL and NR District as defined for the last three quarters of the 19th century and the first half of the 20th century.

CHAPTER 1: INTRODUCTION

The US Department of the Interior and the Minnesota Historical Society (Society) have a mutual interest in the archaeological and early historic resources of the Camp Coldwater Locality in the Fort Snelling National Historic Landmark and National Register Historic Site and District. This mutual interest lies not only in the fact that the Camp Coldwater Locality extends into properties currently managed by each agency, but also because both agencies desire to better understand the early Euroamerican settlement period and the history of this military site. This additional information will permit the formulation of mechanisms to better protect historic resources in the vicinity as well as those within the Camp Coldwater Locality.

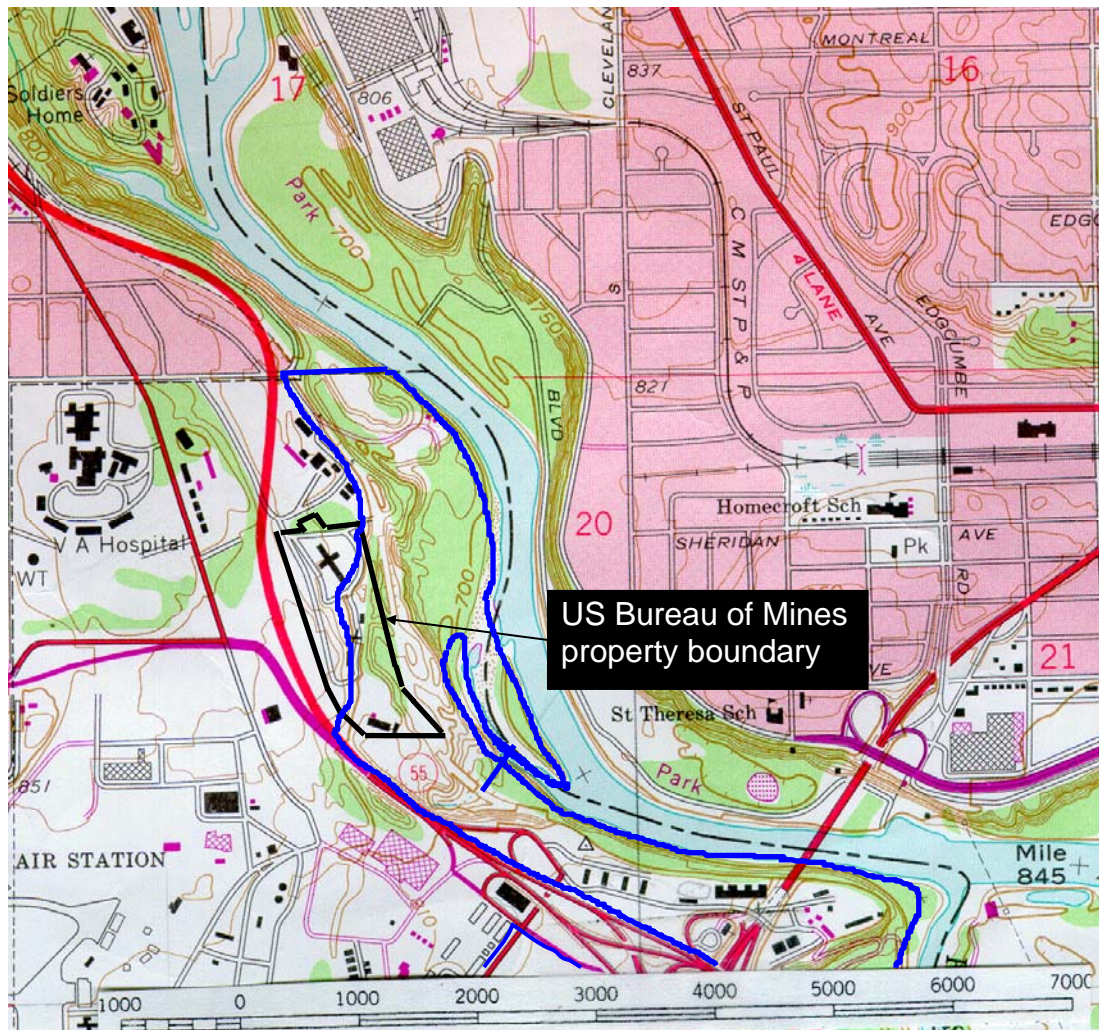


Figure 1 Archaeological project area and boundaries of former Bureau of Mines testing facility property (black lines) and National Historic Landmark boundary (blue lines) (St. Paul West USGS Quadrangle map)

The closure of the Twin Cities Bureau of Mines facility (BOM) and its contemplated transfer to a non-federal agency created some urgency to identify and devise protective measures for historic resources on that property. Research on historic maps and other documents show unequivocally that 19th -century military use and early historic settlement within the former military land grant and reservation extend into the tract of land formerly occupied by the US Bureau of Mines. Recent research also makes it clear that archaeological resources exist on Society land that are identified in early historic maps and plans (Clouse n.d.). These resources are historically related to those on the BOM tract and together formed the core of a multi-component 19th century community that occupied the Camp Coldwater Locality (defined below). The National Park Service (NPS), which was assisting the Bureau of Mines Closure Team on cultural resource matters related to the proposed transfer of land out of federal control, requested this research in order to better understand the potential for and significance of archaeological resources on the property. This report is the result of that research.

The Camp Coldwater Locality as defined here is an area in the vicinity of the Coldwater spring occupied by 19th -century military personnel and Euroamerican settlers. It also represents the area that served as a source of water and the core of a distribution system for Fort Snelling (variously called “New Post,” “Department of Dakota,” or “Upper Bluff”) from 1880 to ca.1920. The Locality has a fluid boundary, at times larger and at other times diminished in size based on changes in use. It is generally defined as that area in and around the Coldwater spring shown on numerous historic maps and plans of Fort Snelling. The Camp Coldwater Locality is depicted in Figure 2 as an outline on the Smith 1837 map of Fort Snelling. The Locality is centered on the key resource in the area, the Coldwater spring, and is bounded by the Mississippi River on the east and Morgan’s Mound to the west. It extends from the landing at Massey’s on the north and the “Best Steamboat Landing” on the south end. The federal property now defined as the former U.S. Bureau of Mines Twin Cities testing facility lies wholly within the Locality as defined here. That property managed by the Society also lies within the Locality. The legal description of the project is the E ½ of Section 20, Township 28 North, Range 23 West, Hennepin County, Minnesota. Approximately one-half of the BOM land lies within the Fort Snelling National Historic Landmark. The boundaries of the landmark are depicted in Figure 1.

In order to evaluate the potential for cultural resources and document the status of existing archaeological resources within the BOM parcel, a cooperative agreement was signed between the National Park Service and the Minnesota Historical Society—the work to be executed by the Society’s Archaeology Department under the direction of the author. That agreement called for an archaeological evaluation of buried cultural resources on the former BOM tract in order to determine the extent of significant archaeological resources that might be in need of protection if the property left federal ownership. During the fieldwork phase it was thought that the property would leave federal ownership, however it now appears that that will not be the case. The land has been transferred to the Fish and Wildlife Service. While there appears no compelling need for immediate protective measures, these field investigations and recommendation will provide the new federal land managers with information relevant to their stewardship of the property.

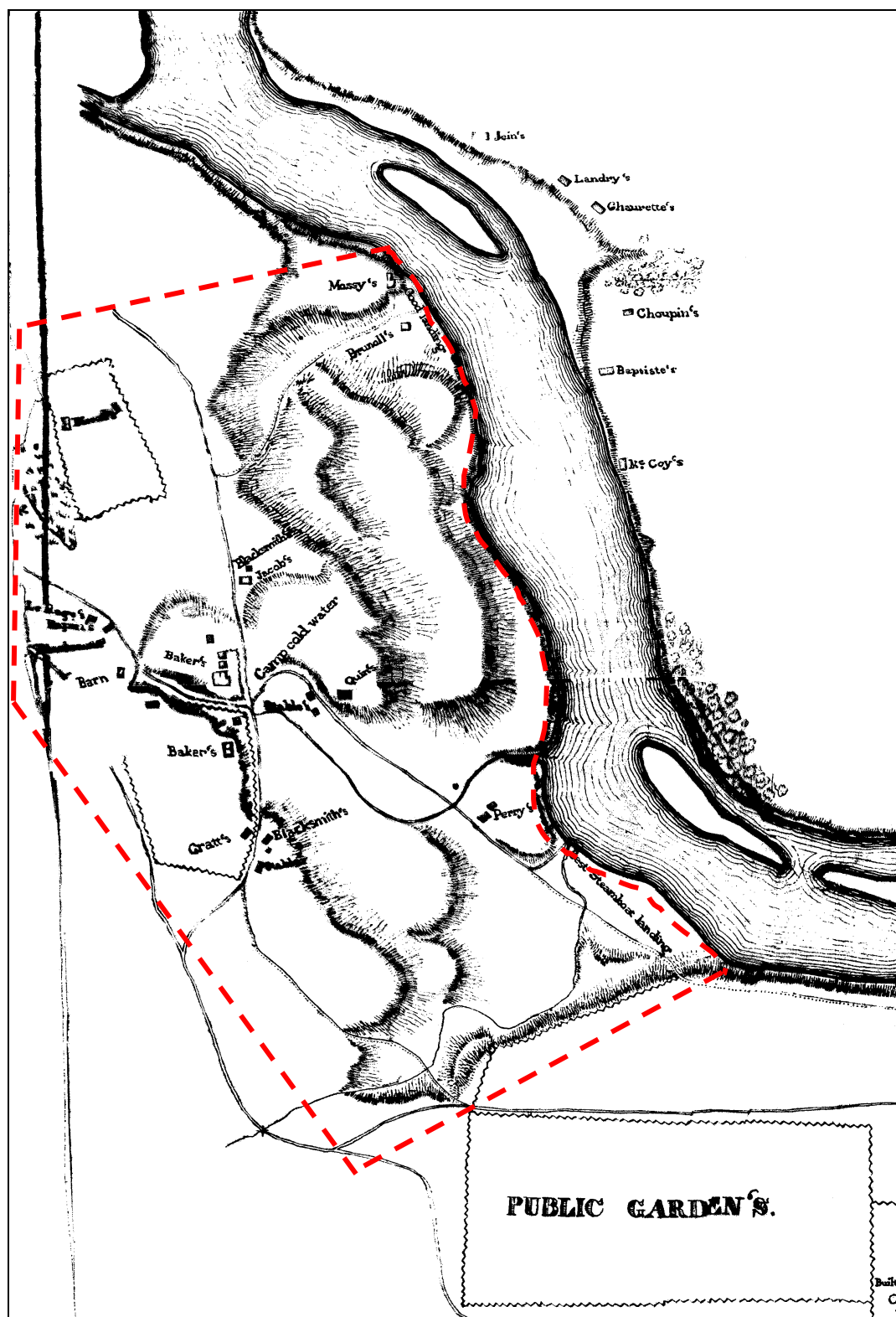


Figure 2 Detail of E.K. Smith's 1837 map showing the Camp Coldwater Locality within dashed outline.

CHAPTER 2: THEORETICAL CONSTRUCTS

It is often necessary to look into the past to discover the underlying forces, so often unconscious, that affect our perceptions of social processes and historical conditions that we visualize today in a static setting. The historical overview presented below focuses on the material remains of Fort Snelling to help better understand the relationship between past behavior and its remnant material expressions. However, it is recognized that the construction of substantive features used during the historic period likely biases our perspective towards one of permanence and those features of the more recent past. Historical data too is biased towards relatively recent literate people; not only are preliterate and illiterate people often mute in the record, they are often invisible. Archaeological evidence is another way of providing context in a way that this historic overview helps to provide evidence for general military and political conditions that effect aspects of the site that are located in the area of specific concern here. Archaeology picks up where the written record leaves off and provides a voice to those who might otherwise not be counted. To provide the voice of the diverse community that existed in this area, and not only that of the military, the archaeological record must be consulted and if found to contain data worthy of research it must also be managed appropriately. To more completely represent the points of view of individuals and communities alike, it is necessary to include both the historic and the archaeological record.

In order to evaluate the significance of the features and structures composing Fort Snelling, there must first be an understanding of fundamental entities that pervade these diverse material elements and structures. The ability to connect past behavior to material remains is derived from a basic assumption that culture may be viewed as learned patterns of human behavior by which humans adapt to their physical and social environment. Rather than a sum of traits, culture is a series of interacting components which are continually acting and reacting to one another, resulting in constant variation and change (Buckley 1967; Kottak 1974). Human behavior is not random; therefore it is possible to document patterns in human activities. Organized structure is visible in the social integration of technology, economics, and other specialized activities. Changes in that structure may be chronicled, and organizational variation viewed as historical phenomena (Clouse 1996).

Historical and archeological records display patterns reflecting those in the cultural system that produced them and reflect changes in those patterns and in the cultural system. Archaeologists in particular have investigated in detail the relationships between past behavioral systems and the material record they leave behind (cf. Longacre 1970:131; Schiffer 1972, 1975, 1987). These approaches utilize assumptions of cultural process that focus on defining empirical distinctions in the material remains from cultural systems occurring at different times and places and use those distinctions to discover and explain systemic variability.

A basic question is, of course, what does any observed variation mean? The pattern ranges for any such variables depend on both intersite and intrasite comparisons and recognition of the effective social and natural environment. An understanding of intrasite conditions is a necessary prerequisite to broader scale intersite comparisons and pattern recognition. The

research conducted as a part of this project is an excellent example of the variability that can be exhibited within a relatively small parcel of land. That variability is not simply a product of natural processes but an extreme case of cultural transformations at work. The results here point out that particularly large, complex sites, such as Fort Snelling, may not be able to be treated as a whole when such significant variability exists. In order to structure questions and approaches to these data it is useful to model aspects of behavior that have influenced or were responsible for those material remains that are in evidence today. The following section briefly discusses theoretical constructs useful in modeling such behavior.

CHAPTER 3: MILITARY CONTEXT

In order to evaluate the material culture and organization of a military site it is first necessary to provide a general understanding of the function and structure of the military itself. In other words, one needs an organizational structure, i.e., a model, of cultural variability and regularity to operationalize research goals (Clouse 1996). The use of an analogue model in this process offers two advantages: first, it facilitates the organized categorization of complex observations by constructing hypotheses concerning suspected relationships, and second, the use of hypotheses based on the model form a predictive framework in which to evaluate and structure observations. This procedure permits the investigator to organize information and creates a structure within which to make relatively accurate generalizations. At the same time, this process allows the temporary assignment of relative significance to the data based upon its pertinence to particular problems. This Military Site Model is based upon a broad range of historic documents, and archaeological studies of both military and non-military sites, post orders, official correspondence, military histories (Foner 1970; Dupuy 1961; Prucha 1947, 1953, 1969; Weigley 1967), and a site interpreters manual prepared for Fort Snelling (Grossman 1977). The generalized attributes presented below have been summarized from earlier works by the author (Clouse 1996, 2000).

The definition of a presumed “enemy” and their suspected tactics, modes of transportation, and weaponry has a significant effect on site placement, defensive design, and the types of construction materials used in the construction of a military site. The initial design of Fort Snelling is one of an irregular and well-fortified installation constructed to fit within and establish control over the geographic conditions prevailing here (Figure 5). This design resulted in forming a relatively linear configuration aligned with the riverine avenues of transportation and communication. Despite this irregular exterior form, the internal site structure reflects the regular organization of military hierarchical structure and functional divisions. This reflected military structure can then be considered as a variable independent of garrison design, and independent of environmental and defensive needs, constraints, or conditions. Later, outside the bounds of the defensive walls of the original garrison, without a recognized “enemy” and lacking natural boundaries on the open plain, later growth at Fort Snelling reflected an arrangement of structures largely dependent on social and functional variables.

In some settings, particularly in a frontier situation, a military installation may appear more like a community in and of itself rather than an installation that is in service to the neighboring or larger non-military community. This situation would appear to result from the lack of availability of certain elements -- both physical and operational -- required for the construction and maintenance of the military physical plant itself. Such elements might include the lack of a locally available skilled labor force for construction and continued maintenance of the structures. The limited availability of certain construction materials will also have an impact on details of design. The lack of availability of other cultural institutions (e.g., church, school, etc.) in the larger community outside the physical military complex also played a role in defining the military culture and structure in remote settings. At Fort Snelling, certain material objects that were not provided by the military were only available through the Sutler

or through neighboring fur trading establishments. Conditions such as these have the effect of restricting the availability of some material goods to local inhabitants and that which is subsequently recovered by archaeologists (Clouse 1996). They also have the effect of creating economic and social relationships between military and non-military communities. The tolerance, for example, of building a fur trade establishment on military grant land such as B.F. Baker's trading post and the squatter settlement at the Camp Coldwater Locality reflect a symbiotic relationship such communities may have had with the military.

A military installation, if it survives for any length of time, will likely not remain a static entity as functions may change in relation to the changing needs of the army in general. For example, a post on the frontier has a different role when the frontier passes it by, and if it survives, will likely function in a different context. A particular military site's function may have little to do with site occupants' decisions since its military role may be seen in terms of its strategic role based on its relationship to the army's perceived needs as a whole. It is in this larger military context that we must comprehend and within which we can best understand those changes reflected at a site like Fort Snelling (Clouse 1996, 2000).

The U.S. Army's institutional responsibility during the 19th century was to serve as a deterrent to conflict and to oppose any threats to national security and commerce. However one must also recognize the role of the army in the context of a social force in times of peace. Since the beginning of the United States, soldiers of the armed forces have undertaken exploration, established lines of communication, built and maintained transportation arteries, researched causes of disease, and developed flood control measures, in addition to protecting the nation's sovereignty. Because of the concern for the protection of democratic ideals, a fear of large standing armies, and because of the nation's geographical position, the United States has in the past relied on a rather small professional army. A citizen army of militia, National Guard, Reserves, or draftees were used to supplement the ranks of the Regular Army in times of need. These two components are what Russell Weigley (1967) has referred to as a history of "not one but two armies."

The early 19th-century military system of the United States consisted of the militia and the regular army. The U.S. militia was modeled after the British local defense system where all men between the ages of 18 and 45 were required to be trained, armed, and come to the nation's defense if called upon. The militia, in the event of an emergency, was commanded by officers who were essentially untrained political or social leaders. Although the militia was relatively ineffectual and did not regularly garrison forts, the regular army was kept small because of cost and the general fear that a large standing army posed a threat to liberty and free government. Military structure, by its very nature, subrogated 19th-century ideals of equality, individuality, and Republican freedom and thereby represented the antithesis of what the United States represented. More specifically, military subordination was thought to promote servility in enlisted men while fostering aristocratic tendencies in officers. A general impression in the 19th century was that the military could not to be trusted (Clouse 1996; Grossman 1977; Prucha 1969).

The remainder of the national defense consisted of a small standing force, the regular army, which was composed of long-term enlistment soldiers and was led by professional, trained

officers. Congress established the number and type of regiments, established staff departments and their authority, and appropriated funds for construction, clothing, rations, and pay. Congress also enacted the *Rules and Articles of War* that governed the military. In 1821, the Congress reduced the 10,000 man army to one authorized at a level of 6,000 men organized into the staff in Washington, D.C., and 4 artillery and 7 infantry regiments (Grossman 1977). It was the regular army that built and initially garrisoned Fort Snelling.

The regular army leadership was divided into the "staff" and the "line," respectively making up the support services and officers commanding troops. The staff, headquartered in Washington, D.C., consisted of 8 departments with varying duties. The line consisted of seven levels of authority, from a Major General in Washington to the Assistant Commissary at each post. In the early-19th century the army was based in 40 forts, barracks, arsenals, and camps. These facilities were primarily distributed along what was the perimeter of the United States, which at that time included the western frontier. The military was divided into geographic "departments," and Fort Snelling was initially a part of the sub-department called the Northwest Frontier, commanded by Brevet Brigadier General Henry Atkinson at St. Louis (Clouse 1996; Grossman 1977).

It is generally acknowledged that the regular army saw frontier duty as a diversion from its primary role in national defense and resented the types of labor associated with frontier life. Officers often perceived frontier duty as preventing them from the social, professional, political, and financial advantages in more developed areas in the east (Prucha 1953, 1969). Most officers tried to avoid frontier duty by using political influence or family connections to obtain staff jobs in the War Department or as recruiting officers in large cities. The military's *duty* as a frontier police force and its *image* as a professional European-styled army created a perceptual and philosophical conflict limiting the army's ability to carry out either role with efficiency (Grossman 1977).

American social values in the 19th century emphasized making one's place in the world by hard work. The army on the other hand was interpreted as a place for a man who gave up his individuality and responsibilities in exchange for food and clothing. During peace-time the regular army was not necessarily representative of society as a whole. The army regulars were often those with few opportunities or were recent immigrants unable to find jobs. Most of the immigrant soldiers, as well as those that were U.S. citizens, were recruited in large cities in the eastern part of the U.S. and they brought a variety of trade skills to the army that were present in the general population. During periods of economic stress, many tradesmen entered the army to assure the basic needs of clothing, food, and housing. Enlisted men were considered near the bottom of the social ladder, and to some, enlistment may have been an alternative to prison or starvation (Prucha 1969; Weigley 1967).

Each soldier's identity was defined in terms of being part of a regiment; but since regiments were often split between posts, rarely did he experience what it was like to be a part of the whole. The division of regiments into different, widely separated garrisons also kept regiments from training as the unified force they were designed to be (Hansen 1958 [1918]; Weigley 1967, 1973). At the time Fort Snelling was constructed, the regiment, the largest independent unit in the army, was to contain 10 companies not to exceed 547 men and

officers. This size restriction changed on numerous occasions as duties of the military changed, especially in times of war.

Physical and social separation of officers and enlisted men was strictly maintained, with interaction necessitated only by duty. This strict segregation was inherited from the British army structure, where rank was based on social class and economic status. In that system, officers were gentlemen and enlisted men were commoners. No enlisted man would ever be eligible for a commission because of the inherent superiority of officers. In the United States, military-school-trained officers took on the characteristics of British officer-gentlemen, keeping horses, hunting dogs, servants and/or slaves. A few slaves were present at Fort Snelling prior to the Civil War. Officers also engaged in extensive leisure activities, such as hunting and horseback riding (Grossman 1977). In adopting the British military structure, the U.S. military promoted the opposite of the 19th-century American ideals of equal opportunity for all.

Subsistence supplies consisted primarily of official military-issue rations. The quality and quantity of food for posts at great distances from settled agricultural areas varied considerably. At Fort Snelling, and some other posts, rations were officially supplemented with produce from the company gardens. Unofficial additions to the diet also included wild game and fish. Dietary supplements depended upon available time, equipment, and available resources. Fresh vegetables were seasonally available and included potatoes, turnips, onions, lettuce, cucumber, corn, beets, squash, carrots, cabbage, beans, and peas (Subsistence Department Records 1820-25, NARG 92, GAO). Additional company purchases from the sutler included such items as pickles, apples, raisins, butter, cheese, eggs, sugar, coffee, and tea. Speaking about Fort Snelling in 1838, the Inspector General, Col. George Croghan, wrote, “No soldier ought to live better than they have always done at this post. The government ration is sufficient in itself, and to it may be added the abundant supply from the gardens of several companies” (quoted in Prucha 1969).

Initially each company at Fort Snelling had a mess kitchen that was in the basement under company quarters. Food consumption took place at a table in each squad room. There were no official army cooks during this early period, and enlisted men were assigned for 10- to 20-day shifts preparing meals. Army regulations also dictated the distribution of the daily fare. Breakfast consisted of bread and boiled beef or pork or hash. Lunch (officially designated dinner) was bread and soup or stew. Supper officially consisted of only bread, but may have been supplemented by meat obtained by hunting or fishing and by garden supplies produced in excess of the daily ration. Later, barracks buildings had separate kitchen and mess facilities usually built at the rear of the habitation structure. Companies were responsible for preparing food for their own unit. And although the army experimented with garrison-wide messes they were never a significant component at Fort Snelling until periods of war in the 20th century.

General garrison work routines on the frontier were different from that of the eastern coastal fortifications near areas of settled population (Prucha 1953). The duties at Fort Snelling were not “make work,” but were critical for survival of the troops through severe winters. The duty-day was from dawn to dark (which varied considerably with the seasons at such a

northern latitude), and there were at least 40 potential duties to which a soldier could be assigned. These duties were broadly categorized into fatigue, daily, extra, and duty under arms. Work undertaken on a daily basis was related to seasonal needs, the needs of a specific post, and the trade or skills of the individual soldier. Extra duty, such as engagement in building construction, entitled a soldier to additional pay.

While the servility of enlisted personnel continues to be a necessary component of how military hierarchy functions, significant changes took place during the latter part of the 19th century that rectified long standing problems and inequities and made living conditions more bearable for the troops. These changes were brought about by two major factors: 1) high desertion rates in the army (as an example, 1/3 of enlisted personnel deserted in both 1871 and 1872), and 2) widespread and sensational press stories of inhumane and capricious disciplinary treatment of enlisted personnel (Foner 1970).

Desertion rates were undoubtedly associated with military lifestyle that included poor living conditions, inadequate food, harsh discipline, low pay, and the ability to get better jobs outside the military. As the army grappled with these problems, it brought about solutions that resulted in a more humane setting for military service. By the end of the 19th century a number of changes had been made:

1. Increases in daily food rations with the addition of a pound of vegetables per soldier;
2. creation of the canteen system at garrisons to replace the post traders store;
3. creation of summary courts and a code of punishment to reduce capricious punishment;
4. methods of promotion from the ranks;
5. increase in base pay and retirement benefits;
6. improvements in housing, clothing, and more recreational opportunities; and
7. professional and practical training schools for officers.

CHAPTER 4: ENVIRONMENTAL SETTING

To better understand this region, and the initial military presence within it, the resources of the area are discussed with an emphasis on the natural conditions prevailing at the time of initial Euroamerican occupation--conditions very different from the current setting. One such description of the general setting of Fort Snelling was provided by its commanding officer who made the final selection for the fort's location:

Ft. St. Anthony [later Ft. Snelling] is situated on a high point of land immediately at the junction of the River St. Peters [later named the Minnesota River] with the Mississippi, its elevation is one hundred and ten feet from low water mark, it commands the channels of both rivers and the adjacent country within point blank distance; . . . on the north side of the hill is a perpendicular bluff on the south the ascent is steep and a road has been cut . . . between this and the St. Peters is a fine bottom [flood plain] containing about 14 acres . . . (J. Snelling to T. Jesup, 6 November 1822, NARG 92, QMG)

While Fort Snelling's location (Figures 3 - 5) was chosen for its defensive capabilities and its control of the major rivers, many other elements of the natural environment allowed the building of the fort in the manner in which it was constructed. These included renewable resources such as the natural vegetation that supplied trees for lumber and forage for livestock and wild game and fish resources. Fertile soils allowed the fort's inhabitants to

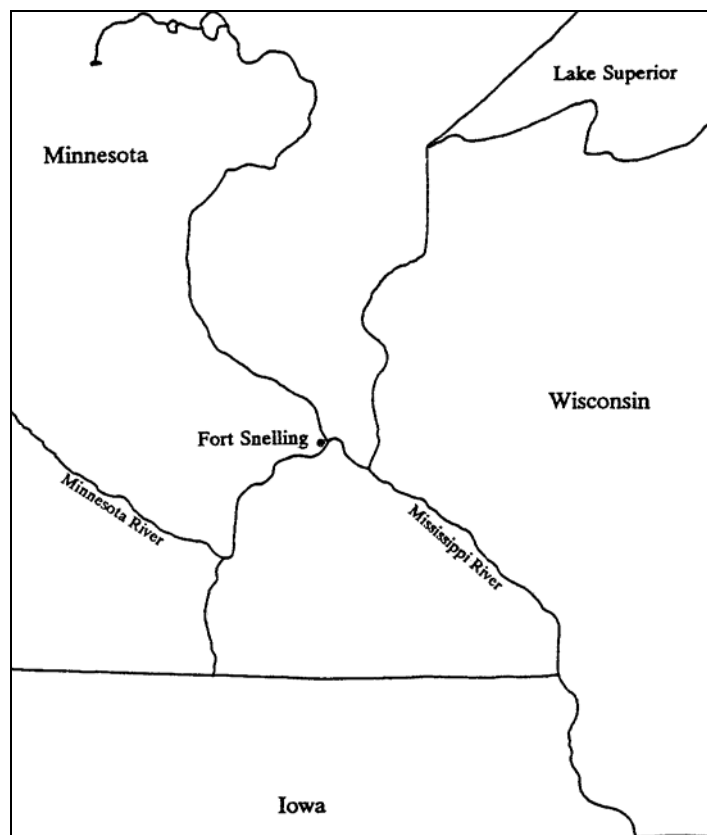


Figure 3 Location of Fort Snelling, Minnesota

supplement and vary the army's daily ration through agricultural production. At nearby St. Anthony Falls the water power capabilities converted natural energy into usable power. This environment also included non-renewable resources such as the underlying limestone deposits that literally supplied the "building blocks" of the original garrison, and subsequent additions with underlying shale deposits provided a clay source for making bricks. Although blessed with an environment rich in exploitable resources, there were also deterrents to the development of the region around Fort Snelling. Among these were the harshness and the length of the winter season, the lack of nearby supply centers for manufactured goods, and no significant neighboring Euroamerican communities from which to obtain labor, supplies, services, or provide social interaction. Part of the world view of these new arrivals, as members of a culture that arose from western European society, was one of an extractive and additive value system. That is, they looked upon the landscape with a mindset based on what they could take from it or add to it, not how to live within it as it existed. This view is in stark contrast to that of the indigenous populations of Dakota and Ojibwe Indians already living in the region when they arrived.

During his expedition, which included negotiating for land for future military sites in 1805, Lt. Zebulon Pike described the area around the juncture of the two rivers where the future Fort Snelling would be built:

From the St. Croix to the St. Peters [Minnesota] the Mississippi is collected into a narrow compass; I crossed it at one place with 40 strokes of my oars, and the navigation is very good. The E. bank is generally bounded by the river ridges, but the W. sometimes by timbered bottom or prairie. The timber is generally maple, sugar-tree, and ash. From the St. Peters to the Falls of St. Anthony the river is contracted between high hills, and is one continual rapid or fall, the bottom being covered with rocks which in low water are some feet above the surface, leaving narrow channels between them. The rapidity of the current is likewise much augmented by the numerous small, rocky islands which obstruct the navigation. *The shores have many large and beautiful springs issuing forth, which form small cascades as they tumble over the cliffs into the Mississippi.* The timber is generally maple. This place we noted for the great quantity of wild fowl (Coues 1965:309-311 [1895]). (emphasis added)

In 1817, prior to the establishment of a post at the juncture of the Minnesota and Mississippi rivers, Maj. Stephen H. Long undertook a reconnaissance mission to document the region and recommend a location for the garrison. He commented that:

After arriving at the St. Peters [Minnesota], we lay by 2 or 3 hours in order to examine the country in that neighborhood. At the mouth of this River is an Island [Pike] of considerable extent, separated from the main[land] by a Slough of the Mississippi into which the St. Peter's discharges itself. Boats in ascending the former, particularly in low water, usually pass thro' this slough, as it affords a greater depth than the channel upon the other side of the island. Immediately above the mouth of the St. Peter's is a tract of flat Prairie extending far up this river & about 350 yards along the Slough above mentioned. This tract is subject to inundation in time of high water, which is also the case with the flat lands generally situated on both of these rivers. Next above this tract is a high point of land, elevated about 120 feet above the water and fronting immediately on the Mississippi but separated from the St. Peters by the tract above described. The point is formed by the bluffs of the two rivers intercepting each other.

Passing up the river on the brow of the Mississippi Bluff, the ground rises gradually for the distance of about 600 yards, where an extensive broad valley of moderate depth commences. But on the St. Peters the bluff retains nearly the same altitude, being intersected occasionally by ravines of moderate depth (Kane et al. 1978:75-6).

Scientist George Featherstonaugh (1970 [1847]) recorded the presence of a number of species in his travels up the Minnesota River in 1835, but gave little indication of fauna in early historic descriptions in the immediate area of the fort. However, the environment was viewed with acclaim from the perspective of a sportsman. Post Surgeon Nathan Jarvis wrote of the following in 1834:

What a country this is for a sportsman! In hunting grouse if you have a good horse you need never dismount except to pick up your game. The prairie in which they abound being as level and unbroken as a smooth lawn. In one hour a good sportsman will kill within a mile of the Fort as many as will last our mess 2 days (N. Jarvis to W. Jarvis, 3 August 1834, N.Y. Academy of Medicine).

A year earlier Jarvis also wrote “The epicurean can enjoy almost everything we can desire. Game in abundance of every description; our mess table is supplied every day with the finest woodcock and in the fall we will live upon duck, deer livers, grouse, &c” (N. Jarvis to W. Jarvis, 18 June 1833, N.Y. Academy of Medicine).

Evident in the above descriptions, the region around Fort Snelling contained bountiful natural resources ripe for exploitation. Because of the lack of suitable nearby stands of timber for construction, a contingent of soldiers was sent to the Rum River (20 miles north of the fort) to cut and raft logs to the mill at St. Anthony Falls. Trees of all types were cut for firewood since nearly 1,400 cords were necessary to heat the buildings in the winter. Henry Schoolcraft, during a visit to the fort in 1820, indicated that approximately 90 acres were under cultivation by soldiers at the fort (Schoolcraft 1966 [1821]). Ash was used for making roof shingles, and oak was used for the post-and-sill-constructed Long Barracks and Officers’ Quarters and for sills, plates, and lintels in stone buildings. The use of timber in the immediate fort vicinity posed three advantages to the military: 1) building materials became available from a local source of supply, 2) obstructions and hiding places were removed for increased defensive capabilities, and 3) areas were cleared for cultivation (Clouse 1996).

Alteration of the vegetative patterns resulted in a transformation of the landscape. Timber resources were renewable, but the limestone, shale, and sandstone used to construct the fort were not. These items, so important to the nature of the fort as it was constructed, were plentiful to the early builders. These quarrying activities changed forever certain topographic features resulting in altered drainage patterns through bluff cutting in some locations including a quarry near the southeast corner of the Locality.

The limestone surface upon which Fort Snelling sits and from which the original fort was built, as well as the bedrock that underlies the Camp Coldwater Locality has been categorized as the Platteville formation (Austin 1972; Bain 1905; Mossler 1972). The Platteville and other local rock formations were formed during the Ordovician Period dating between 425 and 500 million years ago. This same limestone continued to be used for foundations throughout this region until the early part of the 20th century as exhibited in a number of surviving buildings at the fort. The limestone also serves as a relatively impermeable layer for water and it is near its surface at bluff and terrace edges that springs issue forth. The Glenwood shale formation, lying directly under the Platteville, was the source of clay for the

manufacture of hand made bricks used in the fort's initial construction. This stratum was nearly impervious to upper level ground water and was another reason a high water table was maintained. Later brick construction relied on commercial sources of brick from neighboring communities that also obtained their resources from this same formation.

While renewable aspects of the environment were intensively used, e.g., wood, which denuded the area of arboreal vegetation, it was not exploited to the point of permanent environmental damage. Restoration efforts in the area of the natural environment in the latter 20th century have succeeded in returning much of the present Fort Snelling area to its condition prior to the arrival of Euroamerican settlement.

The undulating topography and dissected uplands in the Camp Coldwater Locality provided an amiable setting in which to build homes. It was almost assuredly wooded at the time of initial occupation by the military, but likely cleared shortly thereafter from exploitation for construction and firewood. Some of that cleared land, according to historic documents, was used for farming and grazing by squatters who later occupied the area. The Coldwater spring feeds a small, clear creek that runs about one-quarter mile with a bedrock bed before dropping over a precipice to the Mississippi River below. Some perched wetlands, likely spring fed, are indicated on some of the historic maps. The springs as well as the creek would have provided a ready source of water to local residents.

CHAPTER 5: HISTORICAL CONTEXT AND GROWTH OF FORT SNELLING

The general historic overview presented below is taken largely from two documents, one entitled *All That Remains* (Clouse and Steiner 1998) and the other from a doctoral dissertation by the author (Clouse 1996). Both were written in part to provide an historic context in which to understand the significance of buildings, structures, features, sites, and archaeological deposits that are contributing elements of the Fort Snelling National Historic Landmark¹. It is for that same reason that an overview is presented in this document.

Use of the region by American Indians has been documented through a series of archaeological investigations in the area that includes Fort Snelling, the American Fur Company in Mendota, and through a surface find in the Camp Coldwater Locality. None, however, has been documented within the BOM property. The only documented history of the fort, in general, and the Locality, specifically, comes from military records, maps, and photographs, censuses and reminiscences of early inhabitants of the region. Archaeological data is largely the source of information for any pre-Euroamerican use of the region. In fact, archaeological data has been recovered at historic Fort Snelling and in the Camp Coldwater Locality that substantiates a long period of aboriginal use of this general region (Clouse 1996, Clouse n.d.).

Fort Snelling, Minnesota, a frontier military post initially constructed between 1820-1825, was built at the junction of the Minnesota and Mississippi Rivers (Figure 3 - 5). Named Fort St. Anthony until 1826, Fort Snelling served initially as a military presence in curtailing British trading and securing the fur trade for American companies, preventing conflict between the Ojibwe and Dakota Indians, and keeping Euroamerican settlement out of Indian land in the recently acquired Louisiana Territory. Its location, more than 200 miles from the nearest Euroamerican community, prompted the commanding officer to exploit locally available building materials for construction, and to undertake extensive farming to supplement army subsistence supplies. Although Fort Snelling is a military site, its significance lies not only in military history. Important elements of American Indian history, Euroamerican commerce, and that of the American frontier are also components of the history of this place. During its 125 years as an active garrison, the fort underwent extensive physical alterations due to changing army needs and repair and replacement of facilities (Clouse 1996). The importance of what remains of that built environment and components of the archaeological record are recognized by inclusion within the variable boundaries of the Fort Snelling National Register Historic Site and District and the Fort Snelling National Historic Landmark.

One hundred and twenty-five years of occupation produced historic structures and archaeological deposits associated with a variety of functions at Fort Snelling. Historic maps, photographs, official records, and archaeological data document buildings that served defensive purposes, support facilities and as living quarters. These historical records and material remains offer an opportunity to examine the social and economic dimensions of life in this 19th- and 20th-century military post.

¹ Some of the text and data presented in the historic overview is taken directly from a doctoral dissertation copyrighted by the author. That information is reproduced here for use in this report by permission of the author.

The military establishment is in many ways a highly structured and regimented microcosm of the larger society that created it, with well-defined social boundaries and strict divisions of labor. Historical and archaeological analyses conducted on the earliest manifestations of Fort Snelling reveal the expression of numerous activities and structures and reflect the differential use of material culture associated with social variables such as rank, status, and gender (Clouse 1996). The current research places an emphasis on observed patterns of structural development from the post's inception to the end of World War II, providing a context within which to interpret component significance as part of the analytical process. This period, 1819-1946, is also the period of significance for this National Historic Landmark/National Register site.

Like other communities, frontier military posts supplied basic human needs to its inhabitants with additional requirements supporting defensive and other military functions. Because of its initial remote setting, Fort Snelling also housed other facilities and functions that might normally be found in surrounding communities such as a school, chapel, library, and playhouse. More than a century later, as at other military posts, other facilities were added that included a gymnasium, movie theater, golf course, swimming pool, and sports fields for the convenience of the troops. The fort, since its inception, was considered one of the healthiest in the Army and had a major health-care component that continues to the present day. The evolution of the fort as an active garrison provides multiple contexts for evaluating and understanding that which remains today. But an understanding of what transpired at Fort Snelling is in large part dependent on an understanding of the larger military establishment of which it was a part.

Military history has often been focused on a history of wars and battles (e.g. Weigley 1973), however, the discussion here focuses on the setting, military culture and structure, changes in the military over time, and Fort Snelling's changing roles. The concerns in this overview are with broader patterns reflecting adaptations to changing military conditions, these patterns in turn reflect cultural and historical processes that shaped the conditions obtaining at this military post. These patterns, too, provide a context for the central focus of research at the BOM site that dominates the discussion later in this report.

A number of articles and booklets examine Fort Snelling in its early years (Callendar 1959; Fridley 1956; Hansen 1958; Holt 1938; Johnson 1970; Jones 1966; Ziebarth & Ominsky 1970). However, only limited research (e.g. Becker 1983; Prucha 1947) has been undertaken on developments in the Fort Snelling reservation that occurred after the Civil War and/or outside the bounds of the original walled fortification immediately at the juncture of the two rivers. Clouse and Steiner (1998), White and White (2000), and this document serve as the only comprehensive works that treat this larger context.

Today some 94 buildings, structures, and features survive from the period prior to Fort Snelling's closure as an active military post in 1946 (Clouse and Steiner 1998). By the end of 2002, actual and scheduled demolition will have permitted the reduction of the remaining structures to less than 90% of those standing at the beginning of 2001. The emphasis in this report is on a particular area within the former military reservation, and in particular, on two features remaining in the vicinity of the Coldwater spring. It is part of the purpose of this

document to provide a context for understanding the significance of the remaining structural elements of the site as well as the archaeological manifestations of occupations spanning at least 180 years.

The military as a whole can best be considered a tool of government. In that light, one major purpose of the army at this location was to exercise effective government over the Northwest frontier ensuring peace, security, and control of commerce. In the early-19th century, America's northwest frontier consisted of the present states of Michigan, Illinois, Wisconsin, Iowa, Minnesota, and the Dakotas. The Northwest was occupied by probably a quarter of a million American Indians who likely initially feared and then documentably resisted American expansion. The region also contained an untold wealth of natural resources in furs, mineral deposits, and timber. This is the setting in which Fort Snelling was to be built and which it was to protect. It is from this platform that we can proceed to discuss the need for fortifications such as Fort Snelling.

The military evolved along with the nation it served and Fort Snelling changed as part of that evolution. The history of the U.S. Army lies in the history of the growth and development of America which it served. And the growth and development of Fort Snelling cannot be understood outside the context of changes in the U.S. military of which it was an integral part. Because there have been numerous books published (e.g. Dupuy 1961; Ganoe 1943; Millis 1956; Weigley 1967, 1973) on what has been traditionally considered to be the subject of military history, a discussion of battles and campaigns will not be a part of the current study. Furthermore, during the majority of time that is the focus of this study, the U.S. was at peace, punctuated with three major and one minor period of conflict. Since the earlier period of the fort has been discussed at length in Clouse (1996) and in a number of other books and booklets (Callendar 1959; Fridley 1956; Hansen 1958; Holt 1938; Johnson 1970; Jones 1966; Ziebarth & Ominsky 1970), this summary will treat the early period more briefly with the major emphasis on the post-Civil War period.

It is realized that certain individuals such as Col. Josiah Snelling (initial commanding officer), Lt. R.A. McCabe (designer/engineer of original Fort Snelling) William Goddard (master builder), General Terry (late-19th-century Department of the Dakota commanding officer), and others played instrumental roles in the actual design and development of the physical structures known as Fort Snelling. The roles of specific individuals are part of the record, but a detailed account of their individual accomplishments is beyond the scope of this study. The primary emphasis here to provide a setting within which to better understand developments at the Camp Coldwater Locality. These changes reflect aspects of the military involvement on the frontier and in events of national and international importance as well as reorganization and redefinition of the military itself. It is the ongoing process of change, not just a chronicle of events (cf. Hansen 1958 [1918]), that portrays the military role at this one-time frontier garrison, while offering the most appropriate mechanism for understanding the past. Therefore, an historical perspective of the history of Fort Snelling must begin with some background showing the need for a military installation at this location and the role it played in meeting those needs. While a history of standing armies and the need of a national defense are beyond the scope of this document, the rationale for a fortification at this site is not.

The beginnings of the history of Fort Snelling is found in the acquisition of the area that it was designed to protect, including the land upon which it sits. That is, it begins with the Louisiana Purchase in 1803. Through the Louisiana Purchase, the United States did not directly acquire the land, but rather the purchase gave the United States the *right of discovery*. This *right* gave the United States, whose perspective was that it was the paramount sovereign, the authority to negotiate treaties with sovereign nations of indigenous people who occupied the land (Clouse 1996).

In a directive from President Thomas Jefferson to explore the then virtually unknown Louisiana Territory, an expedition led by Meriwether Lewis and William Clark was sent up the Missouri River in 1804. In the following year, Lt. Zebulon M. Pike was dispatched up the Mississippi River to explore that region and to secure for the United States suitable land upon which to build military installations. The early establishment of the military presence in a newly acquired territory is common as one of the first steps a government takes to demonstrate authority over that territory (Clouse 1996).

Lt. Zebulon Pike's initial survey resulted in the drafting of a treaty in which a \$200 down payment was made to the Dakota (Sioux) Indians for a grant of tracts of land within their territory upon which the U.S. military might build a post. As part of that treaty it was promised that the United States would make further payments at such time the land was militarily occupied. Pike returned his survey data and the treaty document (see below) to the U.S. War Department, however the ultimate decision for the actual establishment of posts and approval of the treaty was of course left up to the Congress.

The treaty for acquisition of the land grant in which Fort Snelling was to be built reads as follows:

Whereas, at a conference held between the United States of America and the Sioux [Dakota] nation of Indians, Lieut. Z. M. Pike, of the army of the United States, and the chiefs and warriors of the said tribe, having agreed to the following articles, which, when ratified and approved of by the proper authority, shall be binding on both parties:

Article 1. That the Sioux nation grants unto the United States, for the purpose of the establishment of military posts, nine miles square at the mouth of the river St. Croix, also, from below the confluence of the Mississippi and St. Peter's [Minnesota], up the Mississippi, to include the falls of St. Anthony, extending nine miles on each side of the river. That the Sioux nation grants to the United States, the full sovereignty and power over said districts, forever, without any let or hindrance whatsoever.

Art. 2. That, in consideration of the above grants, the United States [the following added by the Senate in 1808] shall prior to taking possession thereof, pay to the Sioux two thousand dollars, or deliver the value thereof in such goods and merchandise as they shall choose.

Art. 3. The United States promises, on their part, to permit the Sioux to pass, repass, hunt, or make other uses of the said districts, as they have formerly done, without any other exception but those specified in article first.

In testimony hereof, we, the undersigned, have hereunto set our hands and seals, at the mouth of the river St. Peter's, on the twenty third day of September, one thousand eight hundred and five.

Z. M. PIKE, first Lieutenant, [seal]

And Agent at the above conference.

LE PETIT CORBEAU, his X mark. [seal]

WAY AGA ENAGEE, his X mark. [seal]

Following congressional ratification of the treaty in 1808, John C. Calhoun, then Secretary of War, requested permission to establish military installations along the northern frontier of the recently purchased Louisiana tract. However, Congress, in its fear of too large a standing army in time of peace, did not see fit to appropriate funds for the construction of any forts at that time.

Zebulon Pike's documentation (Coues 1965 [1895]) of his travels to this area in 1805 clearly indicated that the region was economically dominated by the Montreal-based Northwest Fur Company and was for all practical purposes an extension of British territory (Canada). Later, having lost the whole of the northwest frontier to the British and their Indian allies during the War of 1812, the administration of President James Monroe proposed actions that would secure possession of that territory and assure the loyalty of the indigenous inhabitants. Additionally, because of the lucrative nature of the fur trade, American companies succeeded in gaining government support to eliminate the domination of British (Canadian) fur companies (Clouse 1996).

At the conclusion of the War of 1812, and with the movement of U.S. troops into forts Dearborn, Crawford, and Mackinac, it was deemed advisable to establish a *chain of forts* across the northern and western extremities of what was then the northwestern United States. This *chain*, it was hoped, would protect the new territory from British military incursion from Canada and block the established north-south fur trade routes from the Missouri and Mississippi River drainage basins (Prucha 1969). Four forts (Crawford, Edwards, Atkinson, and Snelling) were constructed as "links" in this proposed *chain* and with the removal of troops from the other three by 1827, Fort Snelling was for a time left as the sole link in the defense of the vast northern expanse of what later became Missouri territory.

In conjunction with the military at Fort Snelling, there was also the presence of an Indian agency. Indian agencies and the army were both a part of the War Department until late in the second quarter of the 19th century. The roles of each of these government bodies in seeking to assure American control over the area and its inhabitants were complementary and slightly overlapping in nature. The Indian agency role was to 1) encourage, protect, and regulate Indian trade, 2) exercise control over the Indians by encouraging a dependence on American companies, 3) impress upon the Indians the power of the United States, 4) gain the confidence of the Indians by protecting their rights, and 5) and introduce them to white civilization (Grossman 1977).

The clear initial military objectives of Fort Snelling were to 1) control the principal avenues of communication, 2) provide support for the Indian agency by sustaining a threat through armed force, 3) maintain peace among the inhabitants of the region, and 4) prevent settlement of whites in what was then Indian land. These combined objectives of the Indian agency and military were so commerce oriented they appear almost single-minded in nature: they were to control the avenues of the fur trade, keep out foreign fur traders, keep Indians from conflict with each other so that they would continue to provide the labor force for the fur trade, and keep whites from interfering with Indians so they could engage in the acquisition of furs (Clouse 1996).

Towards the establishment of the post at the junction of the St. Peters and Mississippi rivers, an expedition was sent into the upper Mississippi region in 1817 led by Maj. Stephen Long (Long 1860). Long's directive was to review those tracts purchased by Pike in 1805 for their suitability as locations of military garrisons. Long's review of the area at the mouth of the St. Peters (Minnesota) River resulted in a recommendation for the construction of a permanent garrison at the high point of land immediately fronting the Mississippi and above a slough separating the main land mass from Pike Island.

Utilizing the available cartographic resources of the Fort Snelling area, we can efficiently trace the 126 years of change that have occurred at Fort Snelling and visualize how actions far removed from this place had an effect on that change. The following historical discussion addresses structural changes in the context of the overall role of the military and Fort Snelling's changing role within that structure. Supplemented with other documents, the maps, photographs, drawings, and other images presented here are not a complete chronicle, but are representative documents tracing the physical and historical development of Fort Snelling.

1819 to 1858 – From Fort Snelling's founding to the sale of the fort

Following the 1817 report by Long (Long 1860), and congressional approval for construction, the Fifth Regiment of U.S. Infantry was ordered to the Upper Mississippi Valley in February of 1819. Under the command of Lt. Col. Henry Leavenworth, the regiment was dispatched to construct a fort at the mouth of the St. Peters (Minnesota) River and to occupy Forts Crawford and Armstrong. Leavenworth, arriving late in the year, opted to build a temporary cantonment on the flood plain on the east side of the Minnesota River. Thinking that the cantonment's location was partly responsible for the unhealthy conditions and the loss of more than 3 score of his men, Leavenworth, in the face of rising flood waters, moved this troops in May, 1820 to high ground near the head of a large spring about 1 mile up the Mississippi River. This location was, then and now, known as Camp Coldwater. This location is labeled on an 1823 map of the Fort St. Anthony (Fort Snelling) vicinity (Figure 4).

Col. Josiah Snelling replaced Leavenworth in 1820. It was Snelling who selected the site for the fort and decided on the design and materials. Originally built as a fortification to fit the ground upon which it was placed, Fort Snelling took on a configuration that was adapted to the landform at the point of the bluff overlooking the juncture of the Minnesota and Mississippi Rivers. Its original design contained numerous angles and sharp jogs in the walls suggesting that considerable difficulty would have existed in providing adequate control of the defensive perimeter. This design, however, was modified during construction and with the final form having been established by 1823. Viewing this configuration in relation to the landform shown in the Heckle map (Figure 5), one sees the design as an attempt to adapt to the topography existing at the time of construction. Fortifications such as St. Anthony (Snelling) designed to adapt to the local topography are classified as *irregular* fortifications. However, within those irregular walls the fort buildings and interior plan form a symmetrical arrangement of buildings typical of regular fortifications that corresponds to the rigid structure of the military (Clouse 1996). Utilizing locally available building materials consisting of limestone quarried back from the bluff face adjacent to the fort, bricks made from clay in the

shale deposits, and timber cut locally and in the neighboring regions, the fort was completed in 1825. In honor of its commanding officer, the fort was renamed Fort Snelling in 1826.

A plan drawn by E.K. Smith in 1837 (Figure 6) documents developments around the fort in the Coldwater spring area. Of particular interest is the fact that this plan details and identifies structures such as private residences, blacksmith's shops, barns, and a hotel in the immediate vicinity of the spring. The structures near the spring are likely associated with Baker's trading post and accommodations for his employees and the Indian Agency blacksmith's shop operated by Antoine Peppin (also spelled Pepin and Pappin). Additional construction resulted from the settlement of refugees from the failed Selkirk colony in Manitoba. This area is discussed in greater detail later in this report. Upstream from the fort settlers built cabins on along the east bank of the Mississippi. The location and arrangement of buildings associated with the Indian Agency are also clearly depicted one-quarter mile southwest of the fort. The recent growth of the American Fur Company post in Mendota is also detailed at this time (Clouse 1996).

With the opening of territory east of the Mississippi River to settlement in 1838 and the growth of the settlement of St. Paul a few miles downstream, the fort was no longer the isolated community it had been just 20 years earlier. In 1849 Minnesota became a territory and, although there is not a sharp break in the activities of the army at this juncture, military action from Fort Snelling gradually began to decline. No longer isolated, it no longer had to rely only on what it could produce and what could be shipped up river. As the neighboring community grew so did the opportunities for the military to acquire goods and services that troop labor had provided before. With the growing civilian population and a civilian government the fort's role in frontier duties also declined.

At a post that had been largely dependent on self-sufficiency, it was now possible to contract for firewood, beef, horses, mules, cattle, forage for animals, etc. from local suppliers and farmers. The influx of government money to local entrepreneurs was a welcome addition to the local economy and troops were freed up from some of these duties to spend more time on military tasks and training. And although the army attempted to revitalize agricultural practices for gardening to supply the garrison with vegetables, it was not always successful at this northern latitude (Annual Report of the Secretary of War [ARSW], 1852, 32nd congress, 2nd Session, Senate Executive Documents, No. 1, p. 35).

Between the Mexican and Civil Wars, the army in this region was assigned the task of protecting arteries of transportation through Indian land and fought some battles with Indians along the frontier. Until the Civil War the United States government dealt with Indian nations in a conscious effort to move Indians into territory that was undesirable to whites or areas in which whites were not yet ready to settle, rather than eliminate or absorb them. This action created in their minds a more or less permanent Indian country. During the 1850s the idea of a permanent Indian Country began to breakdown as Oregon and California began to be settled. Indian Country was no longer the western boundary of the U.S.; instead it separated two parts of the country. A major economic factor responsible for change in the frontier setting was the demise of the fur trade. With depressed values for furs, increased pressure on land from

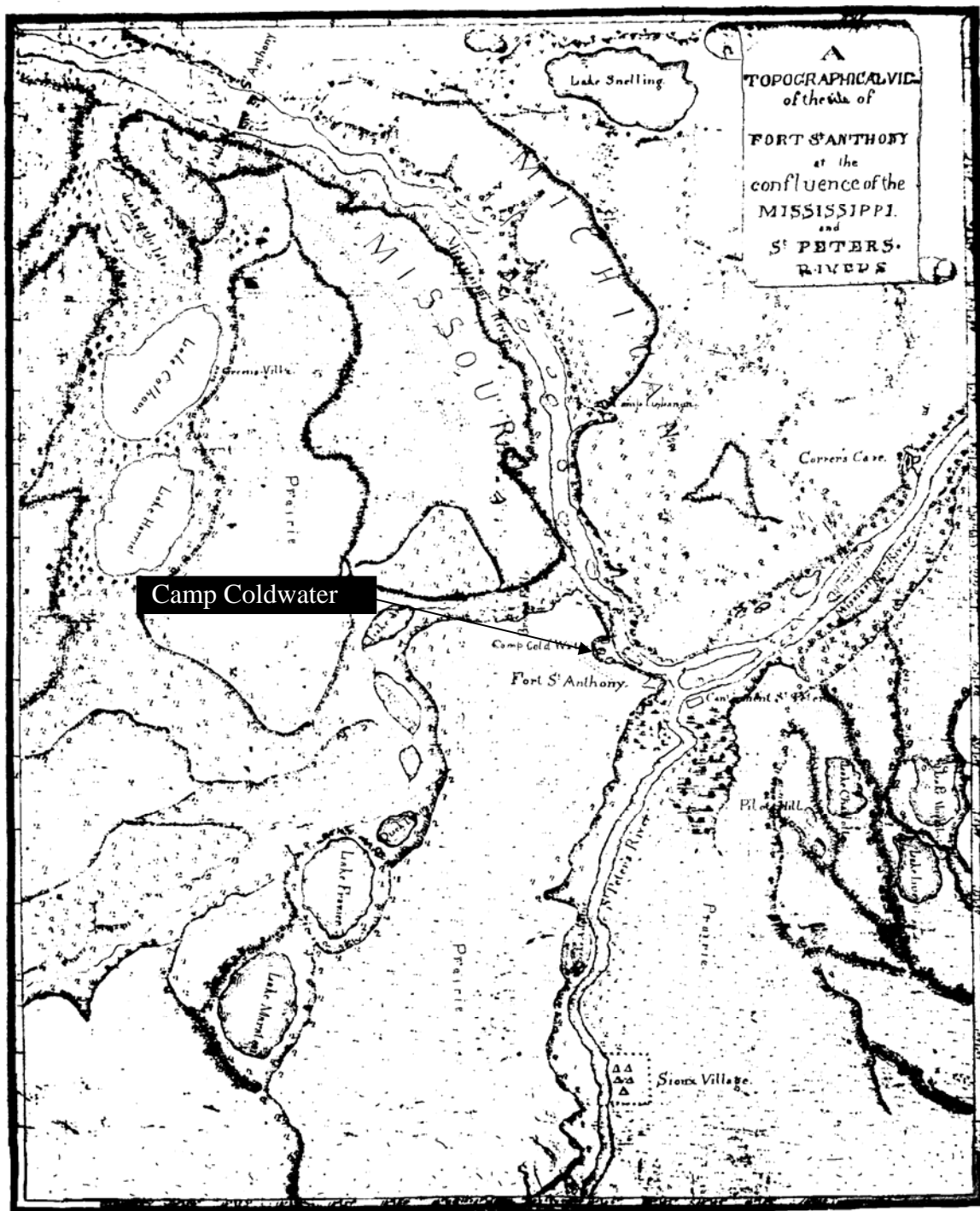


Figure 4 Ca. 1823 topographical map of Fort St. Anthony (Fort Snelling) vicinity
(cartographer thought to be Lt. Morrill Marsdon)

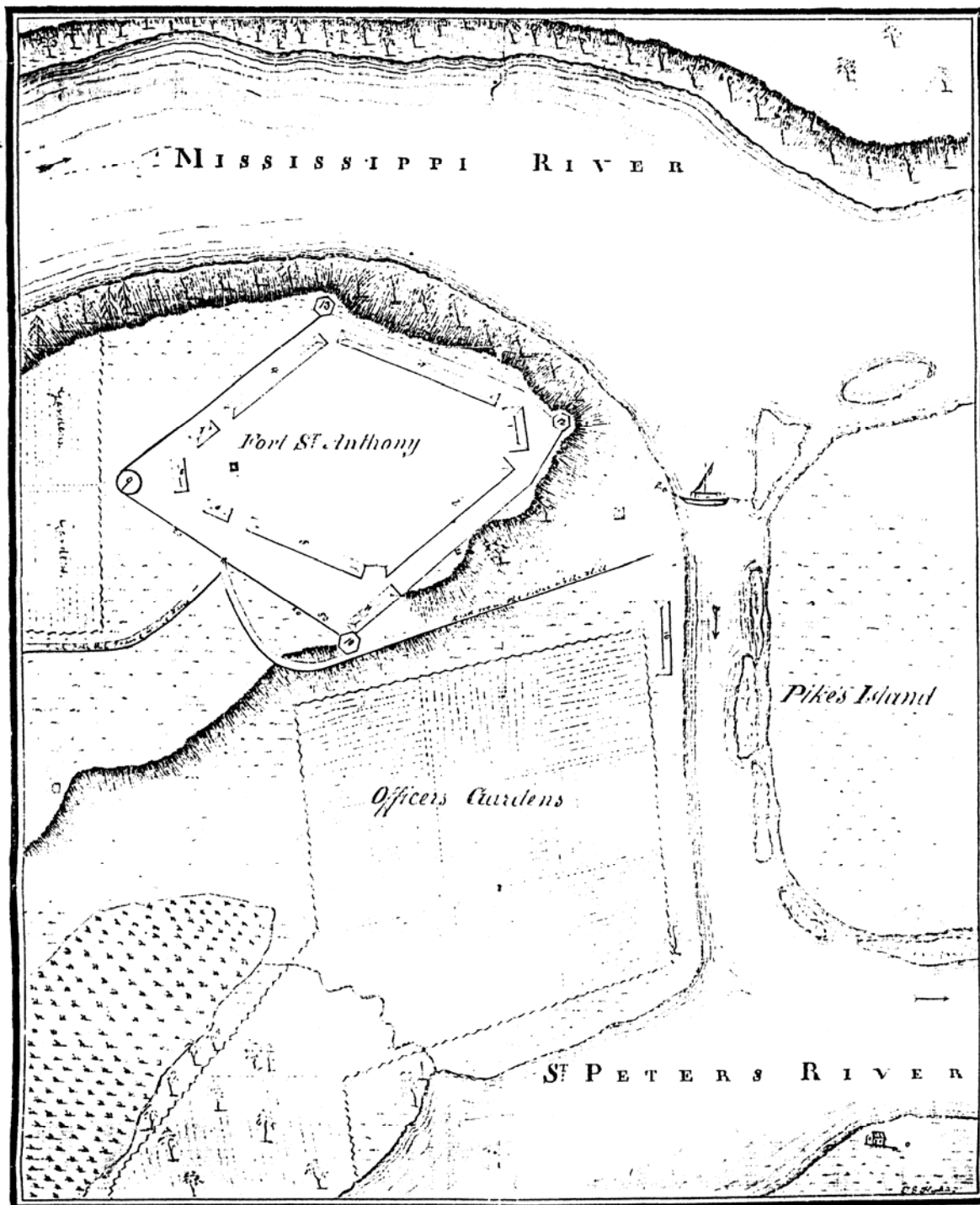


Figure 5 1823 plan of Fort St. Anthony (Fort Snelling) by Joseph Heckle

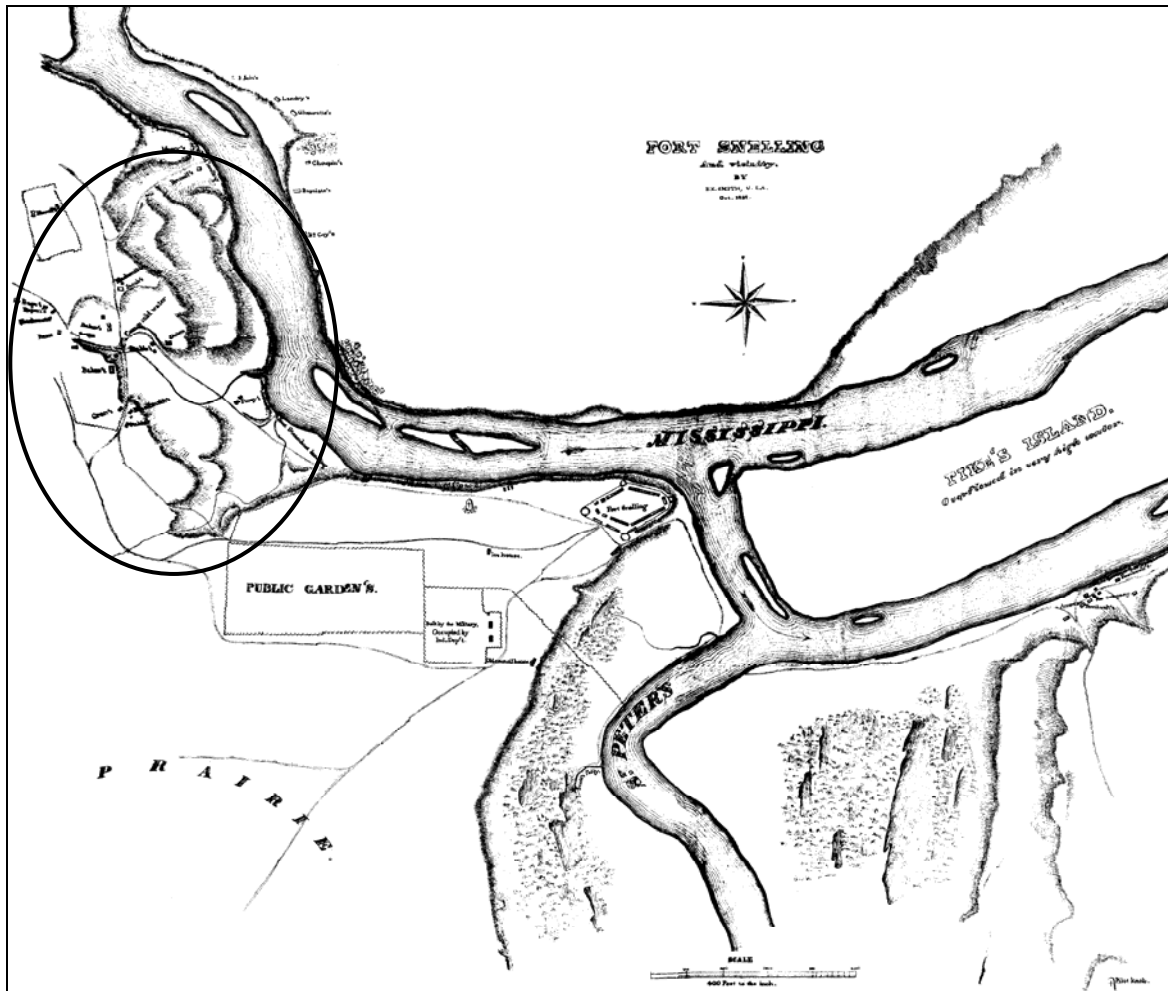


Figure 6 1837 E.K. Smith map of Fort Snelling and vicinity. Camp Coldwater community is within circled area.

anxious settlers, and treaties that opened up most of Minnesota to settlement, the fur trade as a major economic force was largely gone by 1851. In a very short period of time fur traders were replaced by farmers (Clouse 1996).

In 1849 Fort Ripley was constructed in Crow Wing County and four years later the army built Fort Ridgely along the Minnesota River valley in Nicollet County. The on-again, off-again Fort Abercrombie was finally founded in 1857 in the Red River Valley. With the construction of forts such as Ridgely and Ripley, at what was then the westward-moving frontier, and the removal of Dakota Indians to reservations as a result of the treaties of Mendota, and Traverse des Sioux in 1851, the military began to question the necessity of a fort well within settled territory. Finally, in 1856, a decision was made to sell the fort, and in 1857 Franklin Steele, a former sutler at Fort Snelling, purchased it. The appearance of irregularity in the transaction prompted the creation of a board of review to investigate the sale and to determine the advantage of maintaining the fort as a supply depot. The conclusions of this board of officers was that the frontier had moved to a line drawn from Fort Ripley to Fort Ridgely and that an

agency in St. Paul would be more satisfactory than a military station and depot at Fort Snelling (House Miscellaneous Document No. 133, 35th Congress, 1st Session, pp. 1-3). The sale of Fort Snelling follows a pattern of demise of frontier military posts that was to occur repeatedly as the need for earlier fortifications dwindled with the westward movement of that frontier (Clouse and Steiner 1998).

Franklin Steele took possession of the fort in 1858 and proposed the development of the City of Fort Snelling on the former military reservation. However the financial panic of 1857 cut short his plans and left him with little chance for profit from the sale of house lots. With no incoming cash, he defaulted on his second installment payment for the fort. Shortly thereafter the Civil War broke out and Fort Snelling was militarily reoccupied and declared the location for a training facility for volunteers, and in 1863 it became a draft rendezvous.

1861 to 1898 – Civil War to the Spanish American War

Fort Snelling returned as a part of the nation's military system in 1861 to meet the increased need for military training, housing, and supplies. During 1861 and 1862 a number of wooden structures were built to house functions necessary to meet its role as a rendezvous and training center for Civil War volunteer soldiers from Minnesota. Structures known to have been built during that time include enlisted barracks, kitchens and mess facilities, officers' quarters, a blacksmith's shop, a carpenter's shop, numerous stables, stock yards, teamsters quarters, and privies among other temporary facilities. None of these buildings remain standing today. The plan shown as Figure 7 is evidence of the fort's physical development outside the old walled complex of Fort Snelling as a response to the Civil War.

A few Indian campaigns continued in the northern plains during the Civil War and in Minnesota in 1862. These actions were waged by volunteer troops since the regular army had been removed to take part in Civil War action. In conjunction with the ending of hostilities in the U.S.-Dakota conflict in Minnesota in 1862, a temporary internment camp (stockade) for Dakota Indians was constructed on the Minnesota River floodplain below the old fort. The military solution to the friction between Whites and Indians in Minnesota was the removal of most Dakota Indians to reservations farther west. Continued conflicts and military directives by the commanding general of the army, W.T. Sherman, like the need to "act with vindictive earnestness against the Sioux even to their extermination, men, women, and children" (Athearn 1956), were tempered by congressional action that created a peace commission to restore order. The ultimate goal of this action was to attempt to eliminate their sovereign nation status and deal with Indians as individuals.

By the end of the Civil War and with the Homestead Act of 1862, the "Great American Desert," as Maj. Stephen Long had dubbed the Great Plains in the 1830s, was opened for settlement. This action brought about the obsolescence of the concept of an "Indian Country." There were no places left in which to remove them and the policy of reserving lands for Indians was promoted as a solution to Indian conflict with White settlers. With this solution the army would then be on the offensive to keep or return Indians to reservations. Following the Civil War, Fort Snelling was re-established as a permanent military post. Responding to

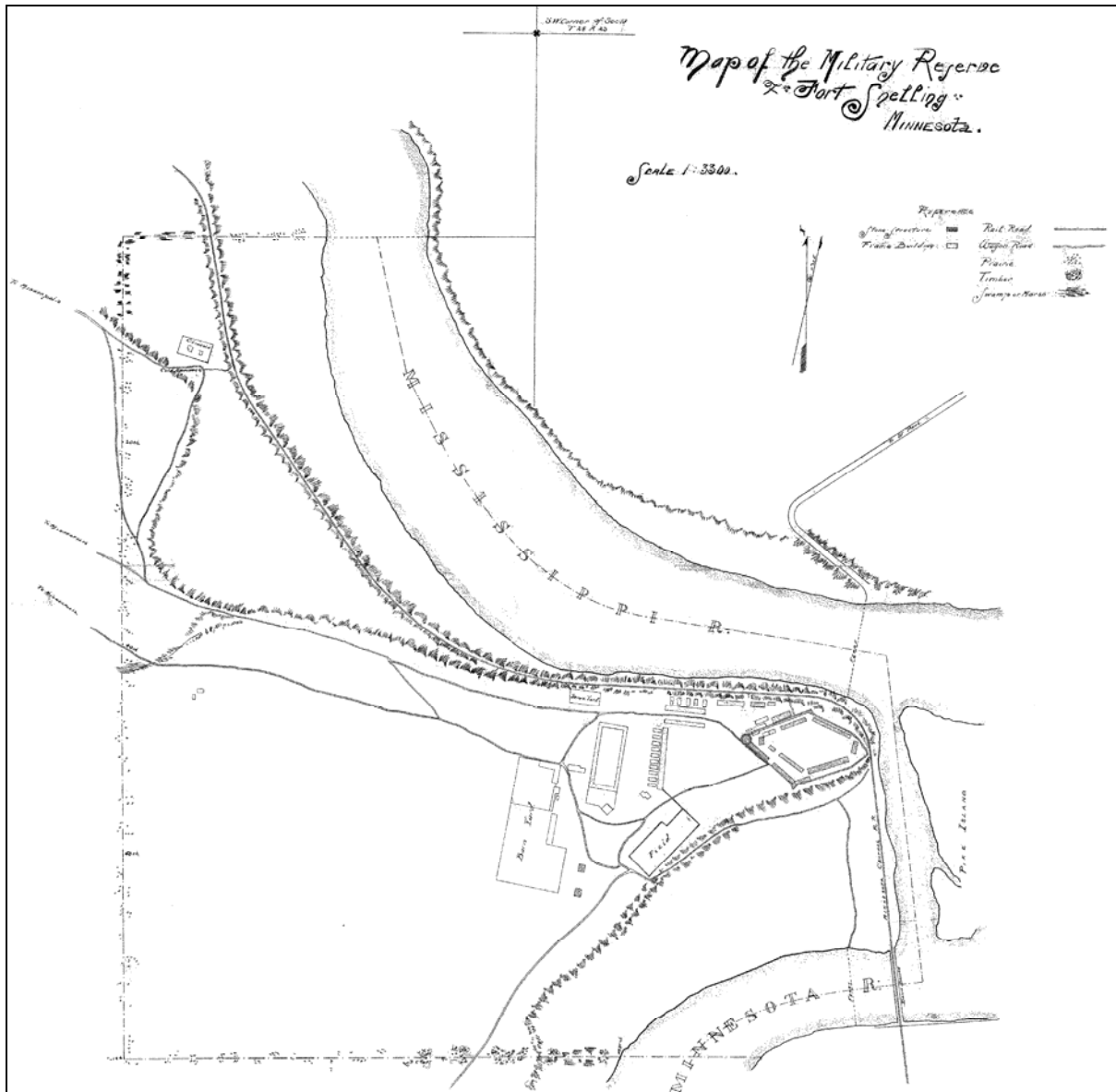


Figure 7 1870 plan of Fort Snelling

pressure from neighboring communities for more land, the Fort Snelling military reservation was reduced to approximately one-tenth of the pre-war size.

Four years after the end of the Civil War the army still had over 250 military posts spread throughout the United States. A number of these and later posts were constructed on a temporary basis associated with westward trail development and with the extension of the railroads. Ulysses Grant, General in Chief of the Army until 1869, had asked for an 80,000 man force of regular army. Congress authorized however a force of 54,000 in 1866. Although it grew slightly larger than that which was authorized, Congress reduced the number to 45,000 in 1869. That number was reduced again in 1876 to a manpower total of about 27,500. The

reduction roughly corresponds to the official end of Reconstruction in the southern states in 1877 although a transition to civilian government had been occurring there since 1870. The size of the U.S. military force then remained nearly constant until the Spanish-American War in 1898 (Weigley 1967; Ganoe 1943).

The congressional reduction in force and reduction in funding in the decades that followed the Civil War was in part due to the role the army played in a number of controversial areas of American society. These included the Reconstruction period in the southern states, Indian campaigns in the west, a French threat in Mexico, and the putting down of domestic labor disturbances in 1877 and 1894. As a result of these actions and posturing within the structure of the military itself, military historian William Ganoe (1943) has referred to this period as “The Army’s Dark Ages.” During this period the Army looked inward with a resultant greater separation from the general society at large. It was, however, this period of comparative peace that helped develop the professionalism necessary to meet the needs of wars to come in the next century.

For administrative purposes the army was divided on a geographic basis. These divisions (Atlantic, Pacific, and Missouri) remained relatively constant over time, and Fort Snelling continued to be a part of the Division of the Missouri until nearly the end of the 19th century. During the latter part of the 19th century this division comprised a number of states and territories (Figure 8). The divisions were further subdivided into departments. Fort Snelling was in the Department of Dakota (a subunit of the Division of the Missouri) headquartered in St. Paul until 1878. The Department of Dakota encompassed Minnesota, and the future states of North and South Dakota and Montana. It initially included, in addition to Fort Snelling, Forts Wadsworth, Abercrombie, Ripley, Ridgely, Dakota, Rice, Sully, Randall, Berthold, Union (Buford), Thompson, and Camp Cook. By 1867 Forts Ransom, Totten, Shaw, and Stevenson were added along the westward trail from Fort Abercrombie. Other forts were added and/or removed as specific needs arose, usually in relation to the protection of transportation arteries.

In the Department of Dakota, military action against the Indians was often prompted by whites breaching treaty provisions thus provoking Indians into action to repel treaty violators. The military was then called in to protect the whites and punish the Indians. These violations were often fueled by greed and adventure frequently associated with the discovery of gold, such as that in Montana and in the Black Hills. Railroad construction through Indian land, slaughter of the Buffalo and development of western trails, such as the Bozeman Trail, also fueled tensions and violated treaty rights that resulted in armed conflict between Indians and the army. From the army’s perspective, poor communication systems and officers who had received their experience on battlefields in the Civil War in part hampered military action against the Indians early in the period. The result was that they were not accustomed to dealing with an enemy that fought in an unorthodox manner. Some of the more memorable events in the history of the Department of Dakota Indian campaigns were the defeat of Col. George A. Custer at the battle of the Little Big Horn in Montana in 1876, the 1877 capture of Chief Joseph and removal of the Nez Percé to a reservation in Oklahoma, the army action



Figure 8 United States Western Military Departments in 1874 (Billings 1875)

against Indians at Wounded Knee in 1890, and the use of troops in the last U.S. Indian action at Leech Lake in 1898.

There is little evidence of growth in the garrison between the end of the Civil War and 1878. A primary reason for the lack of growth here, and at a number of other military installations was due to the nation's major focus on Reconstruction in the South. Reconstruction ended in 1877 and congressional appropriations were then directed to other needs. The construction of a new hospital in 1874 (Billings 1875), located where the north end of the Mendota Bridge now rests, is the only significant structural change during this period. Beginning in 1878, the fort gradually began to expand along the Minnesota River bluffs stretching towards the southwest.

The demise of the original fortification is witnessed in a number of historic plans from the late 1870s and early 1880s, as a "New Fort" was beginning a rapid spread to the south and west of the walls of the old garrison (Clouse 1996). The ground plan of the military reserve from 1878

shows evidence of the direction development will take in building the Department of Dakota Headquarters in 1879. In 1878, a general order was issued that required Department headquarters to be moved to the nearest military post. The rapid change that followed in the late-1870s and mid-1880s was largely due to increased demands on the fort as the Department of Dakota Headquarters moved from St. Paul to Fort Snelling. This growth follows a geographic pattern established during and after the Civil War spreading out in the contiguous areas available along the river bluffs. The development of Officers' Row on Taylor Avenue, the new headquarters building built in 1879, the 1880 ordnance depot, and new barracks completed by 1885 (Figure 9), all testify to the increasing importance of the post (Clouse and Steiner 1998). Also by 1885, the old fort is relegated to the status of "Ordnance Depot," with the "New Post" being the primary focus of late-19th century activity. During the early-1880s a pressurized water system was established with a water tower and other support buildings constructed at the Coldwater spring.

By 1881, the United States Army occupied 190 military posts 16 arsenals, 3 recruiting depots, and 1 engineering center, in addition to headquarters buildings and numerous other facilities managed for supply by various departments of the army (Clary 1983). Of the total, 84 posts were on the Great Lakes or Atlantic and Gulf Coasts; 11 on the Pacific Coast; and the remaining 115 were scattered inland (Annual Report of the Commanding General [ARCG] 1881, House Executive Documents 1, 47th Congress, 1st session, Part 2, Vol 1, p. 36). At that time military leaders objected to the expensive and inefficient maintenance of an excessive number of posts to house an army of only 25,000 enlisted men. They felt that the majority of posts had ceased to have any valid military purpose. Many coastal forts had been abandoned for years and many of the rest were "temporary" garrisons built to intimidate or control Indians that were no longer in a state of conflict (Clary 1983).

A prospective answer to many of these problems was in a military proposal for consolidation. Consolidation would abandon obsolete, temporary, and coastal forts and concentrate troops at strategic points where they could train in large formations. This would result in fewer posts to maintain while relying on the nation's relatively good railroad transportation system to rapidly deliver troops where they were needed. In 1880, Alexander Ramsey, then Secretary of War, and Commanding General William T. Sherman both made requests to reduce the number of forts to fewer strategic posts to effect greater economy and discipline (ARSW and ARCG 1880, House Executive Document 1, 46th Congress, 3rd session, part 2, vol. 1, pp. ix and 5).

Congressional opposition to consolidation included the lack of civilian population centers in some areas to provide adequate protection to local inhabitants, the commerce provided to local communities by military spending, and a reluctance to appropriate money to build new "strategic" posts as smaller forts were abandoned. Congress did however gradually increase funding for military consolidation.

By the early-1880s Fort Snelling was well supplied with the facilities necessary to carry out its role and achieve its military goals in the west. As the Indian campaigns nearly ceased to be a cause for extensive military activity, and as the Department of Dakota headquarters re-turned to St. Paul in 1886, growth at the fort slowed. With the onset of the Spanish American War in

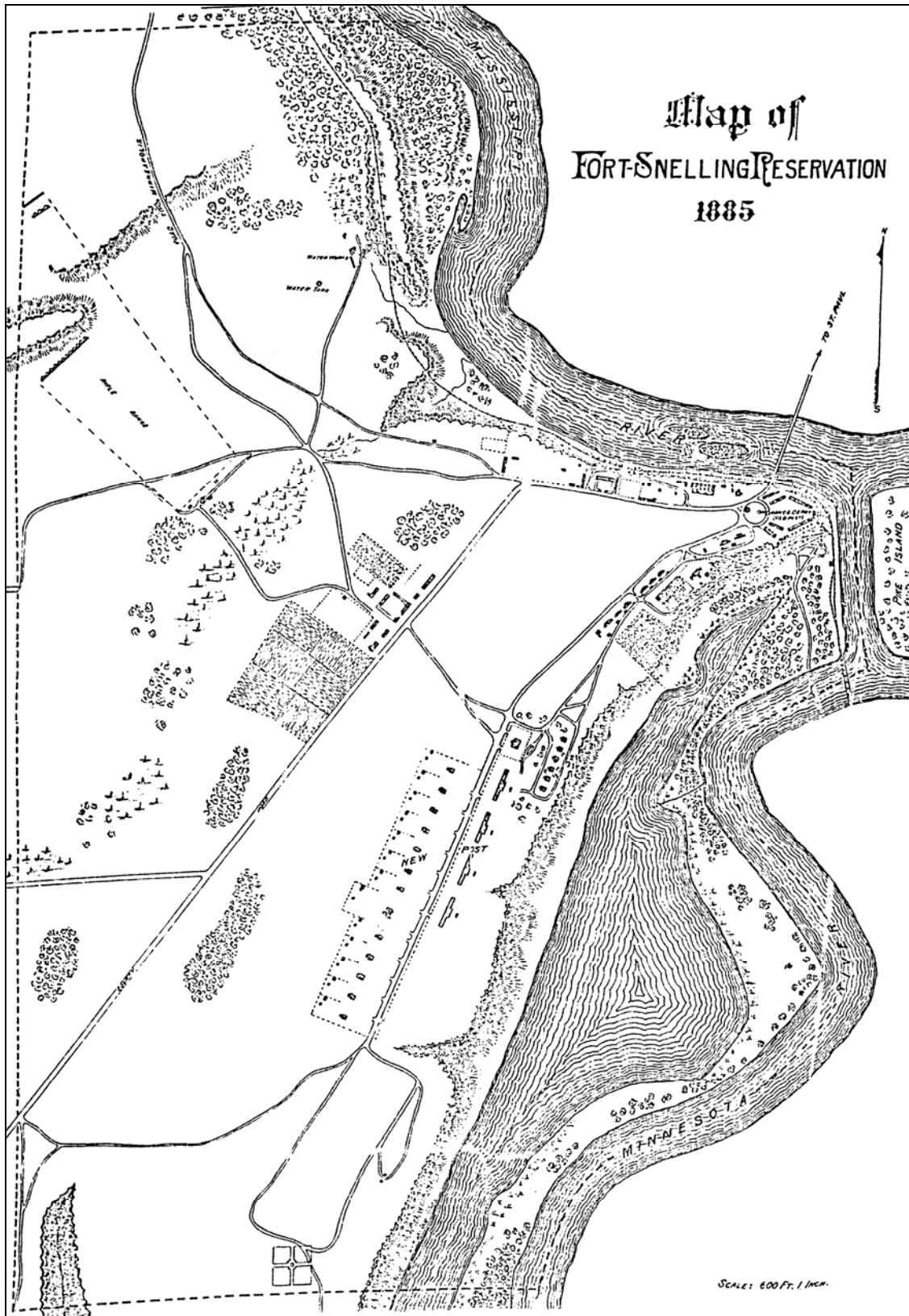


Figure 9 1885 plan of the Fort Snelling reservation

1898, another rapid growth spurt occurred that was again to slow significantly after 1905. Prucha (1947) indicated that Fort Snelling, as regimental headquarters and head-quarters of the district of Minnesota, maintained a sizable garrison and kept troops on hand for dispatch to outlying posts as needed. Annual reports of the Department of Dakota show virtually no military action in Minnesota after the Civil War and that most of the garrison's activity was related to escort duty for supply and contractor's trains to other posts in the Department.

Between 1880 and 1895 army housing underwent a dramatic transformation. It came as part of a general overhaul of enlisted life with reduction of enlistment from 5 to 3 years, elimination of substandard living conditions, capricious discipline, and unbalanced rations (Foner 1970). Even post traders were removed and replaced with post exchanges operated for the benefit of the soldiers (Clary 1983). Changes in barracks were designed to remove soldiers from substandard housing while reducing the total number of posts and moving those that remained to locations in more settled regions. But an underlying military reason for this move was to assemble greater numbers of soldiers in one place so that they could train in larger formations.

During this same time period the Surgeon General of the United States condemned the conditions existing at the majority of military posts and supported moving towards more modern facilities. The use of latrine pits, frequently filled and covered, and moved a few feet away led to recommendations for disposal of human waste away from living areas and the elimination of cesspools, sinks, and privy vaults to rid the army of back yards "honey-combed with deposits of filth." (Billings 1870, 1875; Annual Report of the Surgeon General [ARSG] 1887, House Executive Documents No. 1, 50th Congress, 1st Session, Pt. 1, vol. 1, 657-671). By 1892 the Quartermaster General's office was spending over \$250,000 a year on sewers, water supply systems and plumbing (ARSG 1892, House Executive Documents No. 1, 52nd Congress, 2nd Session, Pt. 1, vol. 1, 537). The adoption of modern sanitation and modern utilities was an enduring outcome of this period that also resulted in forcing the army to move from amateur (soldier) to professional construction methods. The result of this move forced a change from construction procedures and policies of a dispersed system to one run by centralized management (Clary 1983:22).

After receiving approval to abandon certain posts, a total of only 119 garrisoned posts remained by 1884. In an economic move, efforts had begun at the same time to create larger posts in the vicinity of larger cities. As consolidation was taking place, there were fears that this move would result in overcrowding in the remaining forts. In 1885 \$229,556 was appropriated for nearly 100 new buildings nationwide and slightly more was appropriated for repair to existing structures. It is believed that funds to construct new barracks at the fort may have come from this appropriation. Additional funds were also authorized for water and sewer work and other items.

As consolidation began to take place there was also a change in the military supply system. In the past all supplies had gone through a chain of command: department to regiment to company. This system was logical based on the fact that most army units did not have a permanent home. With consolidation, came management of permanent posts with services and

supplies coming to posts for whatever troops occupied them at a given time (Clary 1983). By 1890 funding for the consolidation program had jumped from \$150,000 to \$400,000 with the general construction and repair budget also being increased. With the new construction money, complaints arose about the lack of an organized approach to construction (ARSW 1891, H. Ex. Doc 1, 52 Congress, 1st Session, Pt 2, vol. 1, p. 12-16). To cope with these problems, by 1895 the Office of the Quartermaster General consolidated numerous departments into 4 major divisions, including one unit called "Constructing Quartermasters." By 1891 a pattern for new buildings was well established. Most barracks were 2 or three story brick buildings built to house 2 to 6 companies of men. They had steam heat, plumbing, separate mess halls, and quarters for non-commissioned officers (ARQMG 1891, H. Ex. Doc 1, 52 Congress, 1st Session, Pt 2, vol. 1, p. 509-517). Also in 1891 funding increased to over \$1.25 million for barracks, quarters, and general construction at permanent posts (ARSW 1891, H. Ex. Doc 1, 52 Congress, 1st Session, Pt 2, vol. 1, p.16). It is believed that additional officers' quarters housing were built from this appropriation.

By 1892 the army had reduced the number of garrisoned posts to 96. Funding again rose the following year with a reduction in the number of posts by one. Construction funding for enlarging permanent posts fell off slightly in 1893 but was still in excess of 1.1 million dollars. By 1895 the number of garrisoned posts had been reduced to 80 while funding continued at a level of over one million dollars. Fort Snelling continued to grow as consolidation marched forward by witnessing the construction of new facilities in the Quartermasters Department. As the consolidation program was nearing completion, now with only 77 posts, the construction bubble began to burst. In 1896 consolidation money fell to nearly one-half the previous year's level and pork-barrel projects began to reduce still further these more limited resources. Continuation of congressional pork barrel projects and a reduction in funding in 1897 reduced to three-fourths the amount available nationally from the previous year (Clary 1983).

As noted above, a number of new buildings were constructed in the late 1880s and early 1890s including those for use of the quartermaster department and additional officers' housing along Taylor Avenue. Together with the construction of buildings from the late 1870s, more than 30 buildings had been added to the fort in less than 20 years. This includes the waterworks facilities at the Camp Coldwater Locality.

1898 to 1919 -- Spanish American War through World War I

During the Spanish American War, Congress temporarily permitted the creation of a three battalion infantry regiment allowing the total number of companies to rise from 65 to 146 men and cavalry from 100 to 164. Although this was only a temporary measure it was important from the standpoint that most military tactics were based on troop units of these numbers. The war also had its effects on army posts, with large interior posts essentially depopulated while soldiers temporarily moved to a number of temporary facilities, manifested as tent cities, that mushroomed near southern port cities. The effects and aftereffects of the Spanish-American War resulted in several construction projects nationally that built all brick double barracks that included plumbing, heating, and gas piping. Hospitals, often no more than tents and

temporary buildings were the rule at this time, but some barracks were converted to hospital use (ARQMG 1898, p.397). To improve this condition over \$400,000 was earmarked for the construction of 8 hospitals during 1898 and 1899. Building 55 was one of those constructed with that first year's funding. During 1898 the extant wooden engineer's quarters (building H-3) at Camp Coldwater burned. It was replaced almost immediately (in 1899) with a brick house referenced with the same building number. When the fort building numbering system was changed in the 1930s, it was renumbered as Building 252.

Viewed from the perspective of the context of the comprehensive reform of army life and organization around the turn of the century, it is clear that a radically New Army assumed its character just after the war with Spain. Even WW I did not bring about a change in the army as it was at that time, and it was not until the interwar years that a radical change occurred again (Clary 1983).

Owing to the problems recognized as a result of the Spanish-American War and Philippine conflicts, in 1902 the authorized strength of the army was increased from 25,000 to 60,000 men. Secretary of War Elihu Root requested funds for an increase in barracks, quarters, hospitals, and other post facilities which he felt needed to be doubled. However, Congress, in a typical response to the high costs of the recent war, reduced spending instead of increasing it. The following year however, in 1903, over \$ 5.5 million was authorized for barracks, quarters, and expansion of military posts. For the first time Congress also appropriated money for construction of post exchanges and gymnasiums while the QMD obtained another \$3.5 million for sewers, plumbing, lighting, etc. (ARQMG 1903, House Document 2, 58th Congress, 2nd Session, vol. 2, pp. 26-7). Again Fort Snelling was to receive funds out of this first appropriation and a gymnasium was built. The following year construction increased again to over \$10 million and in 1905 the largest peacetime budget in the army's history was appropriated at over \$11 million. Fort Snelling shared in this growth with the biggest building boom in its history. These additions included barracks for cavalry and artillery and a number of support facilities for housing animals, and storage and repair of ordnance. Although many more were built at Fort Snelling between 1902 and 1905, with demolition of buildings in 2001, only 9 structures still survive from this context.

Significant problems with inflation in materials and labor costs slowed the increase in the construction program however. In order to reduce costs a revision of the late-19th-century standard building plans and specifications was undertaken by F.B. Wheaton, staff architect at the Treasury Department (Clary 1983:111). Wheaton's task was to make economizing changes by eliminating "unduly elaborate details of design and construction" (ARQMG 1905, House Document. 2, 59th Congress, 1st Session, Vol. 2, p.7). Revisions of standard plans improved economy, but in 1906 funding dropped to less than one-half that of the previous year.

The most rapid growth in Fort Snelling history came between 1898 and 1905. Initially as a part of the increased wartime spending, it was only after 1903, with vast increases in military budget appropriations, that a dramatic change in the form and structure of the fort was to take place (Figure 10). An extensive new cavalry stable complex (only one remains of a group of 4

stables) was built to accompany new barracks for cavalry. An artillery complex of barracks, artillery stables, artillery gun sheds and artillery workshops represented an intact functional unit until demolition in 2001.

Fort Snelling became an active component in training of National Guard and regular army soldiers as a result of the passage of the National Defense Act of 1916. In that act National Guard troops were required to have at least 48 days of drill and 15 days of field training a year. Although President Wilson had called over 150,000 National Guardsmen into federal service in 1916, it wasn't until the spring of 1917 that a formal process of preparedness for the European war was initiated. This National Guard program, however, had failed to recruit the number of soldiers necessary to reach war strength. In the spring of 1917, the United States entered the war against Germany and implemented conscription through the Selective Service Act passed that year. Fort Snelling responded to these new demands with the construction of the Cantonment at the south end of Taylor Avenue that consisted of over 150 structures dedicated to housing, mess, and training. Extensive trench warfare training grounds were also constructed to the west of the Cantonment. None of these facilities or structures are evident today.

1919 to 1946 -- World War I to World War II and base closure

As after every war, the present case being no exception, the War Department requested an increase in the Regular Army to meet the deficiencies recognized during the previous conflict. This time they requested a standing army of 600,000 men. Following what America thought was a total defeat of Germany, Congress estimated that there would not be a major land war for a long time. Therefore Congress perceived no need for such a large force, and in its typical response rejected the request. The U.S. did however recognize that there still was a potential conflict looming with Japan in the near future, but their assessment was that if that happened it would be a naval war. That prediction, and the country's isolation from any significant adversaries by two oceans, led to a military policy with a reliance on the U.S. Navy as the first line of defense. This policy lasted until almost the beginning of World War II.

During the demobilization of 3.25 million service personnel by the middle of 1919, a regular army strength was established at slightly over 200,000 men and 19,000 officers. Partly as an aftermath of the war, federal troops were again needed to deal with domestic problems associated with racial conflicts and labor disputes until the National Guard was reorganized in 1921. One of the most significant pieces of military legislation that was to pass in this period was an amendment to the National Defense Act in 1920. Unlike that enacted before WWI, this act created an Organized Reserve in addition to the National Guard and Regular Army. Each of the components was regulated to assure readiness for a national emergency. The training of these civilian components now became a major task of the peacetime regular army. As a result of this process it was necessary to have a much larger contingent of officers during peacetime than that which had previously existed--in fact three times as many officers. The War Department was also reorganized in to 5 divisions: G-1 for personnel, G-2 for intelligence, G-3 for training and operations, G-4 for supply, and a War Plans Division (Conn 1969). Another major organizational change that occurred during the interwar years was the

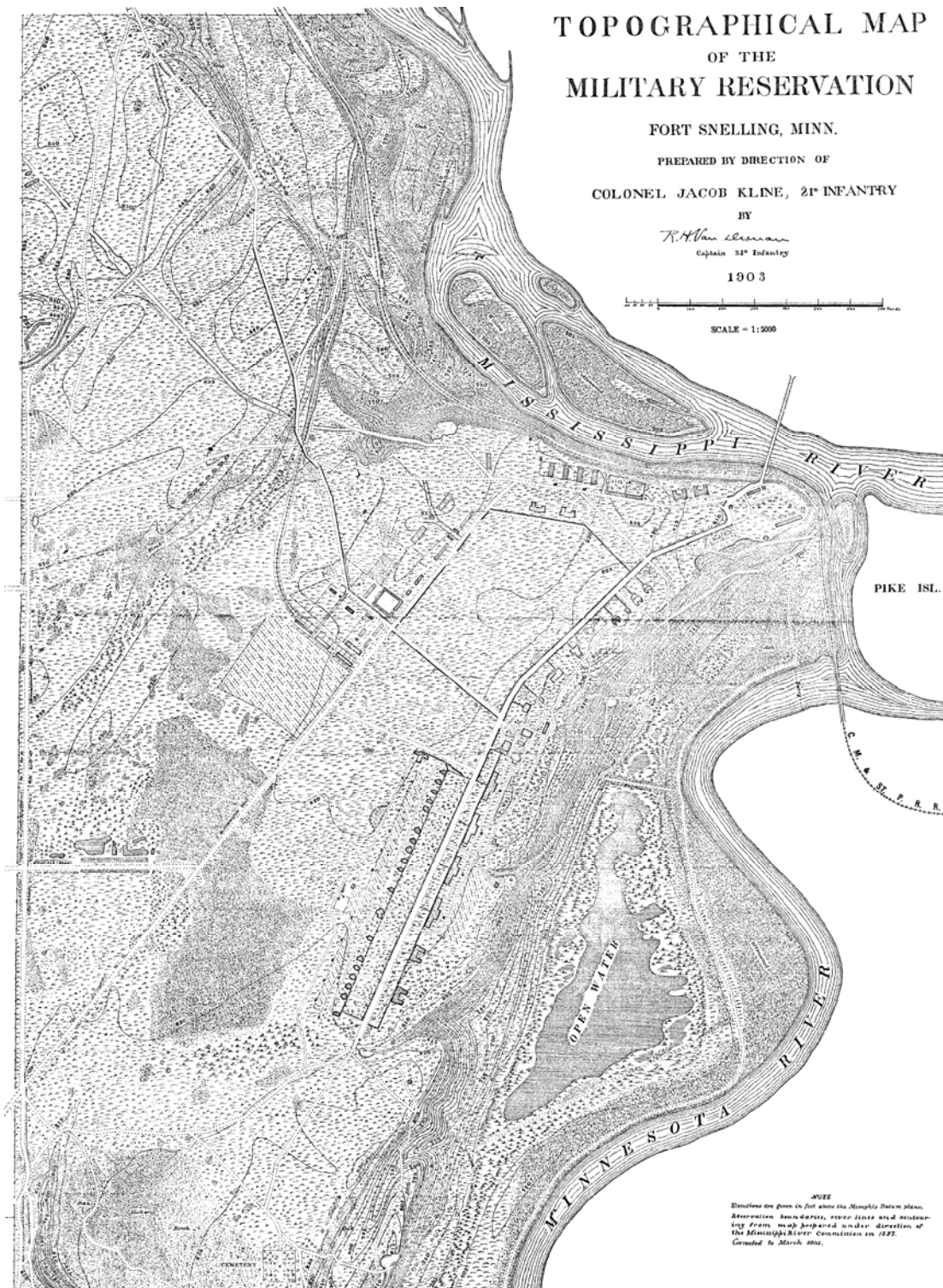


Figure 10 1903 (corrected to 1905) topographical map of the military reservation.

addition of the Army Air Corps as an equal partner with other combat units. A military airport, Wold-Chamberlain Airport, was constructed during the 1920s and used by the 109th Aero Squadron and the Security Aircraft Co. That area is today occupied by an airport service complex between the west ends of the parallel east-west runways.

In the late 1920s budget cuts nearly closed Fort Snelling for a second time. This time it was saved by its utility as a winter training site that taught winter survival skills and skiing and snowshoeing. The emphasis on training and preparedness during peacetime resulted in the creation of special service schools. An outcome of this new training system was that the regular army had to come out of its military isolation and interact with the larger civilian population. This resulted in making a much larger component of the civilian community acquainted with issues surrounding the life of a professional soldier. Between the wars the Cantonment at the south end of Fort Snelling not only served National Guard troops but also served the Citizens Military Training Camp (CMTC) program.

In 1933, the Army was called upon to mobilize and operate over 1,300 Civilian Conservation Corps (CCC) camps throughout the country. According to Conn (1969:413) this duty was to be done without turning the CCC camps into a military project in disguise. During 1933 regular army officers were in charge of the units, but by 1935 reserve officers were directing operations. In the long run, the army's diversion to federal work programs helped to train officers and familiarized over 300,000 men with a more disciplined lifestyle that eventually assisted in military preparedness. Fort Snelling was the location of the Supply Company of the Minnesota District CCC. In early 1934 the company designation was changed to CCC Headquarters Company. The strength of the unit was increased to between 200 and 300 men and, along with WPA workers, they performed numerous duties at the fort. To assist with those operations Building 223 was built in 1935 as a commissary warehouse for the CCC unit at Fort Snelling. Through the construction of a number of buildings, stone-lined drainage ditches, and other features between 1934 and 1938, CCC participants made lasting modifications to the grounds throughout the fort. One of the most useful items from this era was the production of a 1 foot interval contour map of the military reservation. An example of that detailed work is shown in the next chapter as Figure 23.

After mechanization of the artillery following WWI, the areas set aside for artillery drill fields in the late 19th century were converted to other uses. By 1927 the area was used as a recreation field with a polo field, a polo practice field, a running track, and baseball diamonds. Polo matches and Sunday horse shows featuring military and civilian riders were conducted during the summer months. Although the precise date of construction is unknown, a 9-hole golf course was also built at the post. Fitting with the overall addition of the various recreational facilities, the area around the reservoir in the Camp Coldwater Locality, following the removal of the waterworks in 1920, was left as open space and is labeled as Coldwater Park on a 1927 (Figure 11) and 1935 maps. And, although Fort Snelling earned the nickname of the country club of the army, it was not alone in developing such recreational facilities. Other posts developed these facilities as part of a general military program to provide more recreational opportunities for staff and troops.

Throughout the interwar years the Third Infantry Regiment was a constant occupant of the fort. One of the oldest regiments in the army, the Third had been at the fort since the late 1880s. Throughout the period, until just before WWII, only a little over 2,000 military personnel were assigned to the post. However during the summer the numbers swelled to 7,000 with CMTC, Reserve Officers Training Corps (ROTC), and the Organized Reserve Corps (ORC) (Becker 1983:7).

The hospital facilities at the fort continued to serve permanent fort personnel and summer trainees. At the post hospital a medical detachment was assigned to regimental headquarters. This occurred at other forts as well (Conn 1969) and Building 54 was constructed as a barracks for the medical detachment in 1939. Major changes in troop assignments occurred in 1940. The headquarters of the 6th Infantry Division was placed at the fort and the 6th Medical Battalion was also assigned there. This was but one of a number of large medical units trained at Fort Snelling. With the passage of the Selective Service Act in 1940 the fort had to reorganize its recruiting system and established the Recruiting and Induction Station and the Reception Center in the old Cantonment area. Initially the Reception Center could process about 35 men per day, but within a few months it more than doubled its daily output. With the construction of new facilities in late 1940 about 250 men were being handled in one day. By the end of 1942 the Center had dramatically increased in size to over 300 buildings and staffing was at 700 individuals. They could then process over 450 men a day. A total of 150,000 were examined in 1942 alone. Processing at Fort Snelling involved issuing clothing, giving a physical examination, an orientation lecture, distributing toilet articles, taking the army classification test, and viewing films on the army classification system, the articles of war, and sex hygiene. During the processing, men temporarily lived in the cantonment barracks while awaiting assignment to a unit.

Before and during WWII a number of military police battalions were trained at Fort Snelling and assigned to guard sensitive points in the United States such as war plants, harbors, storage depots, and bridges, and they also guarded prisoners of war. In 1942 the Military Railway Service was created at Fort Snelling and headquartered in St. Paul during the war. Their role was to maintain relations with commercial railroads to keep supplies and men moving; however, training also involved the ability to operate railroads in foreign countries should the need arise. One of the most important special units in the western theater was the Military Intelligence Service Language School (MISLS). Initiated in California, the school was moved to Fort Snelling, then to Camp Savage a few miles away, only to return to the fort the last two years of the war (Becker 1983:21-27).

By the end of WWII, Fort Snelling had processed hundreds of thousands of troops, trained thousands of personnel in a broad range of specialties that ranged from the Japanese language, to medical care, military police, engineering, and railroad specialties. Finally, in October 1946, the federal government closed Fort Snelling as an active military base. Yet, for next 40 years, in the same buildings that had housed their predecessors over 100 years before, the fort continued its service training reserve units of the army.

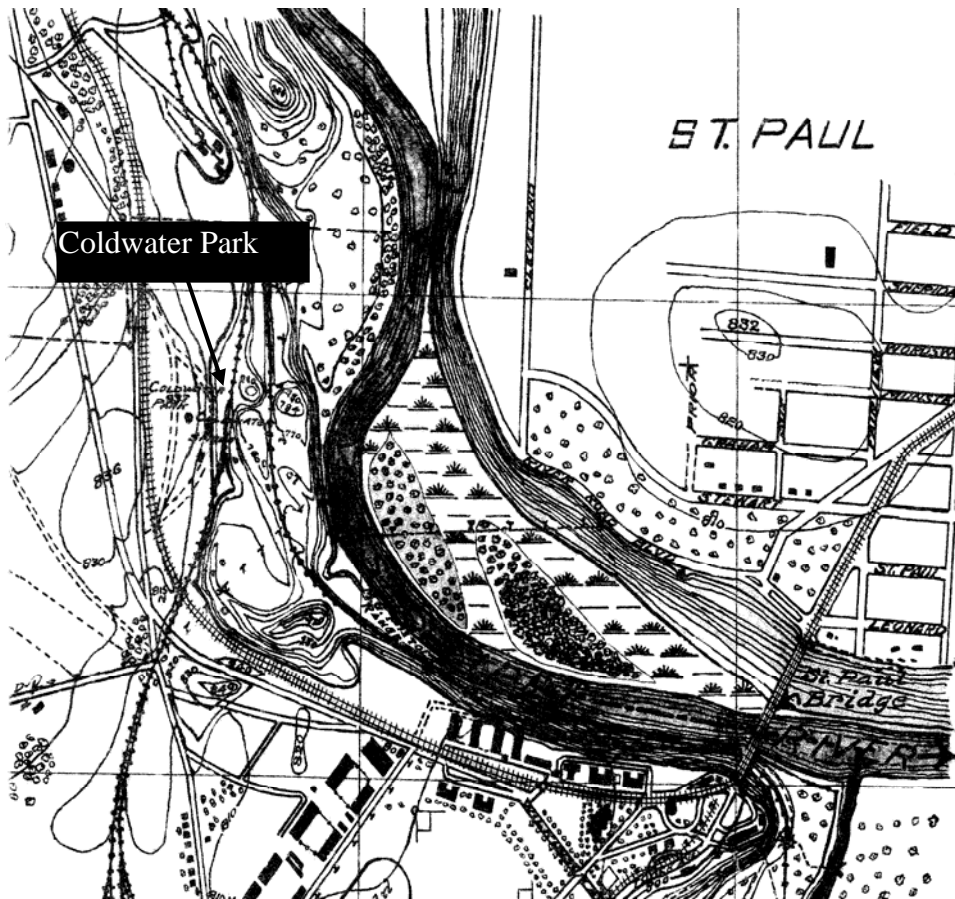


Figure 11 Detail of 1927 plan of Fort Snelling

CHAPTER 6: HISTORY OF THE CAMP COLDWATER LOCALITY

The general overview presented above sets the broader context for the following discussion relating to the area in and around the Coldwater spring. Due to the fact that the Camp Coldwater Locality was away from the main center of focus and activity of this military installation, relatively little mention has been found in historic documents relating to the area. This is especially true for the early 20th century. But, despite its apparent lack of extensive documentation, the area continued to serve an important function in the fort's operations as a major source of water for the fort's inhabitants from the 1820s until ca. 1920.

One efficient way of documenting use of this area is by following the series of cartographic representations that contain information on the Coldwater spring area. And, although the author has access to only some of the documents related to the Camp Coldwater Locality, we can also follow the general trend of early activity, construction, use, occupation, and squatter removal in the Locality through a series of letters and official correspondence. A potentially important letter referenced in the House of Representatives *Sale of Fort Snelling Reservation* (1868) [to which this author does not have access] is one from Major Plympton to his superiors dated March 11, 1839 in which he purportedly details his understanding of the history of the development as well as his views on the “evils” related to settlement in and around Camp Coldwater. There may be additional valuable information about the Camp Coldwater area in this letter. Another source of information about the site is found in historic photographs dating after ca. 1880 in the collections of the Minnesota Historical Society. A representative selection of these images is reproduced here to help the reader better comprehend the layout and nature of structures and features constructed in the later 19th century in the Camp Coldwater Locality. They also give us a picture of a terrain before any of the wholesale landscape modifications that are in evidence today. But, while historic records and cartographic documents provide part of the story, most of the data that will provide a more complete understanding of the communities that lived there as well as military and non-military use of the area will most likely be found in the archaeological record.

Without doubt, the major recognizable feature of the Camp Coldwater Locality that attracted early historic settlement is a natural spring, descriptively named Coldwater Spring, that produces a large and consistent flow of water. Although likely utilized by Native Americans for a very long period before Euroamericans arrived, no direct archaeological evidence for pre-European contact use of the spring is known. The first documented historic occupation of this area was in 1820 by a contingent of the 5th Infantry of the United States Army under the command of Lt. Col. Henry Leavenworth. James Duane Doty wrote on July 31, 1820 “Early in the Spring [1820] Col. Leavenworth discovered the fountain of water where the troops now are, & to which they moved as soon as the ice would permit. It is a healthy situation, about 200 feet above the river and the water gushing out of a lime stone rock is excellent. It is called ‘Camp Cold Water.’”(quoted in the exhibit “Camp Coldwater: The Birthplace of Minnesota” by Turnstone Historical Research). A cantonment was constructed in this area and was used by the soldiers as living quarters and as a recuperative area for at least the summer of 1820 until new quarters were habitable (ca. 1820-1821) at Fort St. Anthony (now Fort Snelling) 1.5 km to the southeast (Clouse 1996).

We can shed some light on this earliest known use through historic documentation produced in the early 1820s. Historian Edward Neill states, “On the 5th of May [1820], Leavenworth crossed the Minnesota, and established a summer camp near the spring, above the military graveyard, which was called ‘Cold Water’” (Neill 1889:103). Leavenworth was supposed to distribute medals and presents to the Indians, and had assumed duties that had not been delegated to him. These issues and others surrounding Leavenworth’s actions and those of soldiers living at Camp Coldwater prompted the following letters from Indian Agent Major Lawrence Taliaferro to Colonel Leavenworth:

Camp St. Peters, July 30, 1820

Dear Sir:

As it is now understood that I am the Agent for Indian Affairs in this county, and you are about to leave the Upper Mississippi, in all probability in the course of a month or two, I beg leave to suggest for the sake of a general understanding with the Indian tribes in this country, that any medals you may possess would, by being turned over to me, cease to be a topic of remark among the different band of Indians under my direction. I will pass to you any voucher that may be required, and I beg leave to observe also that my progress in influence is much impeded in consequence of their frequent intercourse with the garrison. The more they become familiarized to our strength in this country, the less apt they are to respect either the Agent or his Government. On reflection you will doubtless think me correct.”

(Taliaferro to Leavenworth July 30, 1820, NARG 92)

The killing of Mahgossau, a Dakota chief, on August 3, 1820 after having been given whiskey at Camp Coldwater prompted another letter from Taliaferro to Leavenworth on August 5, 1820:

Camp St. Peters, August 5, 1820

Dear Sir:

His Excellency Gov. Cass, during his visit to this Post, remarked to me that the Indians in this quarter were spoiled, and at the same time said that they should not be permitted to enter the Camp [Coldwater]. I beg leave to suggest to you that the propriety of this remark, by an observance of which my influence may be facilitated and the government respected. An unpleasant affair has lately taken place. I mean the stabbing of the old chief Mahgossau by his comrade. This was caused, doubtless, by an anxiety to obtain the chief’s whiskey. I beg, therefore, that no whiskey whatever be given to any Indian, unless it be through their proper Agent. While an overplus of whiskey thwarts the beneficent and humane policy of the Government, it entails misery upon the Indians, and endangers their lives as well as those of their own people. (Taliaferro to Leavenworth August 5, 1820, NARG 92)

The above letters document the occupation of the area and give us some idea of the accessibility of the area and Leavenworth’s troops interactions with American Indians, but little of the description of the actual developments resulting from Leavenworth’s occupation. However we do get some sense of the extent of what he undoubtedly considered a temporary summer camp in a June 18, 1823 letter from Leavenworth to General Jesup. While defending his actions against published accusations from Col. Snelling, Leavenworth provides a brief description of the Camp Coldwater construction thusly:

The second set of huts [those at Camp Coldwater] which he [Snelling] mentions were mere bowers made of poles and covered with bark and were created by the men without using any article which could have been required for the permanent work [fortification]. They cost the government not one cent but saved many dollars in the use of tents. The troops were placed here [Camp Coldwater] to enable them

to recover from the effects of that terrible disease (the scurvy) with which they were afflicted in consequence of the badness of the provisions which we had received from the contractor.
(Leavenworth to Jesup 18 June 1823, NARG 92)

However an 1823 map attributed to Lt. Morrill Marsdon (Figure 4) shows what appear to be substantial structures in existence at Camp Coldwater. This map is the first known depiction of the area around Camp Coldwater. Snelling may have had these built to temporarily house some troops, since one or two companies were housed at Cantonment New Hope for the winter after Snelling arrived (i.e. during the winter of 1820-21) until quarters were built in the fort then under construction. We can be fairly certain that the structures (with chimneys) depicted in Figure 4 are not the bowers described by Leavenworth. They would not have been sufficient to house soldiers through a Minnesota winter and it is doubtful that the bowers survived even long enough to be documented in the Marsdon map (Figure 4) drawn three years later.

Another possible source for the structures depicted in Figure 4 is housing built by what would have then been recent refugee arrivals. Taliaferro's journals indicate refugees left the Red River Colony in Canada as early as 1822, and we know that a group of nearly 250 mostly Swiss colonists left there on June 24, 1823 and came to Fort Snelling. According to Folwell, some of the refugees were under the mistaken impression that authorities at Fort Snelling would give them land and farming equipment. Many of the refugees went on to points further south and some settled in the Galena, Illinois area, but a number remained in Minnesota and settled within 20 miles of Fort Snelling. It is possible that some of Lord Selkirk's Red River Colony refugees may have built some or all of the structures indicated on the 1823 map. Folwell further states that a number of farms were opened on the military tract by 1827 and were quietly cultivated until after the ratification of a treaty in 1838. Taliaferro recorded in his journal in September 1827 that the "Red River Colony appears to be diminishing rapidly. . . . Since 1822 it appears that 330 Swiss, Canadian and Irish Settlers, men women and children have passed this post for the interior of the United States" (quoted in Folwell 1956, 1:217). Neill indicates that by August 1835, 489 persons had arrived at Fort Snelling from the failing Red River settlement (Neill 1889:127). And Holcombe estimates that at least 200 more came to the post by 1840 (Holcombe 1908, 2:76).

The next documentation available on the CCL dates from the mid-1830s. Lawrence Taliaferro drew a map in 1835 showing his perspective on the Camp Coldwater settlement and documenting the existence of B.F. Baker's fur post (Figure 12). His emphasis, due in large part to his duties as Indian Agent, was on trading houses where licensed fur traders carried out their business. According to available fur trade license records, Baker received a license to trade at the "Entry of the river St. Peters" for 1833 and 1834, having earlier been issued a license for trading on Leech Lake in 1829 (U.S. Serial 254; Docs. No. 45 and 69). Additional licenses were undoubtedly given for years subsequent to 1834 since Baker was operating a what appears to be a substantial trading house shown on Taliaferro's 1835 plan. Other documents indicate that he built his stone trading post at Camp Coldwater in 1837 (see below).

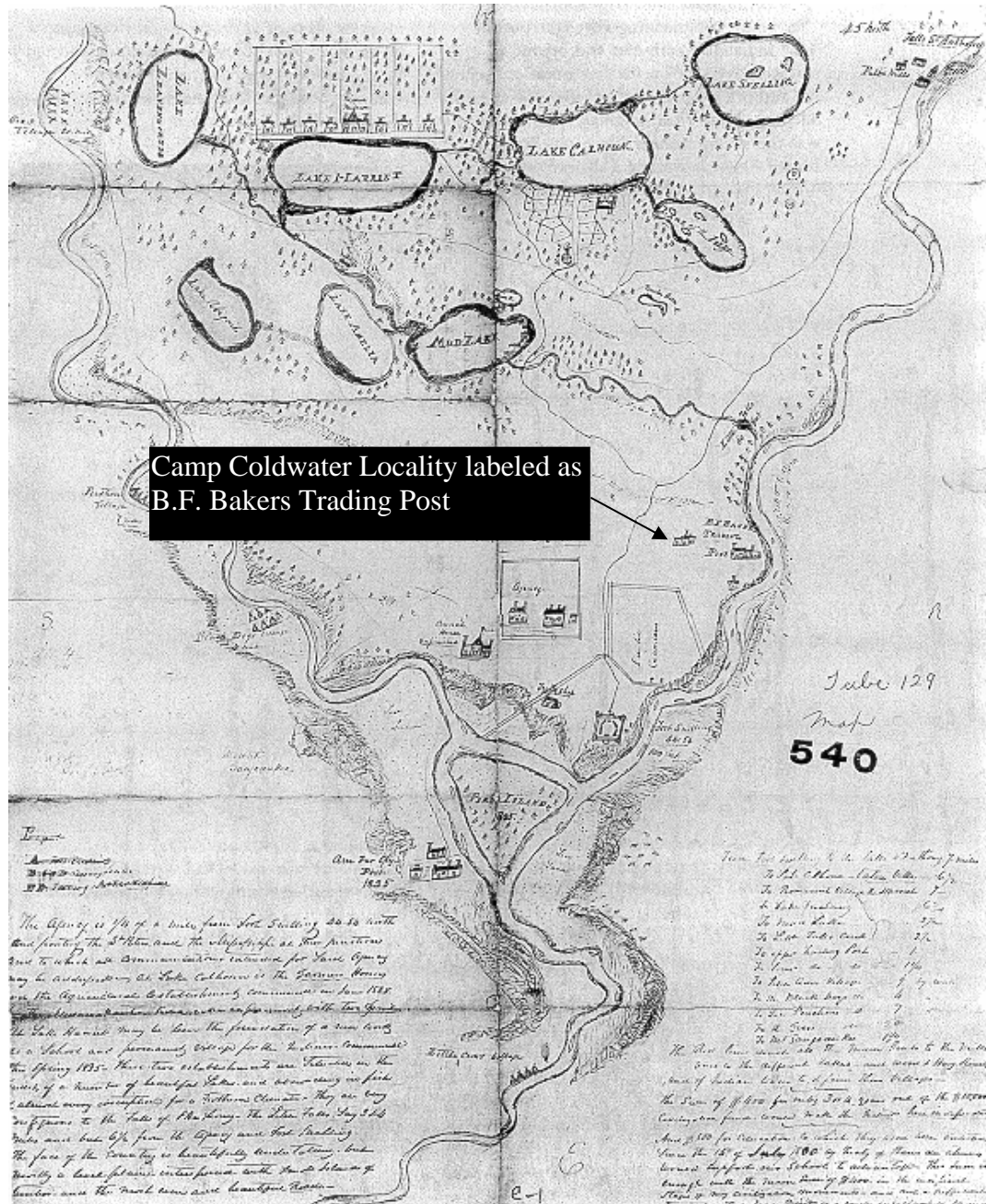


Figure 12 Lawrence Taliaferro 1835 map of Fort Snelling vicinity.

In the summer preceding the ratification of a treaty opening up land east of the Mississippi River, at least some of these squatters on military land sent a letter to President Van Buren hoping to get some remuneration for their improvements they expected to be within the newly defined Fort Snelling military reservation (Folwell 1956:217):

River St. Peter, August 16, 1837

To his Excellency Martin Van Buren, President of the United States

The undersigned citizens of the settlement near Fort Snelling beg leave to make known to you the interest they feel in the contemplated purchase of the Sioux lands in this vicinity. In 1804 [1805] a

treaty was made by General Pike with the Sioux Indians, under which he purchased a certain portion of their country, extending from the falls of St. Anthony to the mouth of St. Peters river, and the prevailing opinion has been, until very recently, that this treaty had received the sanction of government. It was under this impression that the undersigned settled upon the lands they now occupy as part of the public domain. They were permitted to make improvements and retain unmolested possession of them for many years by the commanding officer of the post and the other officers of the government employed here [e.g. the Indian Agent], who believed the land belonged to the United States, and that the settlers were only exercising the privileges extended to them by the benign and salutary laws which have peopled the western country with a hardy, industrious, and enterprising class of citizens.

The undersigned will further state that they have erected houses and cultivated fields at their present places of residence, and several of them have large families of children who have known no other homes. All the labor of years is invested in their present habitations, and they therefore appeal to the President and Senate of the United States for protection. If a treaty should be made at Washington, as we have heard suggested, and the lands we now occupy be purchased from the Sioux for a "military reservation," we ask that a reasonable and just allowance be made us in the treaty for our improvements. We have no other homes, but will interpose no objection to the purchase of them if the public interests require it. All we ask is justice at the hands of our government, and of the Sioux Indians, who gave their sanction to our present occupancy, and have always found a friendly resting-place at our firesides.

We very respectfully submit this humble memorial to your excellency by our friend Colonel Samuel C. Stambaugh, who is duly authorized and empowered to act for us at any negotiation between the government of the United States and the Sioux nation. Knowing him, from sufficient reasons, to be anxious to preserve a proper feeling between the government, the Indians, and their relatives and friends, we most unhesitatingly invest him with full and entire power to act for us and in our names in all things as if we were personally present, pledging ourselves to rest satisfied with what he may do on our behalf. We also beg leave to refer your excellency to Governor Dodge for the truth and justice of our statements and our claims, and likewise to Major Taliaferro, agent of Indian affairs, who is acquainted with all the facts connected with our settlement upon the lands we now occupy.

All of which we respectfully submit. (signed) Duncan Graham

Louis Massey	Antoine Pappan	Joseph Bisson	(all signed with their mark)
Abraham Perry	Jacob Falstrom	Joseph Reasch	
Peter Quinn	Oliver Cratte	Lewis Dergulee	

Signed in presence of –

A.H. Dappru	G.N. Reed
D. Graham	A. Robertson

Witnesses to signatures of all the inhabitants having improvement on military reserve not Indian traders.

A follow-up memorandum from S. B. Stambaugh reads:

September, 1837

Memorandum

The persons who sign the above memorial reside in the St. Peters settlement, about half a mile from the fort. They are the only individuals having houses and improvements on the west side of the Mississippi river, with the exception of Mr. Baker, whose principal trading establishment is in this settlement. No others can be affected by a purchase of land necessary for a military reserve. (House of Representatives 1868:15-16)

On August 20, 1837 Major James Plympton arrived at Fort Snelling as the new commanding officer. Plympton set out to establish boundaries of the proposed reservation as well as to address the issue of individual settlements within the existing military land grant arranged by

Pike as well as within the proposed military reservation. Shortly after his arrival, Plympton ordered Lt. Ephram K. Smith to make a map of the area in and around the fort with special attention apparently to be paid to White inhabitants living in the vicinity. The 1837 Smith map (shown on the report cover; see also Figures 2 and 6) provides one of the most reliable sources of detailed information that is currently available on the early use of and development in the Camp Coldwater area. Smith's correspondence accompanying the map reads as follows:

Fort Snelling, October 19, 1837

Sir:

Enclosed with this you will find the map which you directed me to prepare. It includes all the habitations between the canal below Pike's Island and Brown's Falls creek, with the principal features of the ground topographically displayed.

The white inhabitants in the vicinity of the fort, as near as I could ascertain, are: 82 in Baker's settlement, around Camp Coldwater and at Massey's landing. On the opposite side, 25 at the fur company's establishment, including T[F]errebault's and Le Clerc's, 50. Making a total of 157 souls in no way connected with the military.

This population possess and keep on the public lands, in the immediate neighborhood, nearly 200 horses and cattle. I am inclined to believe that this estimate will fall short of the actual number.

(House of Representatives 1868:16)

The more than 20 buildings depicted in Smith's 1837 map formed the essence of a community that included blacksmith's shops, hotels, homes, farms, outbuildings, fenced lots and a fur trading house and associated facilities (see Figure 2). Some of the inhabitants were employees of the fur trader Benjamin F. Baker, and at least one family (Pepin) served as the blacksmith for the Indian agency. Some of these earliest residents came to the Camp Coldwater Locality beginning in the early 1820s as refugees from the failing Selkirk colony. Other inhabitants of the Locality may have been camp followers, spouses of enlisted personnel, entrepreneurs and/or discharged soldiers. These "squatters" were ordered to leave the military reservation in 1838 but some remained until at least 1841. A list of families with names and ages of each individual living there was documented by Bishop Loras from the Dubuque Archdiocese when he arrived at Fort Snelling in 1839 to conduct baptisms and marriages for local residents. These lists, assembled by Mike Sexton (n.d.), from the Bishop Loras Baptismal Register and Bruce and Helen White (2000) from the Loras Register, ledgers, and various census records provide a wealth of information on the makeup of families at Camp Coldwater as well as in the surrounding region. The lists vary in the specific number of inhabitants but include a minimum of 10 families, some with as many as 8 individuals; ranging in age from a newborn. to 60.

We get some additional information about the area and its occupants and the military perspective on the settlement in a follow-up letter to Smith's report. In a Plympton transmittal letter to Washington, he provides the basis by which Smith's work was done and his interpretation of the effect of the squatter inhabitants on the military. However, the contradictory and incomplete descriptions in the available documentation suggest that answers to some of our questions about this area may only be found in the archaeological record.

Headquarters, Fort Snelling
Upper Mississippi, October 19, 186[3]7

Sir:

On the 11th ultimo I had the honor of addressing you upon the subject touching the individual settlements made and being made on land which I have supposed, since the summer of 1819, to be recognized by the government to be held for military purposes alone; but, on my arrival here last August, I found much of this ground occupied by individuals not connected with the military department, which you will find indicated on the enclosed map, which I directed Lieutenant Smith to make from an actual survey, and which, from its topographical correctness and neatness, entitles him to much credit.

I instructed Lieutenant Smith, while surveying, to ascertain as nearly as possible the population and the number of cattle belonging thereto; and, as the most ready mode of conveying this intelligence to the department, I enclose his accompanying letter.

Many of the buildings marked on the map are stone and lime, intended, evidently, for permanent residences and business.

The means I have used since my arrival here to inform myself by what authority these settlements have been made having failed, induced me to adopt the course I have taken as one called for in my official capacity.

Baker's settlement, at Camp Coldwater, is upon ground formerly cultivated by the military, and I suppose it may be superfluous for me to remark here, for the information of the department, that the sparseness of timber within the space supposed to be embraced in Pike's treaty does now cause much labor and inconvenience to the garrison to obtain the necessary fuel, and should this point be required for the next 20 years for military purposes the difficulty will be great, and very much increased, by those settlements in obtaining the article of fuel, independent of the trouble to the government and its officers growing out of individual claims.

I should have directed a more extended topographical survey to have been made at this time of the county which I supposed belonged to this post, but from the supposition that the government was already minutely informed upon this point, although I have not been successful in obtaining information of this fact from any record or document in the offices of this post; hence I respectfully ask and wit to be advised on the subject. (House of Representatives 1868:16-17) (emphasis added)

However, an excerpt from a letter from Plympton to Adjutant General R. Jones on December 4, 1839 contradicts a statement he made only two years earlier about the types of structures existing in the Camp Coldwater area:

Allow me further to remark, that the buildings at Camp Cold Water, of Mr. Baker's, are of considerable value; all others at that point may be considered of little value, and are temporary log cabins, generally in a state of rapid decay. (House of Representatives 1868:33) (emphasis added)

In his reply to Plympton's letter, Major General Macomb commended Smith for his map-making skills and asked Plympton to provide a map that shows what he felt would be necessary to be reserved for military purposes. This resulted in the 1838 Smith map (see Figure 13) with proposed reservation boundaries. Because of continuing difficulties with individuals squatting on government land, especially in anticipation of land becoming available for settlement on the east side of the river following the negotiation of a treaty in 1837, Plympton issued Post Order No. 65 on July 26, 1838 to place restrictions on non-military occupants living on the reservation:

I. The undersigned having, in obedience to instructions received from the War Department, marked out a reservation for military purposes at this post, hereby forewarns all persons not attached to the military from erecting any building or buildings, fence or fences, or cutting timber for any but for public

use, within said line, which has been surveyed and forwarded to the War Department subject to the final decision thereof.

II. The undersigned also forewarns and forbids all persons, whether in public or private stations, against the erection or doing anything as contained in the first paragraph of this order, for private or individual interest, directly or indirectly, within the said military reserved lines, unless special permission to do so be given by the War Department.

III. It is hereby published for all concerned, that the military commander is in the immediate command of the section of the country thus marked out for military purposes at this post, so far, particularly, as relates to individuals further incumbering the ground with buildings or fences or destroying the timber thereon.

J. Plympton, Major United States Army, Commanding Post (House of Representatives 1868:18)

Although Plympton had issued orders to stop new construction and depletion of resources in the proposed military reservation in general, the following excerpt from his transmittal letter to his superiors in Washington, further explains his actions:

Headquarters Fort Snelling, July 30, 1838

Sir:

I take the liberty to enclose to you herewith a copy of an order which I deemed necessary to publish to protect the land which has been marked out as a military reservation at this post against encroachments, which were every day forcing themselves upon my notice.

Without interfering with the property of any individual, I shall strictly enforce my order till the pleasure of the department shall be known upon the subject, presuming that my duty to the public and the spirit of my instruction call for such a course.

My order must, as a matter of right, more particularly allude to person urging themselves within the line at this time, than to those who I found on my arrival here last summer settled down near the fort. The authority for these settlements being made, I have to presume, is to be found or is known at the department, although I have not been successful in finding any record of it in the office of this post. (House of Representatives 1868:18) (emphasis added)

The Thompson map of October-November 1839 (Figure 14) further clarifies the boundary drawn on the Smith 1838 map. Additionally it provides us with some indication of the extent of areas under cultivation or fenced for pasture, but the large scale of the map limits detail in the Camp Coldwater vicinity.

Still later, on April 16, 1841, a letter from Adjutant General R. Jones to the Secretary of War attempts the resolution of an issue of ownership on the military reservation and the use of what appears to be the most substantial structure shown on maps in the vicinity of the spring. This structure is variously labeled as the “B.F. Baker Trading Post” and “hotel” and the following discussion helps clarify for us an issue related to the existence of one of the persisting structures shown on various maps of the Fort Snelling area:

April 16, 1841

Sir:

I have considered the letter addressed to you by Inspector General Croghan under date of 14 instant, recommending a purchase by the United States of a stone house erected by the late Mr. Baker, within the military reservation at Fort Snelling, that it be then turned over to the Indian department as the agency house, or if no change should be judged advisable by the department, that it be then given to the

council of administration of the post to be rented by the council as a hotel, and have the honor, in compliance with your endorsement thereon, to report that unless purchased for the Indian department I would not advise the purchase. The building appears to be a costly one, valued at \$6,000, and if rented by the council for the purpose indicated, it would increase in time, most probably give rise to as many complaints of interfering with the police of the garrison as if permitted to be rented by Baker's representatives. It appears that Major Plympton was instructed by the War Department on the 17th of October last, that the representations of December 7, that he did not think that the building could be of any possible use to the post, but, on the contrary, that the post would be improved by clearing the ground of these buildings and making indemnity therefor [sic]. (House of Representatives 1868)

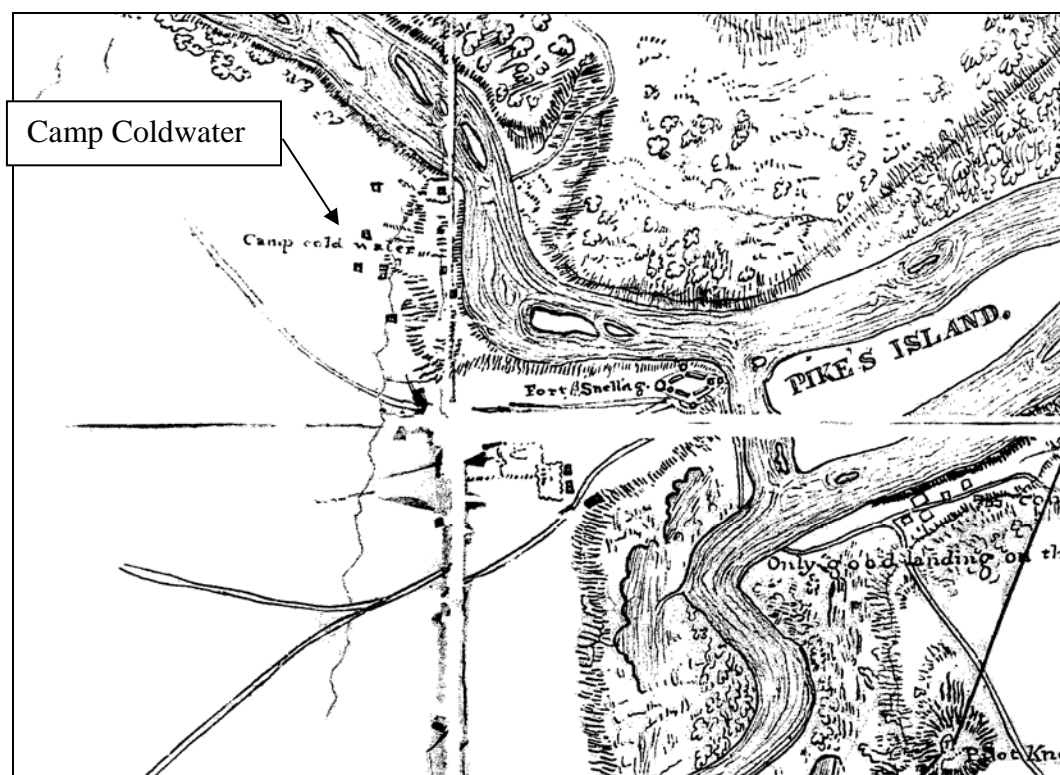


Figure 13 Portion of the 1838 E.K. Smith map of the proposed Fort Snelling military reservation showing extent of development at “Camp cold water.”

Despite repeated warnings for eviction and the threat of building demolition, the structures in the CCL were still standing when P. Ames Colby recorded the extent of development and geographic landmarks within the reserve in late-1841 or early-1842 (NARG 77). By a strange coincidence, the map shown as Figure 15 arrived in the mail to a colleague only the day before the completion of a draft of this document. Because it is the only known map of the area from the decade of the 1840s, and because it contains information about potential dates of some of the occupations of the Locality, it is incorporated in this report for reference purposes. While there is some disagreement among historians, most occupants of the Camp Coldwater area were still living in the area in late 1841 or early 1842, but were apparently finally gone by early in 1842.

In attempting to resolve issues of land and property value for the impending sale of the military reservation in the late-1850s, a report was written by Major Seth Eastman and William Kink Heiskill on June 10, 1857. In assessing improvements made by Franklin Steele, prospective buyer of the reservation, additional information about Baker's development comes forth. An excerpt from that report reads:

There is a large and valuable stone building with a frame addition, making an extensive house, which has been furnished and used as a hotel, which could not have cost less than \$15,000. The stone part was built in 1837, by a Mr. Baker, afterwards sutler at Fort Snelling. It was sold to Kenneth McKenzie, esq., who, in 1853, put on the extensive addition alluded to, put the entire building in good order, and furnished it for a house of accommodation. Mr. Steele having arranged with Mr. Kenneth McKenzie for this property, and secured the government from all claims from this source, we are positive, therefore, in saying that Mr. Steele is the only claimant to the improvements upon the same [hotel] made by citizens. (House of Representatives 1868:90)

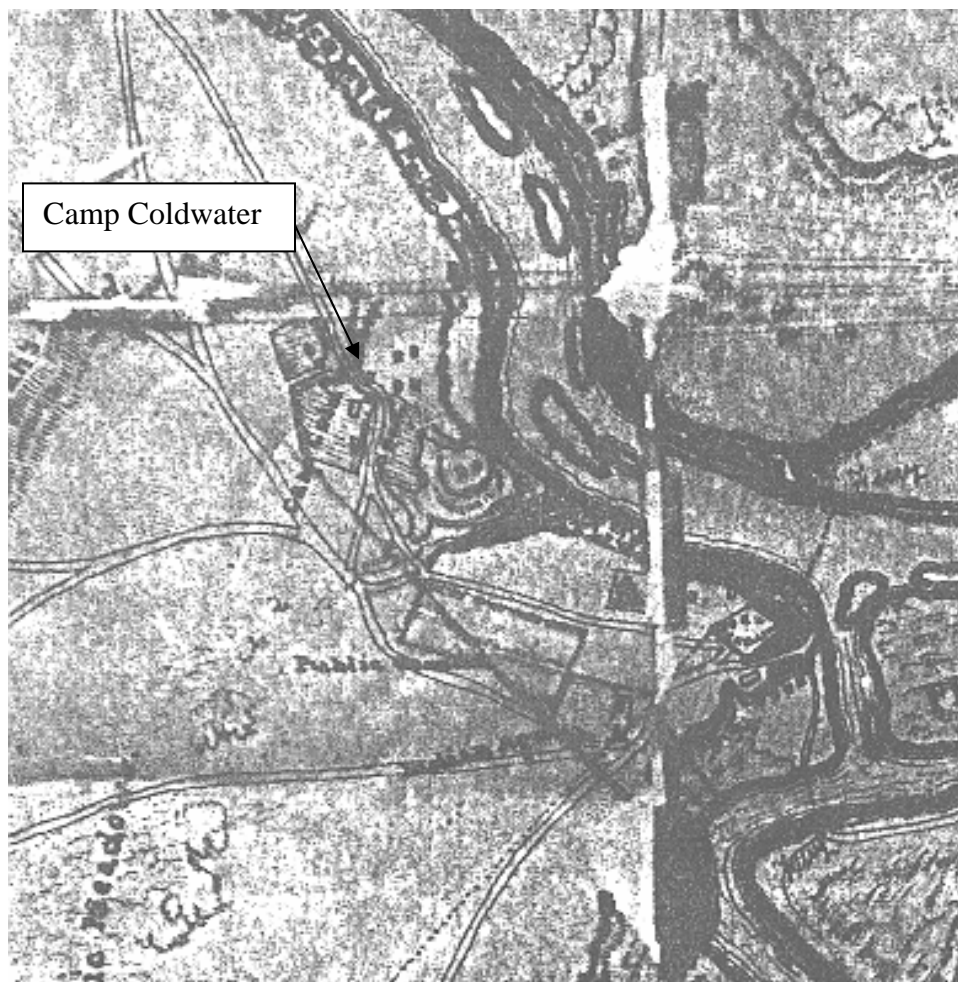


Figure 14 Detail of the 1839 Thompson map of the proposed military reservation.

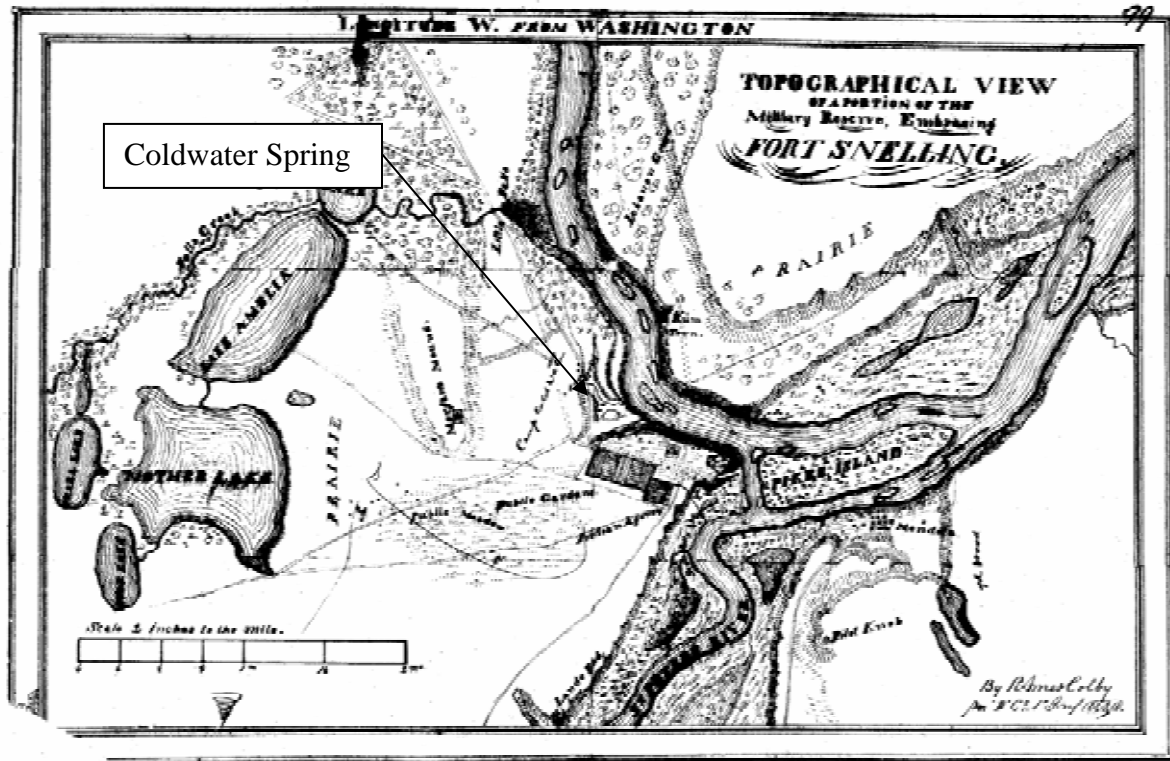


Figure 15 P. Ames Colby map of Fort Snelling drawn in 1841-42

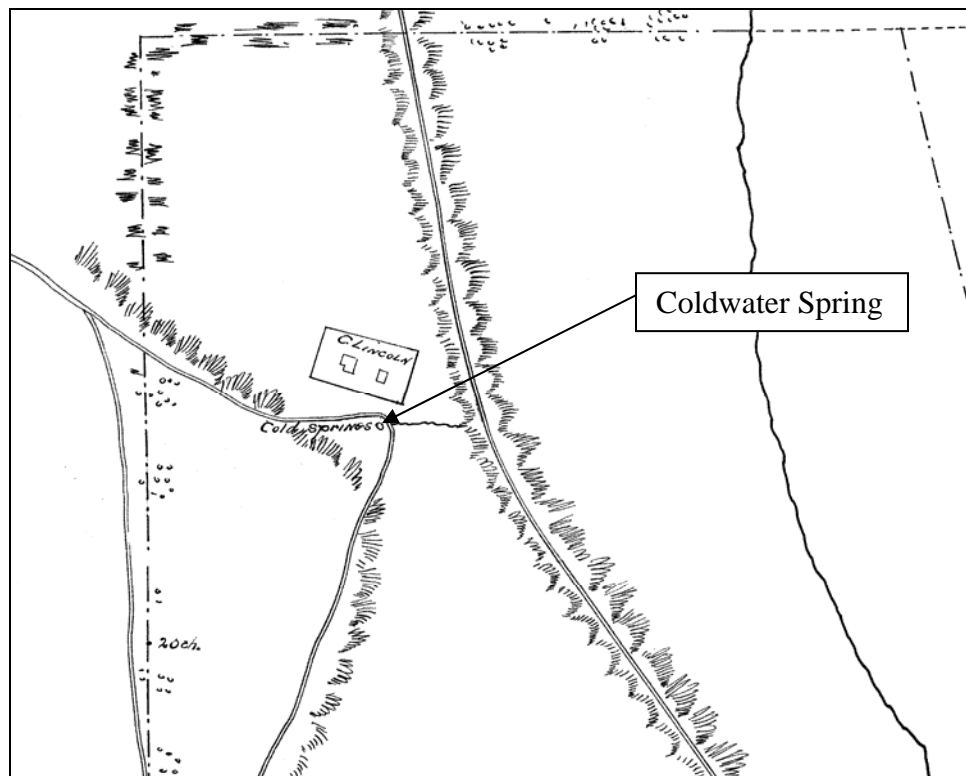


Figure 16 Detail of a ca. 1870 plan of Fort Snelling

The removal of squatters from around the spring did not end the use of the Camp Coldwater Locality. Because the water supply at Fort Snelling was unable to consistently meet the needs of the fort's occupants, the spring continued to be used as a water source for the military post. Water was carried to the fort by water wagon over a haul road along the edge of the bluff until well after the Civil War.

In a plan dating to approximately 1870 (NARG 92), a single individual's name and property, C. Lincoln, is shown in the area of the Coldwater spring (Figure 16). It is uncertain if this represents the reuse of an earlier structure (possibly Baker's trading post or McKenzie's hotel) or if it is the result of new construction. Information is not currently available about the individual listed as C. Lincoln.

To provide a source of water for the expanding military post during construction of the Department of the Dakota facilities in 1879-1880, the military undertook the development of a waterworks in the Coldwater Locality. The reason for their construction is obvious as the facility was built to provide fresh water to the "New Post" that began to expand during the same period (1879-1885). Information in the *Fort Snelling Building Record* and in various maps and plans of the fort document that three structures were constructed in 1879-80: H-1 the pump house and fuel storage shed, H-2 water tower, and H-3 the engineer's residence (Figure 17). The first time these structures appear in a map is in an 1882-83 plan of the fort (Figure 18). The system functioned with pumps that drew water from the reservoir, pumped it to the water tower that provided the necessary pressure for the system to function. The pump house structure was a frame one with a stone foundation and was furnished with three pumps driven by a coal-fired engine. The main structure was 41 x 26 feet, containing a engine room and boiler room with "wings" that included a coal shed and wood sheds that measured approximately 12 x 84 feet. The placement of the structure on historic plans indicates that it was situated to the west of the reservoir and is apparently west of the disturbance created by the construction of BOM Building 4. The area is so wet from seepage at the base of the uppermost terrace in this area that no excavations could be conducted to document any archaeological remains

The water tank was built with a circular stone base and a wooden tank. For a while the tower was fitted with an exterior circular staircase and a "widow's walk" on the top of the tank for viewing out over the prairie. In 1920 the wooden tank was removed and a new low conical roof was installed on the stone water tower base. The photograph (Figure 20), apparently taken about 1905, also documents an additional wooden water tank built on steel supports in 1900 that served to increase the water pressure to the new fort complex. This second tank was demolished in November 1920 at the same time and after removal of the tank, a new low conical roof was placed on the stone water tower base. The brick engineer's house was still in existence at the time BOM development was initiated in the 1950s. Its date of demolition is currently unknown.

Building H-3, the engineer's house, a wooden structure with stone foundation, apparently burned in 1898. Following the conflagration that consumed most of building H-3, a photograph (Figure 20) was taken of the complex showing the replacement engineer's house built in 1899. It was rebuilt in brick near the south end of the waterworks complex using the

same building number as the original house, but was renumbered as building 252 in the 1930s. The later house measured 21.5 x 30 feet with a front porch. The photograph (Figure 20), apparently taken about 1905, also documents an additional wooden water tank built on steel supports in 1900 that served to increase the water pressure to the new fort complex. This second tank was demolished in November 1920 at the same time that a new low conical roof was placed on the stone water tower base following removal of the tank. The brick engineer's house was still in existence at the time BOM development was initiated in the 1950s. Its date of demolition is currently unknown.

Based on maps and photographs, it is thought that the current configuration of the reservoir at Coldwater spring was constructed at the same time as the remainder of the waterworks facility. The reservoir is irregularly configured with a curved wall through the pond that appears to provide a settling pond on the water entry side (north) which then overflows into an area to the south through lowered surfaces in the upper surface of the wall. A small limestone springhouse in the north west corner of the reservoir served as an entry point for water into the reservoir. Today, much of the water bypasses the house and flows directly out of the base of the sloping terrain. The date of construction of the current springhouse is unknown, but is present by at least 1880.

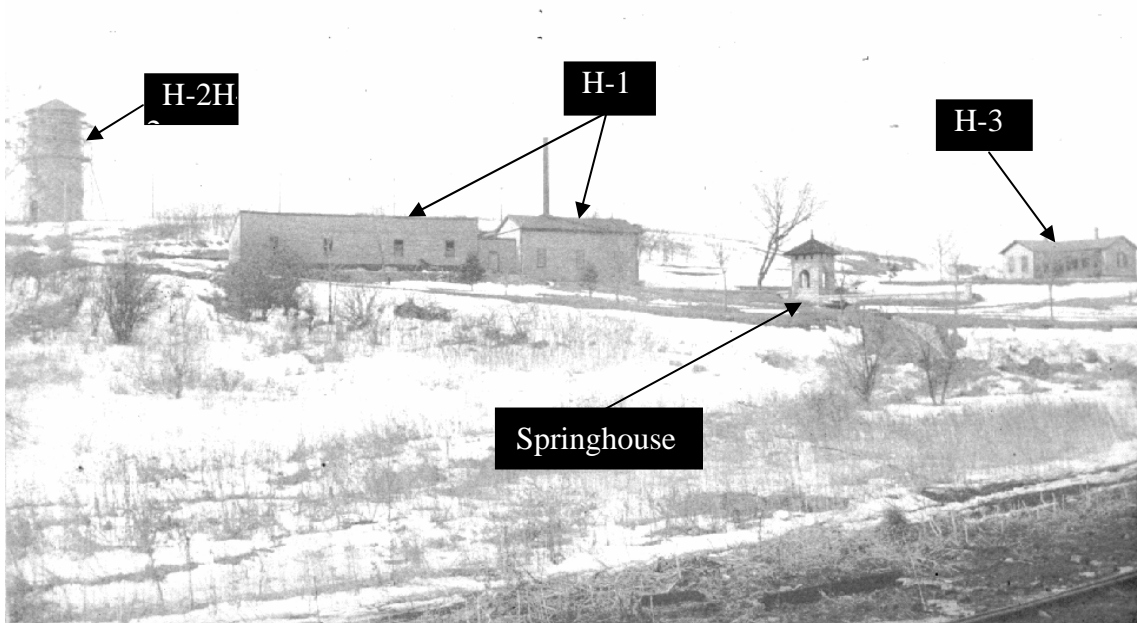


Figure 17 New waterworks complex at Camp Coldwater (looking northwest), ca. 1880, with building number references added. H-1 pump house and fuel shed, H-2 water tank, and H-3 engineer's house.

A somewhat later plan produced in 1912 (Figure 21) is the last known to have been drafted before most of the complex was demolished in 1920 (Fort Snelling Building Record, MHS Archives). Structure (H-2) appears in a number of later photographs of the fort and is labeled as "mystery tower" in Ollendorf's 1996 report.

By 1904, water from the Camp Coldwater waterworks was supplemented with water pumped from an artesian well at the base of the bluff along the Minnesota River. According to *the Fort Snelling Building Record*, most of the Coldwater waterworks, save the stone water tower base, was demolished in 1920 and the Minnesota River pumping station was abandoned in 1930 when the fort began contracting for water from the City of St. Paul. Consistent with the addition of various other recreational facilities in the 1920s and 1930s, the area around the reservoir in the Camp Coldwater Locality, was left as open space and is labeled as Coldwater Park in a 1927 (Figure 11) and in 1930s-era maps.

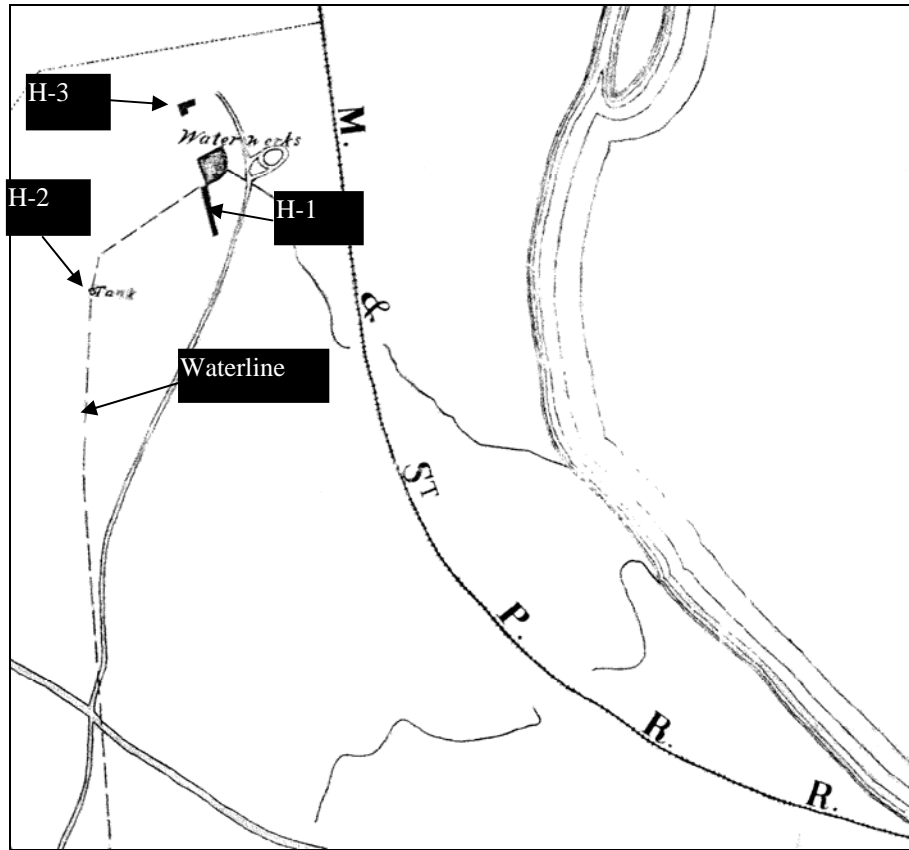


Figure 18 Detail of a ca.1882-83 plan of Fort Snelling.



Figure 19 Ca. 1898 photo (looking north) of reservoir and partially burned engineer's house in near background.



Figure 20 Post-1899, but likely 1905, photograph of water works complex following construction of new brick engineer's house (H-3).

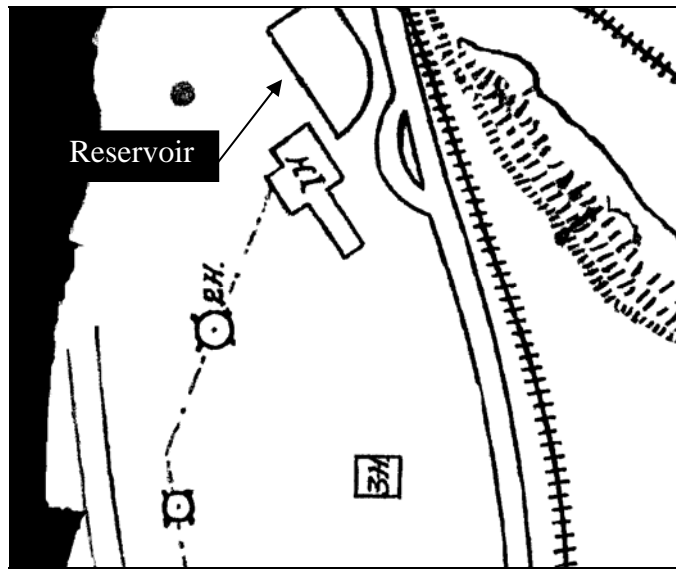


Figure 21 Map showing detail of waterworks buildings at Camp Coldwater in 1912 Plan.



Figure 22 1935 aerial photo of Camp Coldwater Locality looking northeast. Mississippi River is in background.

The BOM tract has seen significant development activity over the last 50 years. This most recent development included the construction of nearly a dozen major buildings, some minor facilities, roadways and extensive parking lots for service as a research and office complex for the former U.S. Bureau of Mines (Figures 23-25). Two plans discovered by the author in the

BOM archives in Building 1 at the Twin Cities facility are valuable in helping us understand the extent of BOM development and its impact on the landscape that existed prior to constructing the BOM facility.

The first of these plans is a detailed, but undated 1 foot contour topographic map that appears to have been made by, or taken from a plan drawn by WPA work crews that served at Fort Snelling in the late 1930s (Figure 23). This plan provides us with a detailed look at the terrain before land-altering activities took place in constructing the BOM facility. The second document (Figure 24), is the proposed grading plan for the construction of Buildings 1, 2, 3 and associated roads and parking. When the two plans are compared with each other, or even with the evidence in Figure 23 alone, it becomes clear where some cut and fill episodes occurred. No detailed plan like that shown as Figure 24 has been found for the remainder of the BOM property or associated with the construction of any other structures. However, the BOM building layout plan (Figure 24) helps provide some sense of the extent of development that occurred on this tract over the more than 3 score years it was occupied by this federal agency. Basically, the construction of Buildings 1 and 3 resulted in filling to the west of the structures and cutting to the east. More detail is presented below on how this is reflected in the stratigraphy documented in the recent archaeological test excavations in this area. Other structures constructed at the facility required much less preparation to build.

The one thing that plans and historic photographs make clear is that there has been such a large degree of filling in much of the area in the vicinity of the spring and fill and cut operations in other areas of the BOM tract that one cannot look at the landscape that exists today and determine if cutting, filling or even if any disturbance has occurred without also referencing specific historic documentation. It is also necessary to look at the specifics of archaeologically documented stratigraphy to make a determination of the sequence of actions impacting a specific locale

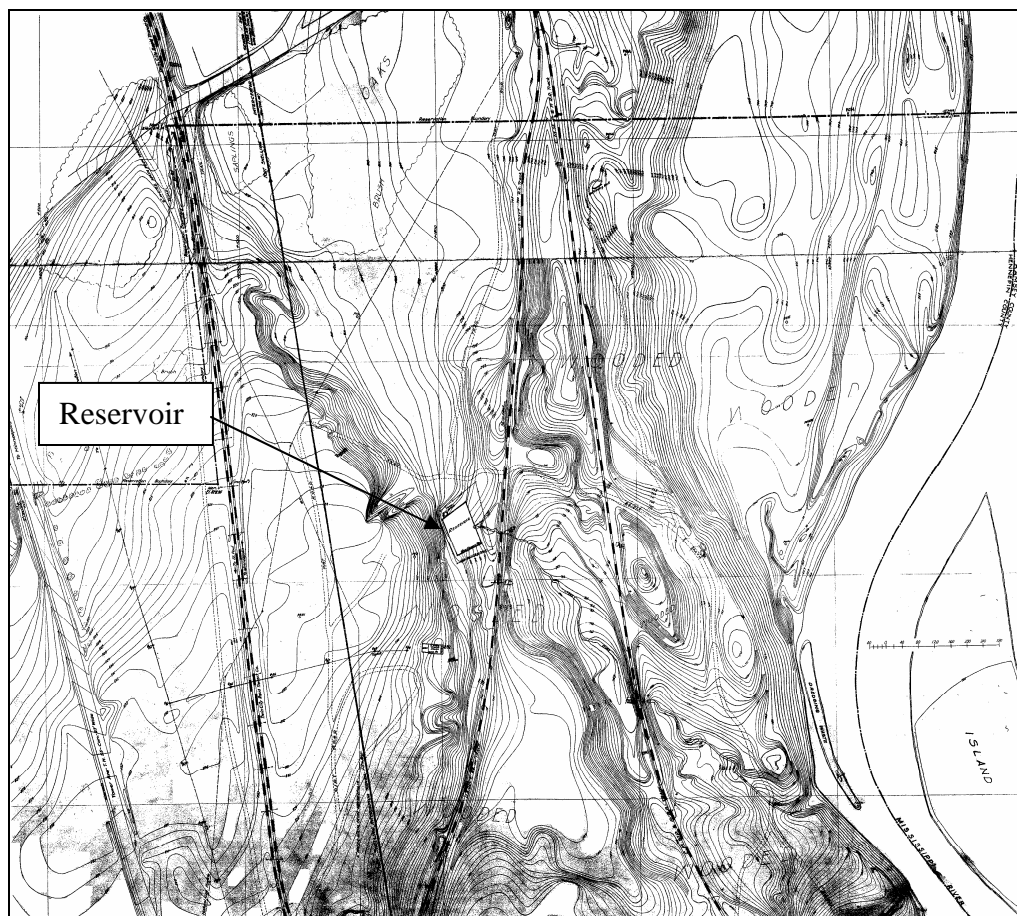


Figure 23 Topographic map of Camp Coldwater Locality, ca. 1938.

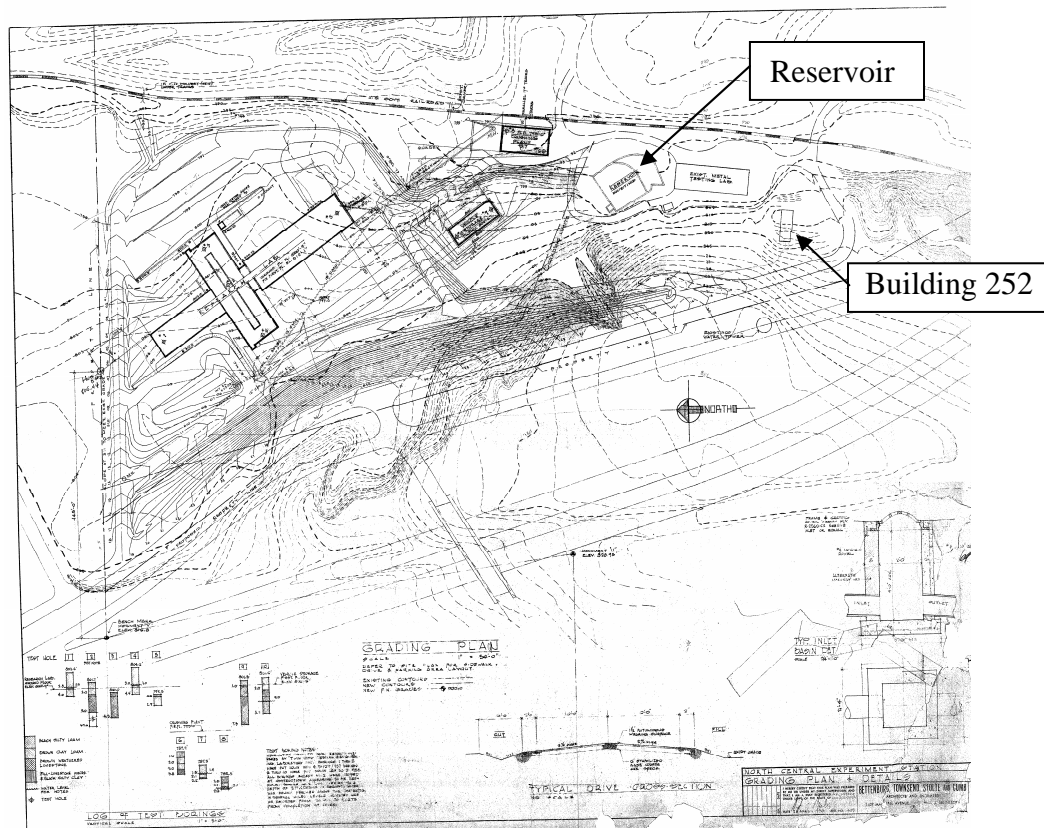


Figure 24 Proposed grading plan for construction of Bureau of Mines Headquarters, ca. 1958. (North is to the left)

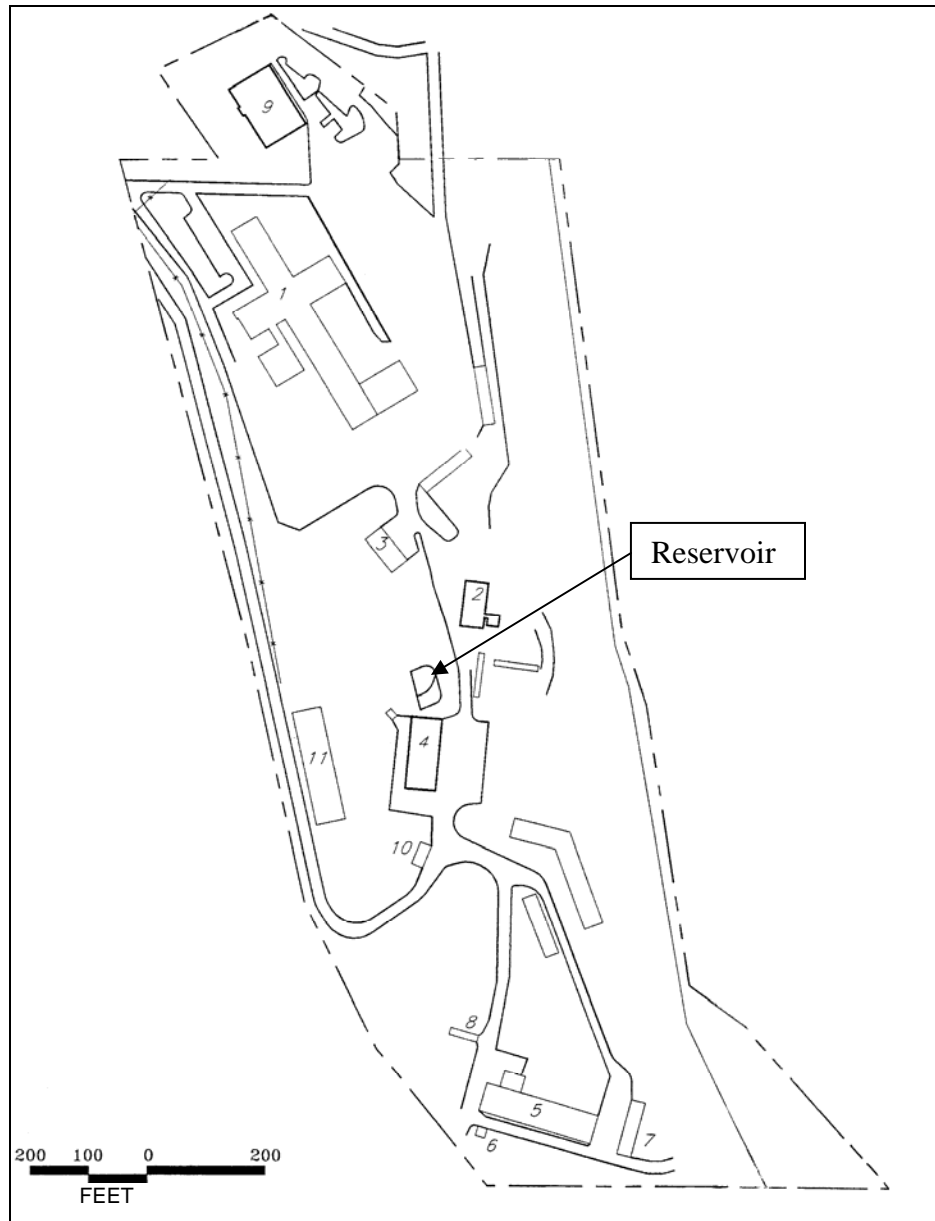


Figure 25 Base plan of Bureau of Mines buildings and property, ca. 1985, with Bureau of Mines building numbers.

CHAPTER 7: PREVIOUS ARCHAEOLOGICAL RESEARCH

Of all the recorded pre-BOM occupation and use of the Camp Coldwater Locality, today only the spring, reservoir, Coldwater Creek, and a portion of a military railroad bed remain readily visible at the surface on the BOM property. Evidence of pre-European contact American Indian use of the Camp Coldwater Locality was found on Society land some 200 meters east of the BOM tract. While no American Indian artifacts were recovered during the current project there is a probability that some evidence of these earlier occupations may be present on the BOM tract, as well.

Prior to the current project, a single archaeological reconnaissance survey including sub-surface testing of the tract had been undertaken (Ollendorf 1996). That work consisted of surface reconnaissance of a single area of bare soil exposure, one excavation unit, and 26 shovel tests. The results of that research allow only limited interpretation since shovel tests were, with the exception of some auguring to greater depths, often excavated to depths that never penetrated the natural soils under fill placed over the site in the 1950s. Also, because those excavations were apparently conducted using arbitrary methods, it is not possible to determine if any of the recovered material culture was from in situ, undisturbed contexts.

The findings of Ollendorf's 1996 research resulted in a series of recommendations for each of the 10 areas researched during that testing operation (Figure 26). The recommendations and conclusions presented in this document sometimes differ from those of the Ollendorf report. Rather than restate the findings of that research, the reader is referred to that report to see specific management recommendations made at that time. Because they differ from the findings of the current work, a brief discussion of the differences and/or similarities of the finds and recommendations between the two surveys are presented in the relevant groupings developed below.

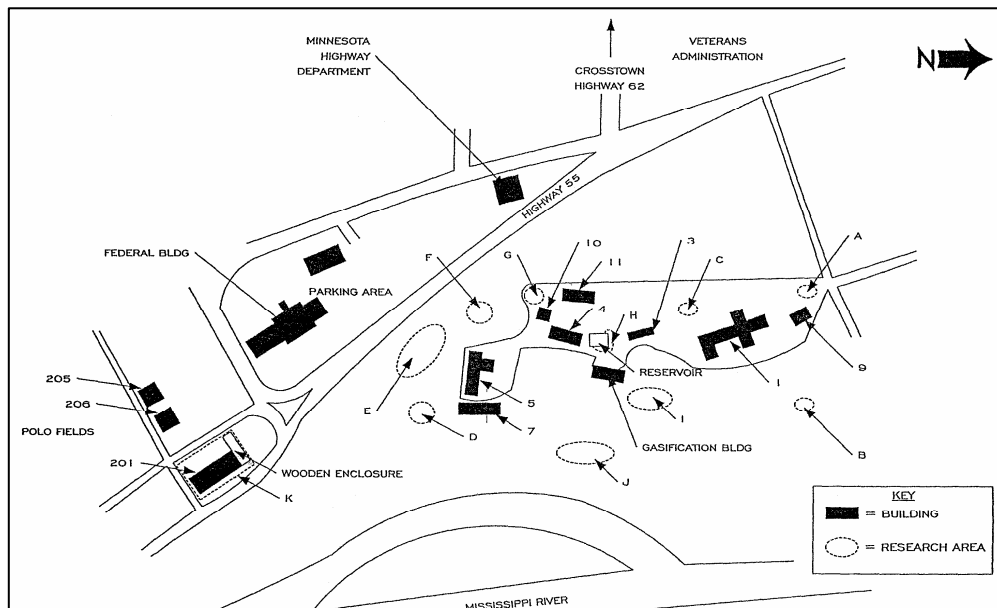


Figure 26 Braun Intertec 1996 testing areas (from Ollendorf 1996).

CHAPTER 8: FIELD METHODS

The current project was designed and implemented to identify buried cultural resources in advance of the proposed land transfer discussed in Chapter 1. Part of the research emphasis, in particular, was the identification of resources of the Camp Coldwater Locality that are a component of, and contribute to the significance of, the Fort Snelling National Historic Landmark. Resources that relate to earlier American Indian occupation and/or use of the area were also a focus of research. However, no material cultural assignable to an American Indian occupation was discovered.

Extensive historic documentation exists of the Fort Snelling area. A number of historic maps and plans dating back to the early 1820s contain data about the Coldwater Locality that relate to the period of significance of the NHL (Clouse 1996; Clouse and Steiner 1998). Some of these cartographic documents show resources that were once present on the BOM tract. Recent research in the vicinity of the NHL in association with a highway construction project has shed some additional, but contradictory, light on cultural resources in the vicinity of the BOM property (Halvorson et al. 1999; Berger 2000; White 2000). However, none of these investigations were conducted on the BOM tract. The work of Ollendorf was discussed in the previous section of the report.

The grading plan (Figure 24) recently found by the author provided important information to aid in the formulation of a testing program that permitted the location and subsequent documentation of undisturbed strata that contain archaeological deposits. However, this plan does not document conditions on the entire BOM property--essentially only the northern one-third of the tract; and unless verified by additional archaeological work should not be considered as an "as built" drawing. These plans showing a detailed representation of what was to be constructed on a portion of the property in the 1950s. Furthermore the plan does not provide information about more recent building construction such as buildings 4 through 11, new road construction, utility work, and other unspecified and more recent modifications to the BOM parcel. In addition, a considerable amount of the BOM property is covered with asphalt in one large and several small parking lots and roadways. As is evident in Figure 25, the current project tested areas beyond that shown on the grading plan (Figure 24).

A research design was written, submitted and approved by the NPS to provide direction for archaeological testing on the BOM property. The research design served as partial documentation for an application for an Archaeological Resource Protection Act (ARPA) permit that was issued for the research. In order to implement that design, standard MHS Archaeology Department field methodology protocol was employed in the excavations. This protocol consisted of the use of stratigraphic excavation methods within formal 0.5 x 0.5 meter or larger units carried to culturally sterile subsoil/bedrock when feasible. Because the entire project area is within a known site (21HE99) and within the Fort Snelling National Historic Landmark, all hand excavated testing was undertaken with formal units. All excavations were open to the public and a few visitors spent an incalculable number of hours watching the excavation process.

Remote sensing methods were initially considered as a potentially useful method to attempt to define building parameters. However, the abilities of Ground Penetrating Radar (GPR) and Electron Magnetometry (EM) have severe limitations in shallow bedrock settings. The use of geophysical exploration methods has previously been attempted at Fort Snelling. A previous attempt to use GPR at the site of the original stables produced severe problems with false negatives and false positives due to the use of construction materials built directly on, and out of the same material upon which they were founded. Discussions with GPR and EM specialists at the Federal Bureau of Investigation (V. Clifton, personal communication), GPR and EM manufacturers' representatives (J. McJunkin, personal communication), and recent research by the National Park Service (S. DeVore personal communication) all agree with the limited utility EM and GPR would have in the shallow bedrock-founded settings in the Fort Snelling area. The results were also highly likely to be severely limited due to the mixed, inconsistent, and variable nature of the fill that has been documented over years of archaeological research in the vicinity. As a result of consultant discussions, the specific conditions obtaining in the areas to be investigated, and the limited utility for the specific goals of the current project, remote sensing equipment was not a part of the research methods for the current project. Historic documents, however, have proved to be of considerable utility in locating historic features in this context. As discussed above, data collected by over 30 years of historic documentary research as well as recently discovered documents were used as an initial, but not the sole, resource to assist in directing the scope and location of excavations.

No new geomorphic studies were undertaken with respect to the current project. Because of recent soils, geological, and geomorphic studies conducted within the NHL (Hundley 1976; Leuth 1974; Meyer and Hobbs 1989) and previous archaeological research (cf. Clouse 1996), historic documentation the relationship between the anthropogenic nature of the strata and geomorphic structure were generally known. Nonetheless, the author consulted with Dr. Howard Hobbs of the Minnesota Geological Survey with respect to the relevance of the specific data obtained from this study and that data used to support conclusions in the recently published studies on the geomorphology of Hennepin and adjacent Dakota counties (Meyer and Hobbs 1989; Balaban and Hobbs 1990). Dr. Hobbs' conclusion (personal communication) was that the stratigraphic data collected as part of the current project was not inconsistent with the conclusions reached in the published data on the project area. The surficial stratigraphy was anthropogenic in nature and the role of geomorphic factors on this documented terrain was essentially not pertinent. Furthermore, based on previous archaeological research, it has been shown that the significant factors responsible for creating and/or altering stratigraphic elements at the Fort Snelling site in general were largely cultural and not natural ones (cf. Clouse 1996; Clouse and Steiner 1998).

The current archaeological undertaking consisted of a systematic survey and testing of high potential areas of the BOM tract by archaeologists experienced in the archaeology of the Historic period. The methods used reflect the variable nature of the geomorphology, soils, and land use history of the Locality. In order to provide appropriate archaeological controls and document the nature, extent and condition of cultural material it is important to know not just presence/absence, but the stratigraphic context of those objects/features recovered. Historic period archaeological sites frequently have considerable quantities of material culture spread

over a relatively large area. The significance of the relationship of the material culture to stratigraphic layers and their potential to answer questions important in archaeological research lies in the relationship of the material culture to the strata in which they are found. Towards this end archaeological testing was conducted using stratigraphic methods. As part of the cooperative agreement, the NPS provided a qualified historic archaeologist to assist with field operations. The fieldwork component of the project was directed by the author with assistance and review by Vergil Noble, historic archaeologist at the National Park Service, Midwest Archeological Center in Lincoln, Nebraska. Additional field personnel participating in the project over the extended field research period included Elizabeth Knudson Steiner, Laurie Sue Holt, and Allison Devers.

Well-defined stratigraphic levels were known to exist throughout all areas previously investigated in the fort complex (Clouse 1982, 1996). It was expected that similar conditions existed in the areas to be tested within the scope of the current project. These expectations were met with clearly defined stratigraphic levels recovered in 28 of the 30 units excavated. Because of the presence of such well-defined anthropic horizons, an accepted rule in archaeological methods is that the presence of definable stratigraphy dictates the use of stratigraphic excavation methods (e.g. Barker 1983; Harris 1989; Hester et al. 1997; Joukowsky 1980; Newlands and Breede 1976; Schofield 1980). The record of the vertical distance of an object from the surface tells nothing of the layer of its origin nor of its age extractable through traditional archaeological dating methods. Its vertical depth is likewise of no value in the presence of soil layers that are sloping or so thin that multiple layers might be incorporated in a single arbitrary excavation level (Newlands and Breede 1976). The use of stratigraphic excavation is the only acceptable method to accurately determine the nature and context of material culture in the presence of stratigraphic layers. Research by Barker (1983), Clouse (1982, 1996), Clouse and Steiner (1996a, 1996b), Harris (1989), Harris et al. (1993), Newlands and Breede (1976), and others describe the necessity for such an approach to achieve the interpretability of archaeological data. This methodology is critical to the process of evaluating the presence or absence of primary deposits that have been demonstrated to exist at Fort Snelling (Clouse 1982, 1996; Tordoff 1979).

All excavations for the current project were conducted using stratigraphic methods (Barker 1983; Clouse 1982, 1996; Clouse and Steiner 1996a, 1996b; Harris 1989). Vertical recording and site stratigraphy are based upon the use of the *locus/context* concept developed for complex sites (Schofield 1980; Clouse 1982; Clouse and Steiner 1996a, 1996b; Harris 1989; Harris et al. 1993; Szondy and Clouse 1990). Briefly, a locus/context is a layer, deposit, feature, cut, or any other aspect of a site that may be found in the stratigraphy. Each stratigraphic entity is identified with a number and its characteristics are detailed on a standard locus/context recording form. The locus numbering system was a one-up numbering process. Because more than one unit was excavated at any point in time, locus numbers within a single stratigraphic sequence may not be consecutive; but since context number assignments are only for reference purposes, it is only necessary to document the associations between the numbers and particular strata. The strengths of this system are that any aspect of the site may be recorded without having to give it a label which implies an interpretation. The stratigraphy of each excavation unit can be charted graphically and these charts are then combined to provide an illustration of site stratigraphy known as a Harris Matrix (Harris 1989; Clouse and Steiner

1996a, 1996b). Elevations, referenced to documentation of building floor elevations on BOM construction plans, were recorded on the upper and lower surfaces of each locus. All of the strata recorded during the current project were in quite straightforward and nearly level layers. The stratigraphic relationships were of a “layer cake” pattern and exhibited no crosscutting relationships. All soil was removed by stratigraphic layer in 0.5 x 0.5, 0.5 x 1, or 1 x 1 meter square or rectangular blocks in the reverse order of their cultural deposition, or in the absence of such recognizable deposits, through the use of arbitrarily defined levels five centimeters thick.

Formal excavation units were used on this project for a number of reasons:

- 1) the existence of a site had already been documented from previous work (Ollendorf 1996),
- 2) there is historic documentation that strongly indicates occupation of the area during the early Historic period which is also the period of significance of the Fort Snelling National Historic Landmark,
- 3) the property is within the boundary of 21HE99, the Fort Snelling archaeological site, and
- 4) much of the parcel is also within the Fort Snelling National Historic Landmark..

Using the methods employed here, particularly large features or areas can be excavated as a series of identifiable contexts, which can then be analytically combined as historically meaningful stratigraphic contexts. Standard recording procedures required by the locus/context system also serve as a check against improper and incomplete recording. Where relevant, additional recording techniques, such as artifact piece-plotting, was implemented to assist in the analytical process. Processing of soil utilized a one-quarter-inch mesh shaker screen.

Cultural materials and other significant objects were collected by stratigraphic unit and placed in labeled bags. Soil profiles, soil descriptions, and detailed plan view drawings were made of all recognized deposits, and generalized descriptions of the material culture collected were recorded on recording forms. Standard Society Archaeology Department locus forms were used to record the relationships of strata to artifacts and strata to each other assuring that relationships are well-documented, analyzed, and corroborated in the field.

A process was developed for implementing necessary field conservation methods as needed. The Society’s objects conservator was assigned the task of stabilizing and/or repairing objects when their condition warranted field treatment. However, no material culture was recovered during the current project that required field conservation. When necessary, the research team was also prepared to collect selected soil samples from contained, definable contexts to be processed through flotation in the laboratory to attempt to recover data relevant to site interpretation. No deposits such as pits and hearths were however identified during the excavations.

Principal photography was in 35mm format in color and black and white. Digital photographs were sometimes used as a supplemental backup system. Archaeological records and materials are curated at the Minnesota Historical Society under terms of an agreement with the

Department of the Interior. The Society is a federally approved curation facility under 36CFR Part 79 and an institution accredited by the American Association of Museums. The Minnesota Historical Society's Archaeology and Museum Collections Departments permanently curate originals and copies of field notes, maps, catalogs, photographs, and other records.

Most of the stratigraphic layers identified during the excavations were the product of fill episodes. Fill deposits are distinct from "disturbed" deposits and each fill deposit is considered an artifact in itself (Clouse 1982, 1996; Deetz 1977; Newlands and Breede 1976; Schiffer 1987; and others). The fill deposits found here represent deliberate and incidental human action such as efforts to raise the grade, the creation of special surfaces, the disposal of trash, or were the result of specific actions (such as repair and/or replacement of facilities). These episodes are important to the interpretation of earlier activities at this site in that information about many of these actions is not present in the historic record. Much of the information about what went on at this place can be found only in the archaeological record (Clouse 1996).

Subsurface exploratory test excavations were directed by the results of review of historic maps and plans, the 1950s grading plan, and intuitive and random sampling methods. A total of 30 shovel tests (some of which were expanded into 0.5 x 1 or 1 x 1 meter units) including eight deep machine excavated trenches to remove fill overlying early ground surfaces. These trenches were necessary to reach soil levels buried by the 1950s BOM construction.

Machine assisted testing was employed and limited to three conditions (also detailed below):

- 1) where historic records and construction documents indicated that significant cutting took place during the initial BOM facilities construction that was used to document the extent of disturbance from previous construction,
- 2) where historic records and construction documents indicated that significant quantities of fill had been placed over the pre-construction surface to expose strata that were at the surface prior to the construction of the BOM facilities, and
- 3) where it was necessary to penetrate asphalt to expose underlying strata.

CHAPTER 9: PROJECT RESULTS

The field research component of identifying archaeological resources for the project began in early October 2000 and continued intermittently through August of 2001. In addition to a surface survey of the parcel, a total of 30 excavation units were placed in the BOM property. Figure 27 shows the location of each unit and the following discussion provides details of the findings, including stratigraphic contexts and material culture recovered. In general, the findings indicate that significant portions of the property contain buried, intact, undisturbed topsoils. This burial of soil resulted from episodes of filling on the property, interpreted as being largely the result of BOM construction events. Some of the buried soils contain

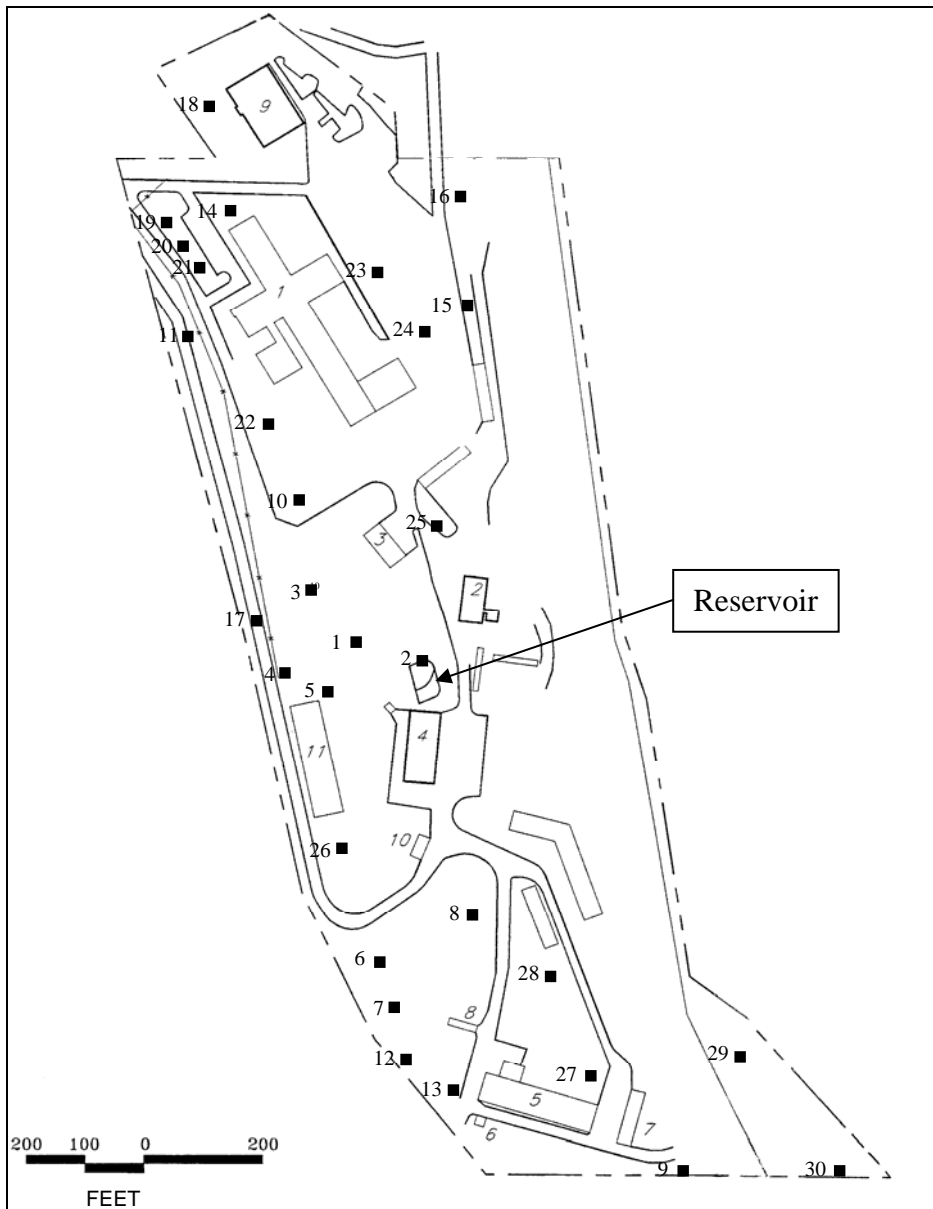


Figure 27 BOM property, numbered buildings and test units excavated between October 2000-August 2001. (Excavation units not to scale)

material culture dating from the first half of the 19th century, the period of earliest documented Euroamerican occupation of this region. Features and material culture dating to the late-19th and early-20th centuries are also present as a result of a number of military uses of the property. While intact soils exist in some locations, there are other areas that are completely devoid of soils that have been cut into the underlying solid bedrock eliminating any possibility of the presence of in situ cultural materials from the period of significance of the site.

As will be evident by the discussions presented below, the most appropriate description of the nature of the strata and material culture findings is one that states “the pattern is one of variability.” Of the 30 units excavated, there are at least 16 different patterns recognized in the stratigraphy and/or material culture sub-assemblages. Some of these findings are represented by data found in a single unit that exhibits a structure unlike any others, while a few can be combined with others creating a “grouping” of between 2 and 4 units representing similar cultural and/or natural processes. This diversity and this degree of variability of the recovered data is not surprising due to the long period of historic occupation, the degree and extent of development, and the variable nature of the topography, hydrology and geology in this specific area. It was the historic documentation and the expectation of significant variability that dictated the necessity to use stratigraphic excavation methods for this project to clearly document the context of the material remains. As an example, the area to the west of BOM Building 1 was filled extensively, and while the individual strata represented in the excavation profiles are not identical from unit to unit, the sequence represents a construction episode of filling from variable sources that were placed on the same preexisting surface.

A walkover surface survey conducted throughout the property did not locate any artifacts on the surface but identified 4 features interpreted as belonging to the period of significance of the NHL:

- 1) Coldwater spring reservoir (ca. 1879),
- 2) spring house (ca. 1879),
- 3) military quartermaster department railroad spur grade (ca. 1896), and
- 4) possible foundation remnant from the pump house--Building H-1(ca. 1879).

The first two of these features are well-defined, readily visible and recognizable at the surface. Features 1 and 2 have been discussed at length above. The latter two are visible, but somewhat less readily apparent. They are represented as surface features respectively as a bedrock cut east of the parking lot east of Building 1 and the latter as a soil covered irregularity protruding out of the steep slope between Building 4 and Building 11.

The area in which the excavations took place is used here as the organizing device in the discussions presented below. The “groupings” in which the data are presented result from similar processes (e.g. cut, fill, use, disturbance) in specific areas of the BOM tract. This manner of presentation is preferred over number or letter designations to avoid confusion with building and test unit numbers and the letter designations used in the 1996 Ollendorf report. The findings from these areas are discussed as units below. To facilitate reader understanding of the data presentation, the groupings are discussed from north to south across

the property. Frequent reference to Figure 27 will assist in understanding the distribution of finds and the location of research.

TEST UNIT DISCUSSIONS

Building 9 Area. Test Unit 18 (hand-excavated 0.5 x 0.5 cm unit)

Located 10 meters from the northwest corner of building 9, Test Unit 18 produced two layers of fill (Loci 59 and 60) over what appeared to be a black silty clay “A” horizon (Locus 61)

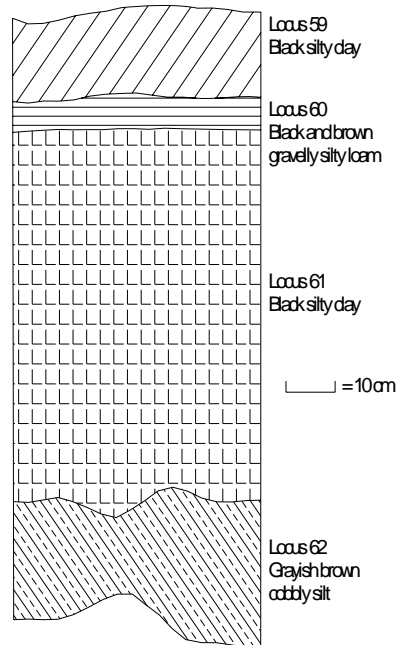


Figure 28 West wall profile of TU 18

that graded into a grayish brown cobbly silt (Locus 62). Locus 62 also contained iron staining and small manganese concretions that develop and are commonly found in soils that remain wet for extended periods. A single fragment of a whiteware ceramic vessel was recovered from locus 60 and is interpreted as fill imported to the site. This area corresponds to Ollendorf's "Area A". The conclusions from the current project found similar results to those from the 1996 work suggesting that the area has not yielded archaeological data that contributes to the National Register significance of the Fort Snelling Historic District. The nature of the soils in this area and the general information depicted on historic maps (see above) suggest that it may have been pasture or cultivated fields associated with either the military or squatter settlement in the area.

North and Northwest of Building 1. Test Units 14, 19, 20, 21 and 22 (machine excavated units measuring approximately 3 x 7 meters)

Machine excavation was used to penetrate fill deposits indicated on BOM construction documents. Backhoe excavation was conducted by stratigraphic layer and both monitored and directed by the author to prevent inadvertent damage to material culture or intact buried soils. Soil from each of the strata identified (see below) was set aside in separate piles, labeled, and a sample was screened for material culture. Samples of strata likely to contain in situ material culture and features had a sample hand excavated. All 4 units excavated in this area document a broad range of fill deposits over water-saturated soils. Water was encountered in each unit at depths of between 1.1 and 2.5 meters from the surface. Natural soils below fill layers consisted of greenish gray sandy clay or encountered water before natural soils were visible at depths of between 1.1 and 1.5 below the surface (See Figures 29-31). These gleyed soils contained iron and manganese concretions, strong indicators of formation in saturated conditions. Sediments immediately above the greenish sandy clays also exhibited some evidence of gleying and Fe and Mg concretions providing evidence of saturated conditions although the sediments appear to be from filling episodes since the soil types are not consistent with natural formation processes and soils that have been documented in this area (Hundley 1976).

Samples of each of the strata were screened for artifacts. A single piece of a whiteware ceramic saucer with a Veterans Administration base-mark was recovered from the light yellowish brown gravely coarse sand in TU 14 (Figure 31). There is no corresponding letter designation from this area since it was not tested during the 1996 research project (see Ollendorf 1996). The area appears to represent a major filling episode with relatively coarse-grained sediments to both fill in a spring-fed wetland for a small parking lot and provide a sloping grade to force surface water to runoff to the east towards the major parking lot and then towards the river. The gleyed soils and the lack of any material culture dating to the period of significance of the NHL or NR District suggest that this area does not appear to contain material culture that contributes to the Fort Snelling NHL or NR significance. Although it is uncertain if this area has always been in such a hydrologic setting, a 1903 map (Figure 10) also indicates, at that time, this area was marshy. This immediate area may have served as a water resource for cattle and/or horses during the early historic period if similar hydrological conditions existed at that time.

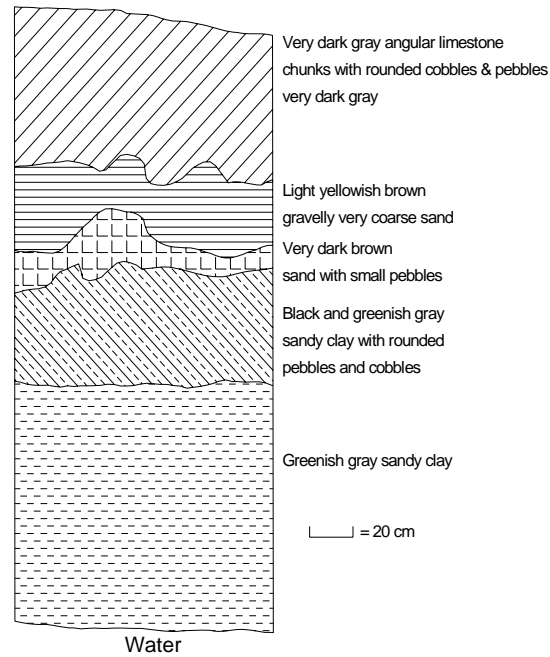


Figure 29 North wall profile of TU 14

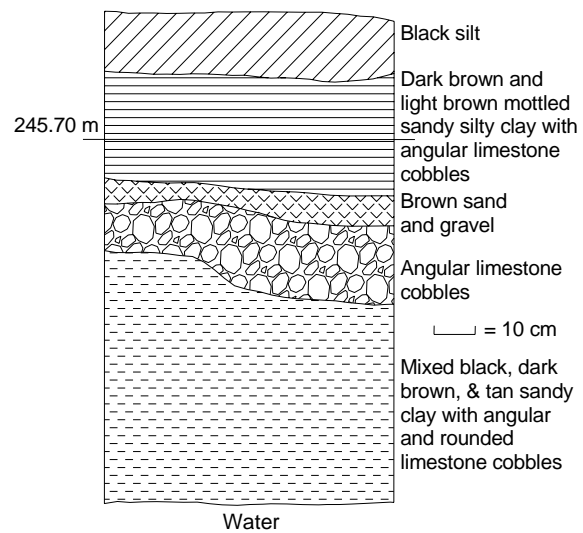


Figure 30 West wall profile of TU 19

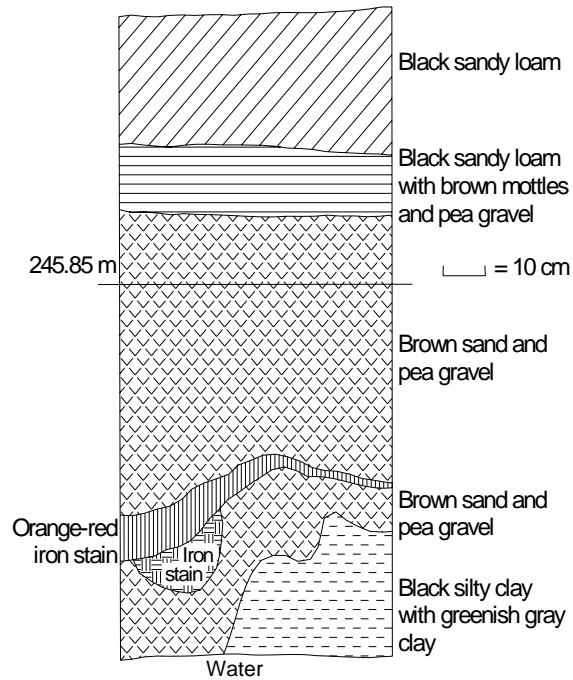


Figure 31 West wall profile of TU 20

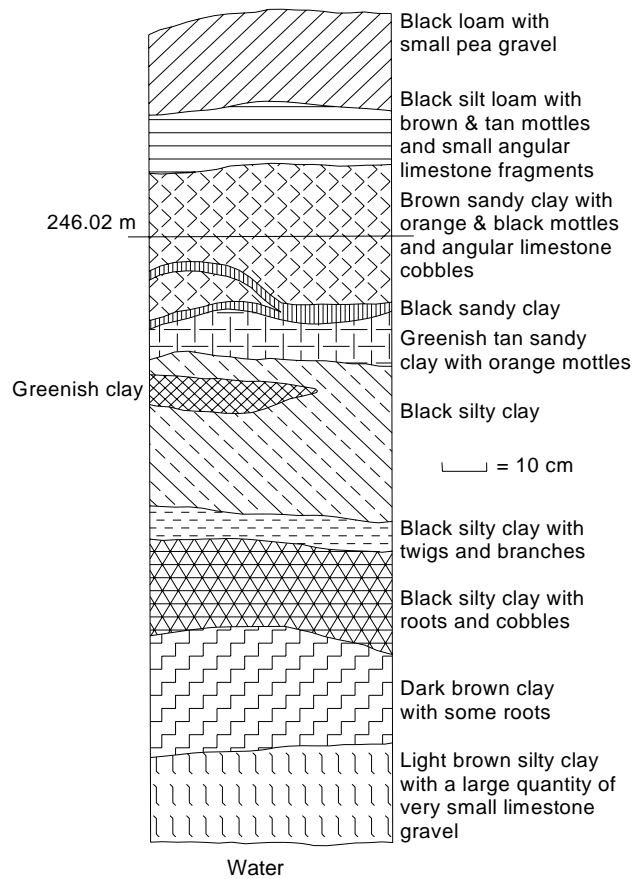


Figure 32 West wall profile of TU 22

Test unit 22, 10 meters north of TU 10, based on BOM construction plans, was also suspected to contain considerable fill over natural soils. Again too the stratigraphy in TU 22 was different from that of the other units grouped here. Figure 32 documents the stratigraphy of this unit with the black silty clay and dark brown clay with roots interpreted as the land surface before BOM filling in the 1950s. The surface immediately above these layers, black silty clay with twigs and branches was a literal mat of broken and imbedded vegetal matter that appeared to have been pressed into the existing land surface, possibly from land clearing activities preceding the construction of BOM facilities. Evidence of gleying existed in the lowest three strata, while reaching the water table served to end the excavations. This may have been in or at the edge of a wetland similar to that documented in Test Units 14, and 19-21. No artifacts were recovered from TU 22.

Parking lot east of BOM Building 1. Test units 23 and 24 (machine excavated units measuring approximately 1.5 x 1.5 meters)

Machine excavations with a backhoe were used to penetrate the asphalt parking lot to evaluate the accuracy of BOM construction documents and attempt to locate any buried soil horizons. The testing in this area documented the removal of all natural soils overlying limestone bedrock. That testing also documented that deeper cuts were made the farther east one progresses through the parking area which also removed some of the eroded upper surface of the Platteville formation leaving it with a sharply angular and yellow rock surface like that documented in Test Unit 24 (Figure 34). Test Unit 23 showed a reddish brown staining on the upper surface of the bedrock and slightly rounded edges along cracks and fissures on the upper surface of the rock. The more eroded and softer nature of the rock in Unit 23 is also evident from the fact that the backhoe could more easily and deeply penetrate the rock in this location. Once sufficient depth was reached for the parking lot, variable fill layers were added as a sub-subgrade for placement of a class 5 crushed limestone gravel that in turn served as the subgrade for the asphalt parking lot. Additional documentation of limestone bedrock removal is present in Test Units 15 and 16 where the bedrock is 1.1 to 1.6 meters higher in elevation than that of the adjacent parking lot.

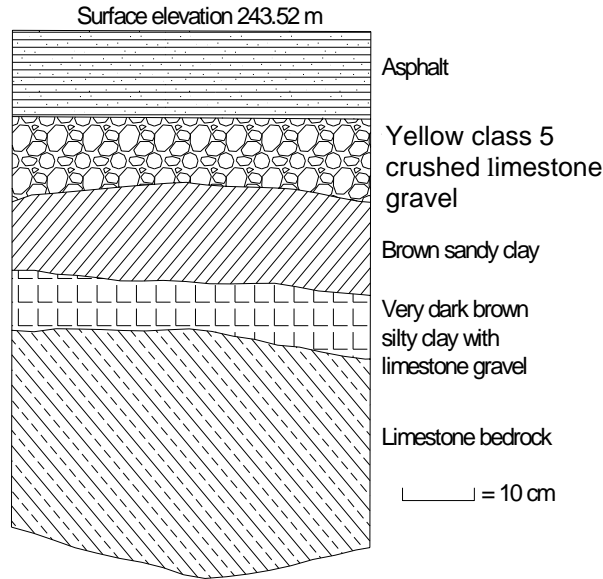


Figure 33 East wall profile of TU 23

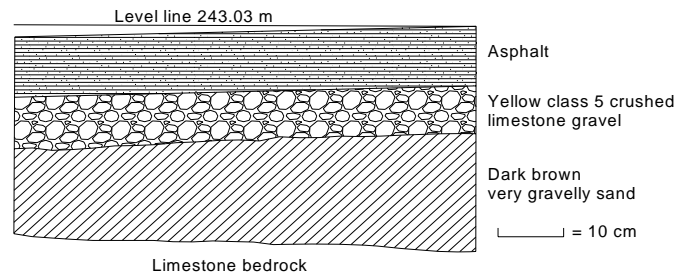


Figure 34 West wall profile of TU 24

Ridge remnant east of main parking lot for building 1. Test Units 15 and 16, hand excavated 0.5 x 0.5 m units

Soils remaining on the “ridge” area tested with TU 15 and 16 were very shallow—less than 10 cm in depth. Soils appeared natural and there were scattered oak trees that appear to have an age greater than 50 years. No profiles were drawn due to the fact that no soil change was visible—a black sandy loam was present from the surface to bedrock.

The fractured and weathered nature of the upper surface of the bedrock here suggests that it has remained undisturbed for a relatively long period of time and that it was not disturbed by recent construction. The upper bedrock surface is also brownish in color resulting from organic material staining from overlying soil. No material culture was recovered from either of these two excavations. This apparent ridge is in actuality a remnant of the original elevation that has been cut deeper for the parking lot to the west and the army railroad spur to

the east. This area corresponds to Ollendorf's "Area B" which also produced no material culture during that research (1996).

Soil berm west of fenced area near west property boundary. TU 11 (backhoe trench excavated to greater than 5 meters depth and measuring 25 x 10 m at surface—hand excavated unit 0.5 x 0.5 m. at base of backhoe trench)

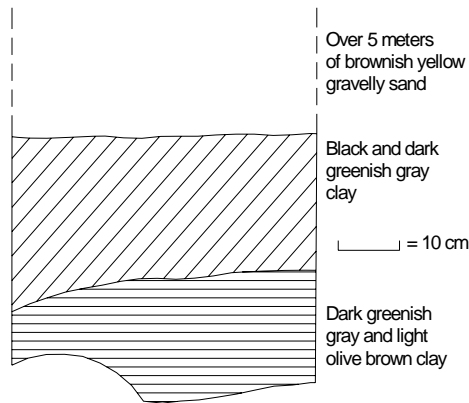


Figure 35 West wall profile of TU 11

Profile documents intentional filling as represented in BOM construction plans. A highly unusual green-colored deposit was at the base of the fill, possibly due to wet conditions obtaining in the past or from copper salts. No artifacts were recovered from this excavation unit.

South west of Building 1 – Test Units 1 and 3, hand-excavated (1 x 0.5m) and 3 (0.5 x 0.5 m) and TU 10 (3 x 6 m) with a backhoe trench with 0.5 x 1.0 m hand excavated unit into profile and into base of trench

This area is visible in historic photographs as a relatively flat to gently eastward sloping "terrace" occupied during the last quarter of the 19th century by the waterworks engineer's house and some outbuildings (Figure 19). Available historic documentation makes it uncertain if this specific location was use for residential structures during the earliest documented use of the area by soldiers or squatters. The test units were excavated in a broad pattern to evaluate the potential for intact earlier ground surfaces that appear to have been buried during the construction of Buildings 1- 4 (cf. Figures 23, 24 and 27).

TU 1 documents a major filling effort with angular limestone boulders that have fresh fracture planes visible on the surface. This 50-60 cm deep deposit with virtually no soil in the interstices between the stones (Locus 2) overlies black sandy loam 'A' and 'B' horizons (locus 3) interpreted as topsoil once exposed at the surface. The layer of boulders is in turn overlaid with a sandy loam top soil. The limestone boulders are interpreted as a fill deposit generated during the excavation for building foundations or other features that was placed

during the BOM construction phase in the 1950s and subsequently covered with topsoil to create a lawn. The buried soil horizon (Locus 3) slopes down slightly to the east and is consistent with historic documentation showing the same configuration of the landscape. Beneath Locus 3 lies a dark gray clay, sandy in texture near the interface. This layer exhibits some evidence of gleying possibly from shallow groundwater. Cultural material recovered from TU 1 included coal, cinders, fragments of blue transferprint whiteware, undecorated ironstone and porcelain, pane glass, cut nails, black olive and clear bottle glass, and fragments of a glass tumbler. Test Unit 3 produced coal and a large number of architectural fragments consisting largely of window glass and nails.

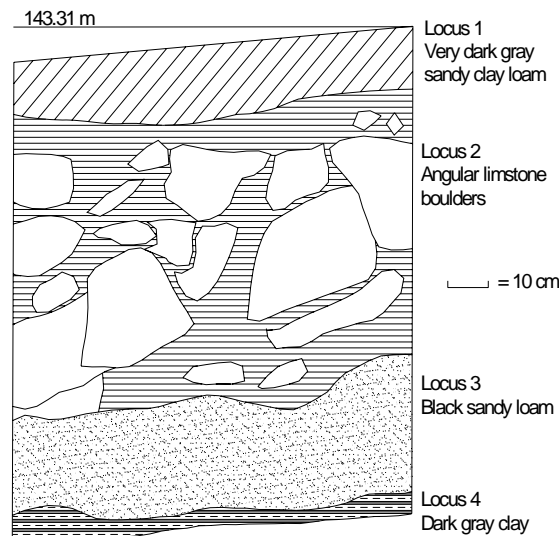


Figure 36 South wall profile of TU 1

TU 3 is in nearly an identical topographic setting to TU 1 and the strata document filling episodes (loci 10-12) albeit of very different material from that recorded in TU 1. What appears to be a buried 'A' and 'B' horizon (Locus 13), sloping slightly down from west to east, is almost certainly the same surface that was documented in TU 1. Beneath locus 13 lies a dark gray sand with some rounded gravel. The subsequent layer, Locus 15, exhibits some evidence of gleying possibly from shallow depths to groundwater. Cultural materials recovered from this unit included brown transferprint whiteware, blue bottle glass fragments, lime mortar fragments and coal. Based on the dates of popularity for brown transferprint whiteware ceramics and the ceramics recovered from TU 1, it is the tentative conclusion that these objects, like those in TU 1, are related to the occupation of the waterworks engineer's residence that dates to the late nineteenth century.

Test Unit 10 was placed west of the south end of BOM Building 1 near the sharp bend in the entrance road. Relying on construction documents for building the BOM facility in the 1950s, the upper 90 cm was excavated by a backhoe under the direction of the author.

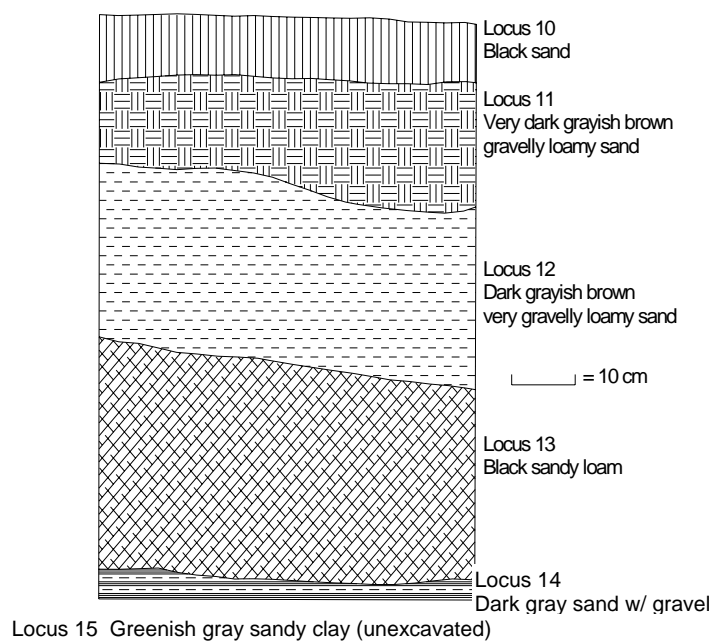


Figure 37 North wall profile of TU 3

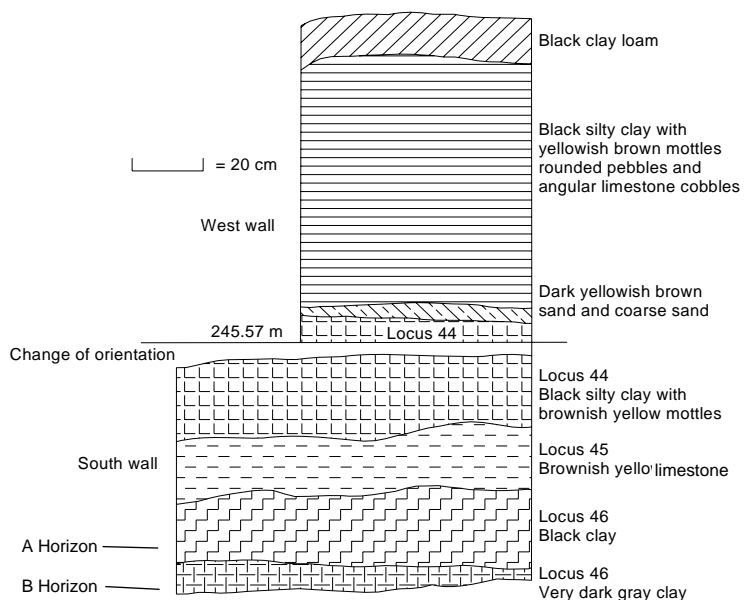


Figure 38 West and south wall profiles of TU 10

Machine excavations were terminated at what first appeared to be an old buried land surface, the black silty clay labeled as Locus 44 and excavations continued from that surface as a 0.5 x 1.0 m unit. Suspecting that the locus may be natural soil, excavations proceeded into a mottled black silty clay using arbitrary 5 cm levels until a change was evidenced. Locus 44 contained large and small wire nails, brick fragments and fragments of clear bottle glass. At

32 cm from the surface of the deposit the strata abruptly ended on what appeared to be Platteville limestone bedrock. Closer inspection of the limestone deposit showed some irregularities that did not appear to be natural and a pick was used to break through the compacted limestone slabs to yield earthen layers below. The nature of the soil and artifacts contained below the limestone in Locus 46 (containing a 15cm thick A horizon and the exposure of 5 cm of a B horizon) were a clear indication of a previously occupied surface with a ball clay pipe stem fragment, brown and clear bottle glass fragments and cut nails.

This area corresponds in part to Area C in Ollendorf's 1996 report. The strata discovered in the two shovel tests conducted in 1996 west of the south end of BOM Building 1 discovered artifacts near the surface in what was characterized as fill. The research undertaken on this project concurs with this aspect of the conclusions reached by Ollendorf. However the bedrock terminus reached by the 1996 work is almost assuredly a fill layer of redeposited bedrock like that found in TU 10. The units excavated during 1996 reached bedrock at 81 and 50 cm from the surface—much too shallow for bedrock in this area of the site. The work conducted in 2000-2001 does not reach the same conclusions as that in the Ollendorf report and finds cultural resources in an undisturbed and buried context that are considered contributing to and eligible for inclusion in the Fort Snelling National Register District and National Historic Landmark.

North edge of reservoir – Test Unit 2, 0.5 x 1.0 m hand excavated trench

Test Unit 2 was excavated 1.5 meters north of the northeast corner of the limestone walled Coldwater spring reservoir. Excavations began in the late fall of 2000, but due to the high water table was not able to be finished until August 2001 when a prolonged drought lowered the water table and permitted excavations to the depth of the base of a lime cement wall. The unit produced two features interpreted in association with the changing nature of the reservoir and that have been buried by natural forces over time. The two features are shown in Figures 39-41 are defined as red clay soil drain pipe over which was poured a lime cement cap (Locus 9) and a poured lime cement foundation wall (Locus 7).

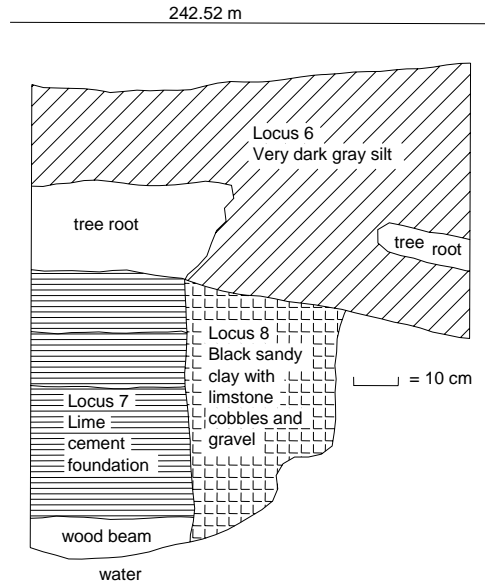


Figure 39 West wall profile of TU 2

Locus 7 is interpreted as the foundation for the east wall of the reservoir, possibly the one depicted in Figure 19 that was likely built ca. 1879. The top of that wall is now buried below what appears to be slope wash that is now interlaced with roots from large trees that were present in the vicinity of the reservoir. At the base of the foundation, as the unit began to encounter ground water, was a wood beam aligned to the edge of and beneath the lime cement foundation. Because the exploratory nature of the excavation unit and the presence of a high water table, we were not able to resolve an issue as to whether this wooden beam may have been part of the wooden form into which the cement was poured or if it might be a remnant of an earlier wooden structure that may have bounded a reservoir. Fill placed to the north of Locus 7 appears to be backfill for a builders trench (Locus 8). In the east trench wall and at the base of Locus 6 was another feature, a drain tile with cement cover. This tile apparently ran along the outer edge of the cement wall, likely to carry away ground water that seeped down the hillside on the outside of the reservoir. The tile is now crushed in place and it was not possible to determine its point of origin or terminus. However, it is suspected that it terminated at the outfall for the Coldwater creek water from the reservoir. Locus 6 contained cut and wire nails while Locus 8 contained fragments of the drain tile, lime cement, coal, cinders, wire and cut nails, clear bottle glass, unidentified iron fragments, and an undated 5 cent trade token.

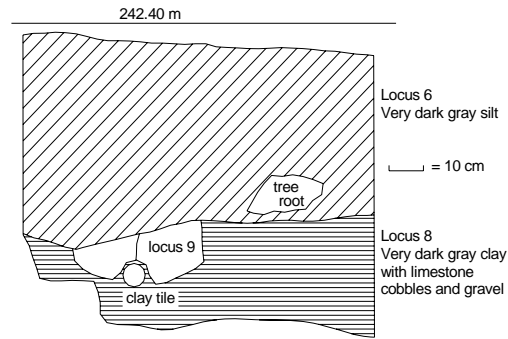


Figure 40 East wall profile of TU 2

Today the walls of the reservoir are dry-laid limestone blocks. It is suspected that those stones serve as a facing or lining, possibly due to deteriorating structural conditions of the old lime cement walls, to assist in stabilizing the reservoir walls. A series of bricks set into the soil was discovered by Ollendorf's testing project adjacent to the east reservoir wall near the southeast corner of the reservoir. This "patio" may have been constructed as part of a walk or viewing location that would have been dry in the very moist soils surrounding the reservoir proper.

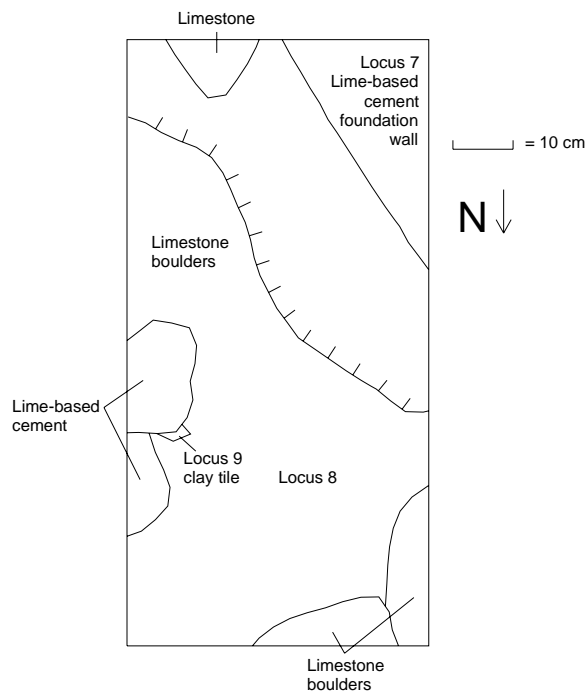


Figure 41 Plan view of TU 2

Area north of BOM Building 2– TU 25 (ca. 2 x 8 m) machine excavated trench

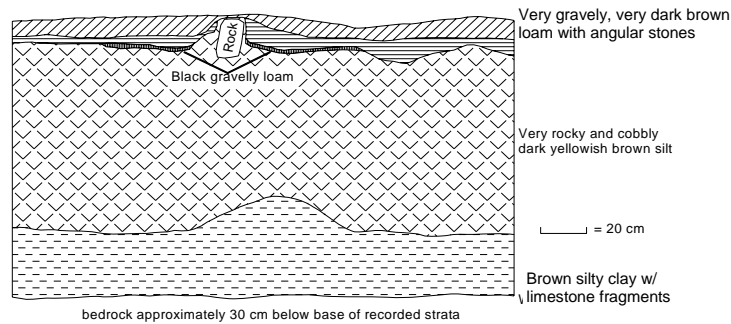


Figure 42 East wall profile of TU 25

BOM construction plans indicated considerable filling in this area. A backhoe was used to excavate an approximately 3 x 6 m trench under the direction of the author. Test Unit 25 continued to a depth of 1.6 m from the surface where limestone bedrock was encountered. Bedrock was also below the water table and as a result quickly filled up a portion of the hole and with the cold weather it soon turned to ice. Measurements taken at the time of the initial excavation, before the water froze, indicated approximately 30 cm of water lying on the bedrock. This was not able to be determined precisely since the water froze before final profile drawings were made of the unit.

All five strata were clearly fill deposits and the lowest two strata contained sharp angular limestone fragments, brick fragments, cinders and chunks of Portland cement concrete. No other material culture was recovered. All fill levels are interpreted as being fill placed either during the initial BOM construction events or during subsequent additions to the facility.

West of fence line --Test unit 17 (ca. 4 x 7 m) machine and hand excavation of 0.5 x 0.5 m unit

A backhoe was used to excavate through fill placed as a ridge along the western BOM property boundary. This ridge extends along the northern half of the BOM property, west of the fence line near the west property boundary. 1950s BOM construction plans clearly depict the intent of constructing a ridge along this part of the tract. Machine excavations were terminated at the surface of a black and dark brown sand layer that underlay numerous and variable fill deposits largely composed of thick and thin brown sands. At the completion of excavations of TU 17, the terminus was nearly 3 meters in depth. This stratum appeared to be natural and showed gradual color change from black near the surface to a brown at the base of the excavation, suggesting A and B horizons. The dark sand at the base of the profile, suspected as representing the natural soil surface prior to recent filling, showed a gradual color change but no distinct stratigraphic differences and was therefore hand excavated using 5 cm arbitrary levels. Artifacts were only recovered from Locus 58, the lowest stratum in TU 17. The three uppermost 5 cm levels of this locus produced material culture likely associated with early 19th century occupations including the fragment of a bone comb and an English

style gunflint (Figure 44). Other objects recovered with less specific temporal association were cut nails and cinders. No material cultural items were recovered from the lower 30 cm of Locus 58 and the unit was terminated at 45 cm from the surface of the locus.

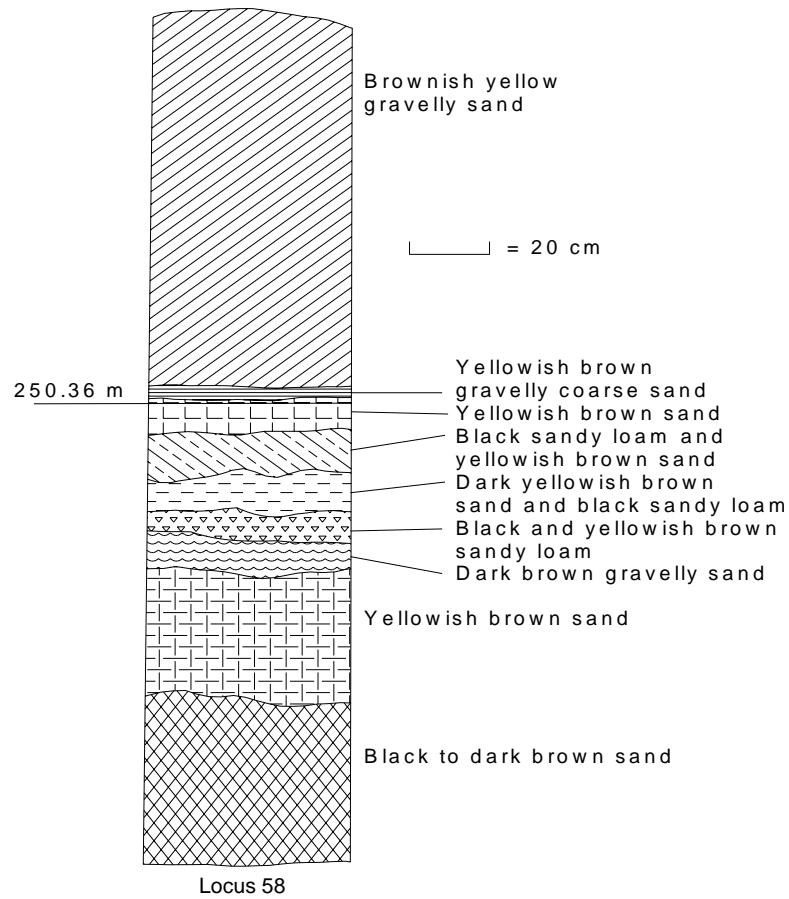


Figure 43 West wall profile of TU 17



Figure 44 Early-19th-century artifacts from Locus 58 in TU 17. Left-bone comb fragment; right-English style gunflint.

Ridge near west edge of property north and south of BOM Building 11 – Test Units 4, 5, and 26, hand-excavated 0.5 x 0.5 cm units

Each of the units in this area exhibited some fill over a dark grayish brown sand that is interpreted as a now-buried probable natural surface. All three units in this area were dominated by dark grayish brown sand and contained artifacts dating to the 19th century. Test Unit 4 contained no material culture in the uppermost layers of fill (Loci 16-18) but yielded a plain whiteware sherd, cut nails and window pane fragments from Locus 19. Excavations continued to a depth of 55 cm from the surface, but no other material culture was recovered from TU 4.

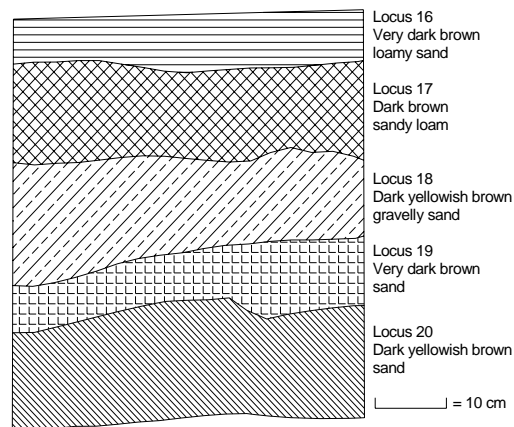


Figure 45 West wall profile of TU 4

Test Unit 5 was more productive than TU 4 yielding 36 objects in the uppermost two strata, Loci 22 and 23. Locus 22 yielded a clay smoking pipe stem fragment along with a plastic cigarette filter liner and a fragment of window pane glass. The upper half (40 cm) of Locus 23 yielded cinders, clear and brown bottle glass, window pane and concrete fragments. The lower 40 cm of Locus 23 produced black olive, light-green and clear bottle glass, an undecorated fragment of porcelain, a piece of undecorated whiteware, cut nails, unidentified metal fragments, coal and cinders.

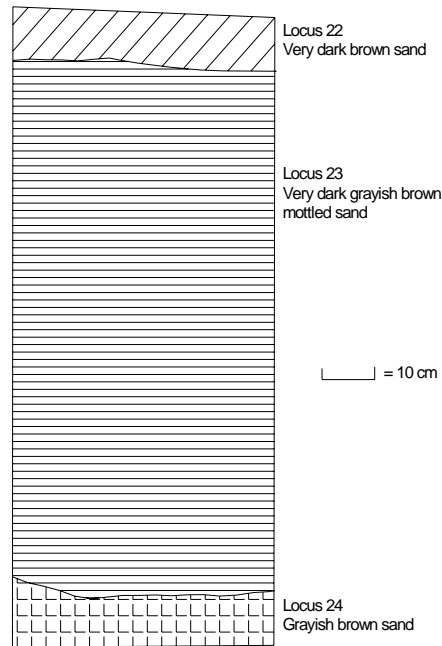


Figure 46 East wall profile of TU 5

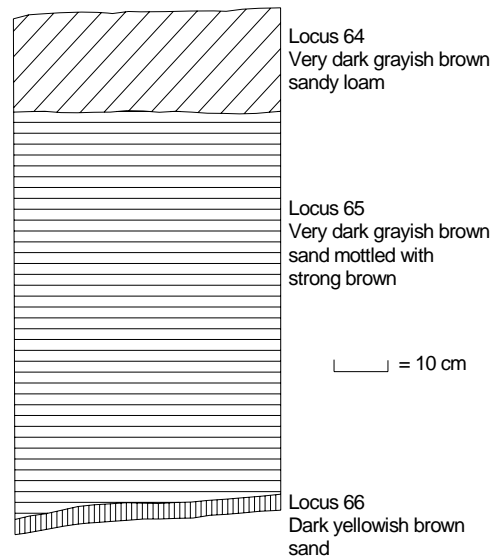


Figure 47 South wall profile of TU 26

Test Unit 26, at the south end of BOM Building 11, produced brick fragments, coal and cinders, pane glass, cut nails, and an undecorated whiteware fragment in Locus 65, a soil apparently representing the same strata as Locus 23 in Test Unit 5. Both Locus 65 and 23 contain large amounts of material culture. Test Unit 26 corresponds to Ollendorf's (1996) Area G. The findings of the 2001-2001 research do not agree with those from the 1996 report. The Ollendorf (1996) report erroneously assumes that only structural remains are of significance. Deposits documented in the most recent research contained in situ cultural

material related to use of the area during the last quarter of the 19th century, likely associated with the waterworks and the later locus of Building 252. The “mystery tower” referred to in the Ollendorf report was the remnant stone foundation for the wooden water tower built ca. 1879.

Terrace near south end of property – Test Unit 8, hand-excavated 0.5 x 0.5 m and expanded to 1.0 x 1.0 m

Test Unit 8 produced the most unusual and baffling feature of the 2000-2001 research effort. Beginning initially as a 0.5 x 0.5 m unit, a wooden beam was discovered at the base of the unit. In order to better understand the structure of this location, the unit was expanded to a 1 meter square. The unit expansion fell upon more wooden beams, flattened on the upper surface and rounded at the sides, at the same depth. Upon cleaning soil from between the beams, it became apparent that the excavations had come upon stacked railroad ties, likely associated with the military railroad spur constructed in the 1890s. The wood, due to the wetness of the setting, was in an excellent state of preservation. While the elevation of the upper surface of this feature was about 1 meter above the level of the military railroad grade, it is thought that the feature may have either been a stack of replacement ties for the tracks or possibly a stack of ties remaining from the removal of the tracks after WW II. Due to the limited visibility of the wooden beams no conclusion was made in relation to whether or not the ties had been used. Subsequent to the stacking of the wood ties, the entire area was filled with one-half meter of loam and sandy loam.

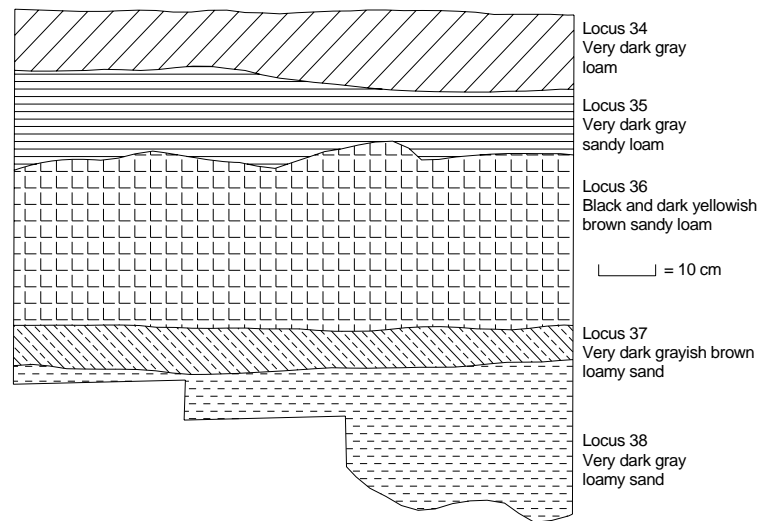


Figure 48 East wall profile of TU 8



Figure 49 Plan view of Locus 39 in Test Unit 8

Large quantities of artifacts were recovered during the excavation of TU 8-- more than any other unit excavated during this research effort. The various strata contained both 19th and 20th century material culture with wire nails found in Locus 37 at the level of the ties. A broad assemblage including bone, blue transferprint whiteware, white ironstone, stoneware, various colors of bottle glass, buttons, cut and wire nails, window pane, and mortar were all found in the unit. The broad range of material culture is representative of refuse created by general domestic activities. Due to the underlying wooden members, the fill is interpreted as resulting from a deposit brought in from the vicinity of a residence and dumped at this location creating a terrace above what was once a railroad grade.

Ridge at west property edge in southwest part of property – Test Unit 6, hand-excavated 0.5 x 0.5 m unit

Excavations in shovel test 6 on a ridge near the west boundary and the south end of BOM property contained mid to late-19th-century material culture including red transfer pint whiteware, brick, cut nails, and window pane fragments. The unit exhibited a very dark grayish brown sandy loam that terminated on limestone bedrock at less than 20 cm from the surface. Locus 25 is interpreted as fill due to the abrupt nature of the boundary between it and the underlying Locus 26. Locus 26 in turn lies directly on a decomposing Platteville limestone surface. This unit falls within Area F as described by Ollendorf (1996), although the stratigraphy does not match that documented in 1996. Ollendorf's work also produced a thin scatter of artifacts, but concludes that no additional work is necessary here nor is the area eligible for inclusion in the NR District. The research conducted during 2000-2001 lead this team to a different interpretation, one in which buried, in situ natural soil with 19th-century material culture is present. The relatively sparse scatter is consistent with the documented historic use of the area.

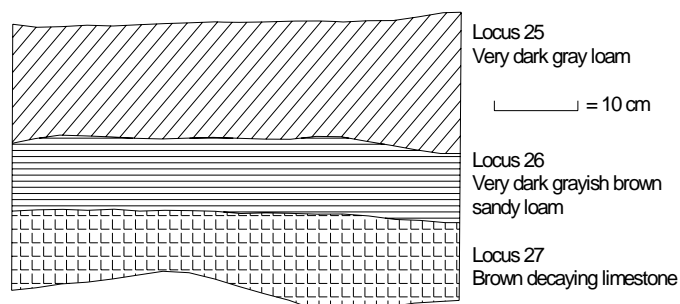


Figure 50 East wall profile of TU 6

Ridge at west property edge near southwest corner of property—Test Unit 7, 0.5 x 0.5 m hand-excavated and Test Unit 12, ca. 3 x 4 m. machine excavated

Test Unit 7 began with a black loamy sand fill with cobbles over what was interpreted as a possible earlier ground surface (Figure 51), however subsequent discoveries showed a series of strata with abrupt interface boundaries contraindicating a natural stratigraphic sequence. Subsequent strata encountered were of different texture classes and/or contained variable inclusions also indicating cultural activities were responsible for the deposits. The uppermost stratum, Locus 29, contained two artifacts—a brick fragment and an iron ring that may be a harness part. The relatively sparse scatter is consistent with the documented historic use of the area. Excavations were terminated at a depth of 70 cm with no further discoveries of material culture.

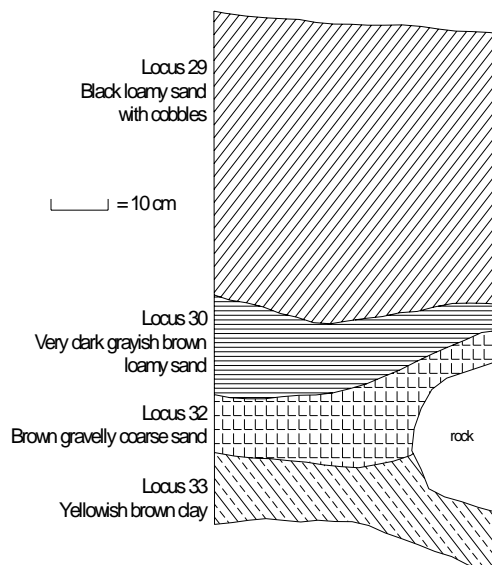


Figure 51 East wall profile of TU 7

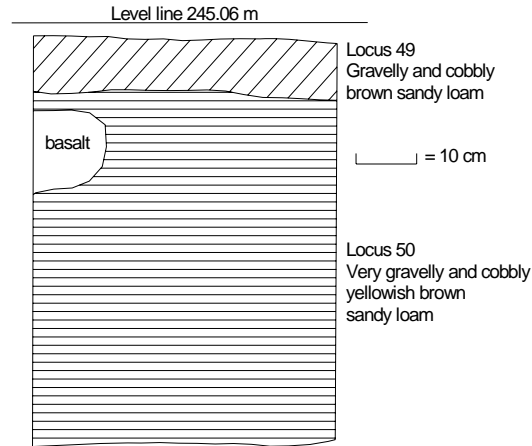


Figure 52 East wall profile of TU 12

A second unit placed to the south of TU 7 produced a stratigraphic sequence that appeared to be natural, but with the absence of a surface horizon. The sandy and cobbly strata appear similar to those naturally deposited in a post glacial environment and may be fill in a pro-glacial or pre-glacial tributary valley common in the vicinity of the project and previously documented at the American Fur Company site (21DK31) across the river in Mendota.

This area appears to be in part what is discussed as Area F in Ollendorf's 1996 report. However, Area F also includes a shovel test that was likely in close proximity to Shovel Test 6 excavated during the research conducted in 2000. As is in evidence in the current investigations, she found limited material culture and does not see the area contributing to the NHL or NR District. The 2000-2001 research effort suggests that cultural strata with probable 19th century material culture are located in this area and, while sparse in nature, are considered a contributing element of the NR period of significance of the site/district.

Base of slope west of Building 5—Test Unit 13, 0.5 x 0.5 m hand-excavated unit

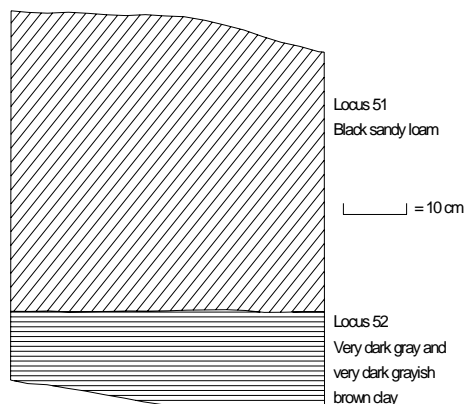


Figure 53 North wall profile of TU 13

Unit 13 produced what first appeared to be natural soil comprised of a black sandy loam surface horizon overlying a very dark gray clay. The abrupt boundary between the two strata indicate a likely cultural origin for the interface and it is currently thought that Locus 51 (see Figure 53) is either the result of colluvial processes or from cultural deposition. This uppermost strata was excavated in arbitrary 5 cm levels and produced clear bottle glass, brick fragments, a fragment from a door lock, as well as aluminum, rubber and an electrical fuse in the upper 20 cm. No material culture definitely attributable to the period of significance of the NHL or NR district was recovered from TU 13. Although difficult to be certain due to what appears to be an error in the alignment of the north arrow, five shovel tests conducted in Area E in 1996 are likely in the immediate vicinity of TU 13. No cultural resources were located in Area E in 1996. No in situ deposits containing cultural resources were recovered in this area during the 2000-2001 research.

Area north of buildings 5 and 7—Test Units 27 and 28, hand-excavated 0.5 x 0.5 m units

This two unit grouping was created from the virtual surface exposure of bedrock. Test units 27 and 28 contained virtually no soil over bedrock. No artifacts were recovered from either of these units. It is likely that this area originally contained soil horizons over the bedrock surface since the upper surface of the rock did not exhibit the degree of weather that would be expected if it had been exposed at the surface.

Southeastern corner of property—Test Units 9, 29 and 30, hand excavated 0.5 x 0.5 m units

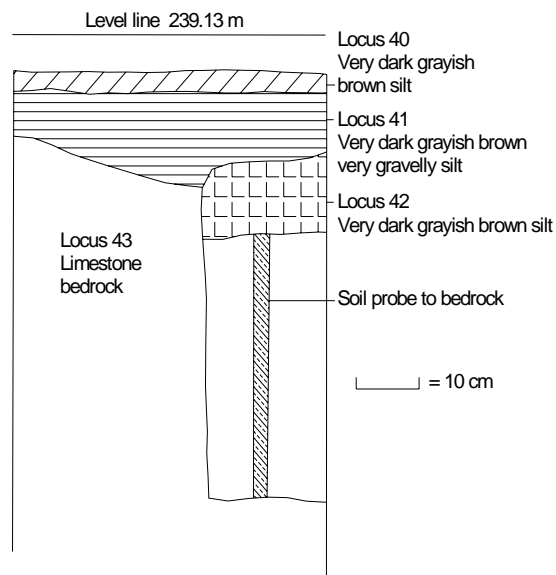


Figure 54 West wall profile of TU 9

Test Unit 9 contained less than 10 cm of black gravelly silt over bedrock in one corner of the unit, while stepping 50 cm deeper along a vertical interface, to a ledge on the rock face that is

common to the Platteville formation. Test units 29 and 30, outside of the BOM fence line and east of the post-Civil War railroad grade that now serves as a multipurpose trail, both showed natural soil development horization typical of the natural soils documented in the area. Profiles were not drawn of these two units since they exhibited no evidence of cultural activity and showed natural A-B soil horization with the 40 cm depth of these two test units. No artifacts were recovered from any of the three units in this grouping. The findings of the 2000-2001 research in the area of this grouping contains Ollendorf's (1996) Area D which also found no cultural resources. However, because of the limited nature of the testing from both forays and a lack of evidence of disturbance of the natural soil conditions obtaining in this area, it is possible that pockets of occupation debris or structural remains related to the period of significance of the NHL could be present but remain undetected in this area.

CHAPTER 10: MANAGEMENT RECOMMENDATIONS

The result of the testing program conducted in 2000 and 2001 is a series of management recommendations to provide for the long term protection for resources contributing to the Fort Snelling National Register District and Fort Snelling National Historic Landmark. The recommendations are based on test excavations, stratigraphy, recovered material culture, and historic documentation as presented above. In order to effect the goal of long term preservation of the archaeological resources it is proposed that a series of resource zones be established within the BOM property. Based on findings from the current research and limited previous investigations that were correctly interpreted by Ollendorf (1996), 5 management zones have been defined. These zones are outlined with different colored lines as shown on Figure 55. Each of the zones is discussed in general below and recommendations for a revision of the National Historic Landmark boundary are also made.

Zone I

Zone I, outlined in green on Figure 55, is discontinuous and defined as an area containing seemingly undisturbed natural soils but which yielded no material culture. Due to the quite limited sample recovered from the 1996 work and the current project, it is probable that intact cultural deposits may be present in this zone. Further testing is recommended before declaring this zone does not contribute to the NHL or NR District.

Zone II

Zone II, outlined in red on Figure 55, is a continuous area at the west side of the central part of the BOM property that contains in situ cultural deposits and buried soils as well as material culture dating to the period of significance of the NHL and NR District. This area also corresponds to the general location documented as containing structures during both the early period of use at the Camp Coldwater settlement and during the last quarter of the 19th century as part of the waterworks. Portions of Zone II lie outside the current NHL boundaries. Proposed boundary changes to correct this deficiency are outlined in orange in Figure 58.

Zone III

Zone III, outlined in blue on Figure 55, is an area east and west of Building 1 that has been re-graded to slope towards the river by adding fill to the west and removing soil and bedrock to the east. The original construction of Building 1 removed topsoil and limestone bedrock from the footprint of the building and the parking lot to the east of the building. The soils from this area were then placed on the wetlands area east of the structure, filling in the wetlands and providing a slope to drain away surface and ground water in an easterly direction. This area is comprised primarily of fill deposits overlying (now filled) wetlands. The fill was designed to create a continuous sloping terrain to carry ground water and surface water away from the BOM parcel and move it towards the river. No cultural resources contributing to the significance of the NHL were documented in this zone. This zone does not appear to warrant inclusion in the NHL or NR and no further archaeological investigations appear warranted.

Zone IV

Zone IV, outlined in yellow in Figure 55, is an area in which natural soils have been removed or in which major structural features were constructed as part of BOM development. Archaeological research clearly indicates that this zone contains no in situ cultural strata nor any material culture that is considered contributing to the significance of the NHL or NR District.

Zone V

Zone V east of the marked zone boundaries in Figure 55 contains evidence of the late-19th-century military railroad grade that was cut into and laid on the exposed upper surface of the Platteville limestone formation. Except for the military railroad spur grade, visible most clearly in the northeast corner of the property, this zone contains standing water trapped in lower elevations dammed by fill, earth moving, and the damming effect of another old railroad grade east of the property. The military railroad grade is considered a contributing element to the NHL. The remainder of this zone has yielded neither archaeological features nor strata contributing to the NHL or NR. No further testing appears warranted in Zone V.

The intact strata and material culture in Zone II are buried below the surface and general maintenance and continuing normal use activities will not adversely affect those resources.

The NHL's existing western boundary through the BOM tract was initially drawn along topographic contours without knowledge of the archaeological resources in the area. Based on the findings of this research project, it is recommended that the Fort Snelling NHL boundaries be modified and moved to the west to include those areas delineated as Zone II. This zone clearly exhibits cultural strata and material remains in undisturbed contexts that contribute to the significance of the Fort Snelling NHL and NR District as defined for the last three quarters of the 19th century and the first half of the 20th century (Figure 56).

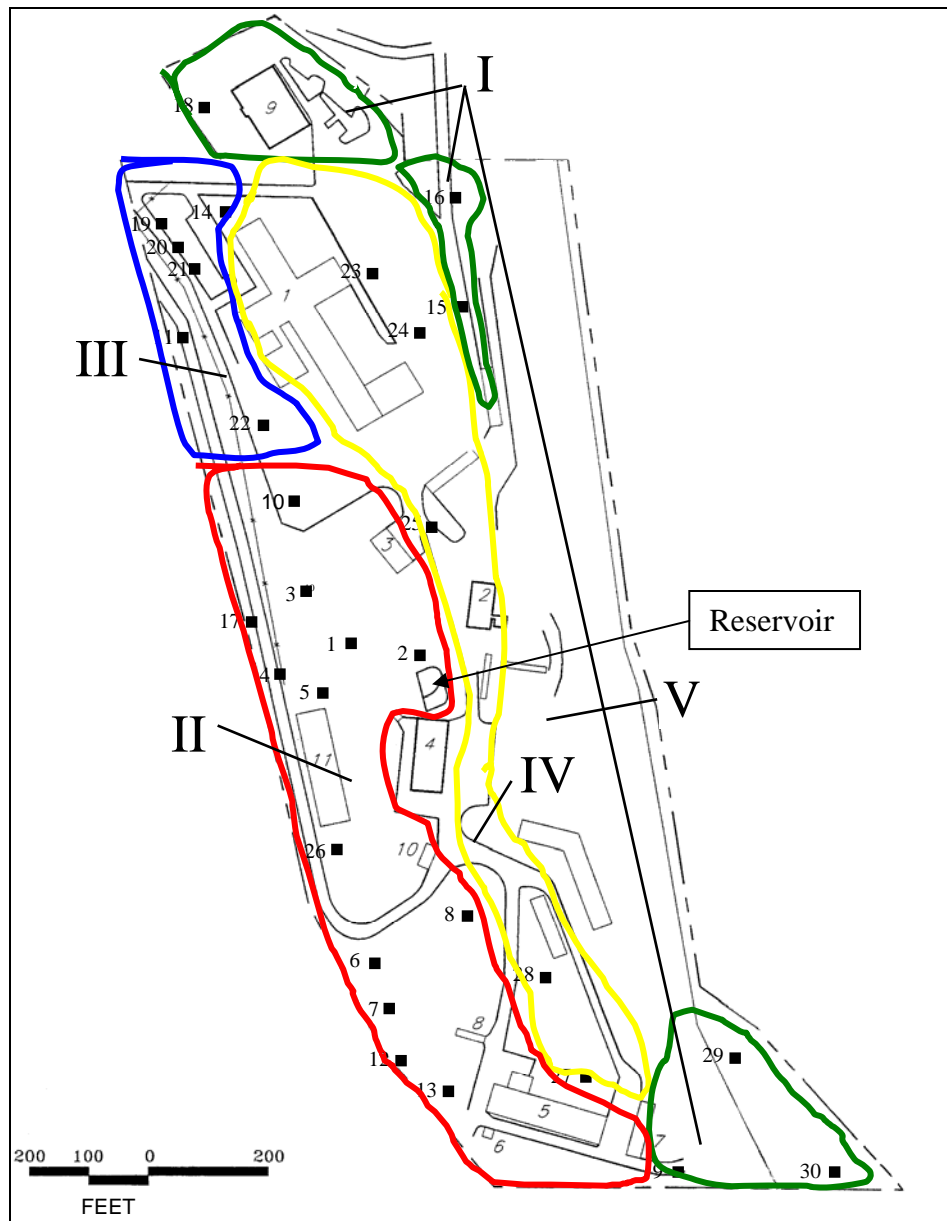


Figure 55 Recommendations for management areas on the BOM tract. Zone I -- green outlines contain intact natural soils nor shows evidence of disturbance, but produced no material culture. Zone II -- red outline contains undisturbed natural soils with in situ material culture relating to the period of significance of the NHL. Zone III -- blue outlines areas with waterlogged and gleyed soil. Zone IV -- yellow lines bound an area with no apparent remaining soils containing in situ material culture or heavily disturbed/destroyed area from the construction of the BOM facility. This area has some exposed bedrock at the surface. Zone V, east of the marked zone boundaries of Zones I and IV, contains evidence of the late-19th-century military railroad grade that was cut into and laid on the exposed upper surface of the Platteville limestone formation. This zone also has exposed bedrock at the surface and contains standing water trapped in lower elevations dammed by fill and the old railroad grade east of the property. Boundaries are approximate.

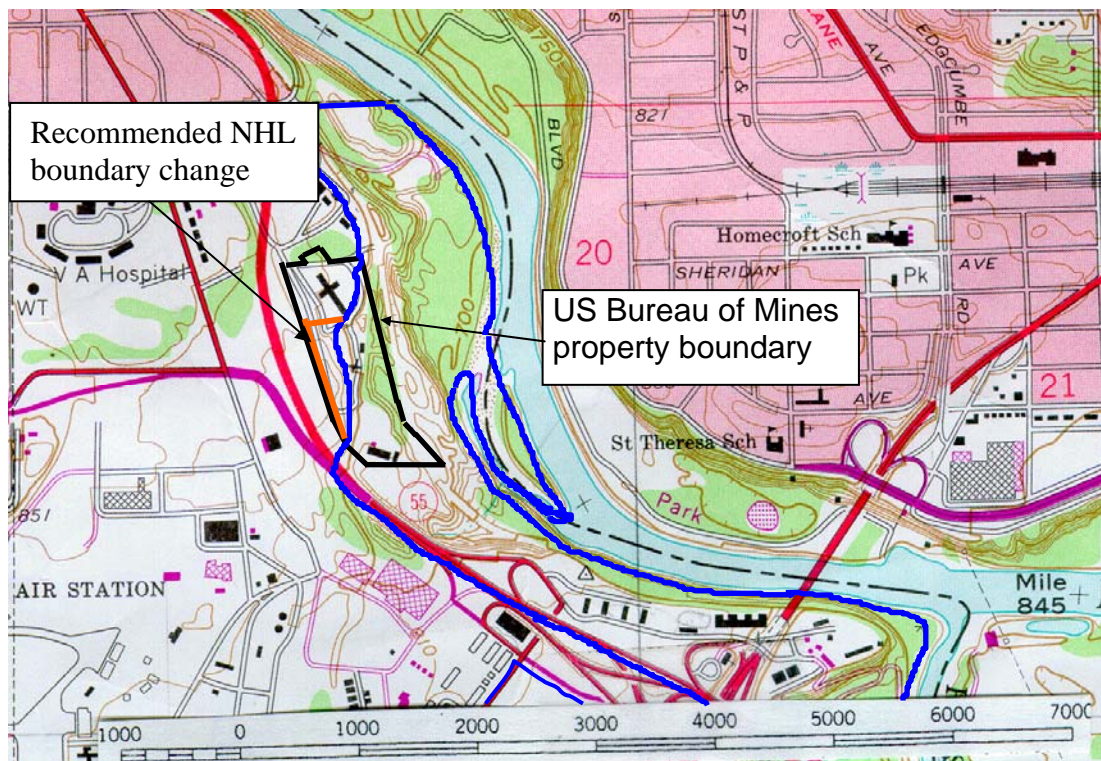


Figure 56 Fort Snelling National Historic Landmark boundary (blue line) and recommended boundary change (orange line).

REFERENCES

Athearn, Robert G.

- 1956 *William Tecumseh Sherman and the settlement of the West*. University of Oklahoma Press, Norman.

Austin, George S.

- 1972 Paleozoic lithostratigraphy of southeastern Minnesota. In *Geology of Minnesota: A Centennial Volume*, edited by P.K. Sims and G.B. Morey, pp. 459-473. Minnesota Geological Survey, St. Paul.

Bain, H.F.

- 1905 *Zinc and lead deposits of northwestern Illinois*. United States Geological Survey Bulletin No. 246. United States Geological Survey, Washington, D.C.

Balaban, N.H. and Howard C. Hobbs (editors)

- 1990 *Geologic Atlas of Dakota County*. Geologic Atlas Series, Minnesota Geological Survey, University of Minnesota, St. Paul.

Barker, Philip

- 1983 *Techniques of Archaeological Excavation*. Universe Books, New York.

Becker, Dale F.

- 1983 Fort Snelling, 1838-1945. Unpublished BA thesis, University of Minnesota, Minneapolis.

Berger, Lewis and Associates

- 2000 Proposed work plan for archaeological monitoring of T.H. 55 construction between East 54th Street and C.S.A.H. 62, Hennepin County, Mn. Report prepared by Lewis Berger and Associates, Inc. Marion, IA.

Billings, John S.

- 1870 A report on barracks and hospitals: with descriptions of military posts. War Department, Surgeon-General's Office, Circular No. 4. Government Printing Office, Washington.
- 1875 A report on the hygiene of the United States Army: with descriptions of military posts. . War Department, Surgeon-General's Office, Circular No. 8. Government Printing Office, Washington.

Bloomgren, Bruce A., Jane M. Cleland and Bruce M. Olsen

- 1989 Depth to Bedrock and Bedrock Topography. County Atlas Series, Atlas C-4, Plate 4. In *Geological Atlas of Hennepin County, Minnesota*. . University of Minnesota, Minnesota Geological Survey.

Buckley, Walter

- 1967 *Sociology and Modern Systems Theory*. Prentice-Hall Inc., Englewood Cliffs, NJ.

Callendar, John

- 1959 *New Light on Old Fort Snelling*. Minnesota Historical Society, St. Paul.

Clary, David A.

- 1983 A Life Which is Gregarious in the Extreme: A 1983 History of Furniture in Barracks, Hospitals, and Guardhouses of the United States Army, 1880-1945. Report prepared for the National Park Service, Harpers Ferry Center, Harpers Ferry, WV. David Clary and Associates, Bloomington, IN.

Clouse, Robert A.

- 1982 The Archaeology of Historic Fort Snelling. Ms. on file, Archaeology Department, Minnesota Historical Society.
- 1996 Fort Snelling, Minnesota: Intrasite variability at a nineteenth century military post.
- Unpublished Ph.D. dissertation, University of Illinois. Available from University Microfilms.
- 2000 Interpreting archaeological data through correspondence analysis. *Historical Archaeology* 33(2): 90-107.
- n.d. The Camp Coldwater Locality: A Survey of Archaeological Resources on Lands Managed by the Minnesota Historical Society. (In preparation)

Clouse, Robert A. and Elizabeth Knudson Steiner

- 1996a Stratigraphic excavation methods in historical archaeology. Proceedings of the Second Historical Archaeology Conference of the Upper Midwest, Red Wing. (In Press)
- 1996b Stratigraphic methods in archaeological excavation. Paper presented at the annual meeting of the Society for American Archaeology, New Orleans.
- 1998 *All That Remains: A study of historic structures at Fort Snelling, Minnesota..* Occasional Publications in Heritage Resource Management No. 10, Archaeology Department, Minnesota Historical Society.

Conn, Shelton

- 1969 *United States Army in World War II, The Western Hemisphere: Guarding the United States and its outposts*. Department of the Army, Washington DC.

Coues, Elliot

- 1965 [1895] *The Expeditions of Zebulon Montgomery Pike. Volume II*. Ross and Haines, Inc., Minneapolis.

Deetz, James

- 1977 *In Small Things Forgotten*. Anchor Press, Garden City, New York.
- 1988 Material culture and worldview in colonial Anglo-America. In *The Recovery of Meaning*, edited by M.P. Leone and P.B. Potter, Jr., pp. 219-234. Smithsonian Institution Press, Washington, D.C.

Dupuy, Richard Ernest

- 1961 *The Compact History of the United State Army*. Hawthorn Books, New York.

Featherstonaugh, George W.

1970 [1847] *A canoe voyage up the Minnaw Sator*. Minnesota Historical Society Press, St. Paul.

Forsyth, Thomas Maj.

1872 Fort Snelling: Col. Leavenworth's expedition to establish it in 1819. *MHS Collections*, Vol. III, 1870-1880. Minnesota Historical Society, St. Paul.

Folwell, William Watts

1956 *A History of Minnesota* (4 Volumes). The Minnesota Historical Society, St. Paul

Foner, Jack D.

1971 *The United States Soldier between the wars: Army life and reform, 1865-1898*. Humanities Press, New York.

Fridley, Russell

1956 Fort Snelling: From military post to historic site. *Minnesota History*, 35(4):178-192.

Ganoe, William A.

1943 *The history of the United States Army*. D. Appleton-Century, Inc. New York.

Gleason, Levi

1992 [1909] The experiences and observations of a drafted man in the Civil War. *Glimpses of the Nation's Struggle*, pp. 545-556. Broadfoot Publishing Co., Wilmington, N.C.

Grossman, John

1977 Army life in the early 19th century. Ms. on file, Historic Fort Snelling, Minnesota Historical Society.

Gunn, George Henry

1939 Peter Garrioch at St. Peters, 1837. *Minnesota History* 20:119-128.

Halvorson, Holly P., Scott O'Mack and Bruce R. Penner

1999 A cultural Resource assessment of the proposed reroute for Trunk Highway 55, 54th street to County Road 62, Hennepin County, Minnesota. Report prepared by BRW, Inc. Minneapolis, Mn.

Hansen, Marcus

1958 [1918] *Old Fort Snelling*. Ross and Haines, Inc., Minneapolis.

Harris, Edward

1989 *Principles of Archaeological Stratigraphy*. Second Edition, Academic Press Inc., San Diego.

- Harris, Edward, Marley R. Brown III, and Gregory Brown (editors)
1993 *Practices of Archaeological Stratigraphy*. Academic Press Inc., San Diego.
- Hester, Thomas R. Harry J. Shafer, Kenneth L. Feder
1997 *Field Methods in Archaeology*. Mayfield Publishing Company, Mountain View, Ca.
- Hoeffler, Adolph
1853 Sketches on the upper Mississippi. *Harpers New Monthly Magazine*, Vol, III, July 1853. Harper and Brothers, New York.
- Holcombe, Return Ira
1908 *Minnesota in Three Centuries* (4 Volumes). The Publishing Society of Minnesota, New York.
- Holt, John R. Maj.
1938 *Historic Fort Snelling*. Major J.R. Holt Publisher, St. Paul.
- House of Representatives
1868 *Sale of Fort Snelling Reservation*. Letter from the Secretary of War transmitting papers relative to the sale of the Fort Snelling reservation. Executive Document No. 9, 40th Congress, 3rd Session.
- Hundley, Steven J.
1976 Soils inventory of Fort Snelling State Park. Soil Conservation Service, Farmington, Mn.
- Johnson, Loren
1970 Reconstructing old Fort Snelling. *Minnesota History*, 42(3):82-98.
- Jones, Evan
1966 *Citadel in the Wilderness: The story of Ft. Snelling and the Northwest Frontier*. Cowood-McCann, Inc., New York.
- Joukowsky, Martha
1980 *A Complete Manual of Field Archaeology*. Prentice-Hall, Inc. Englewood Cliffs, NJ.
- Kane, Lucille, J. Holmquist and C. Gilman
1978 *The Northern Expeditions of Stephen H. Long: The Journals of 1817 and 1823 and related documents*. Minnesota Historical Society Press, St. Paul.
- Kottak, Conrad
1974 *Anthropology: The Exploration of Human Diversity*. Random House, Inc. New York.

Lofstrom, Edward U.

- 1976 Analysis of temporal change in a nineteenth century ceramic assemblage from Fort Snelling, Minnesota. *Minnesota Archaeologist*, 35(1):16-47.

Lofstrom, Edward U., Jeffrey P. Tordoff, and Douglas George

- 1982 A seriation of historic earthenwares in the Midwest. *Minnesota Archaeologist*, 41(1): 3-29.

Long, Stephen H., Maj.

- 1860 Voyage in a six-oared skiff to the Falls of Saint Anthony in 1817. *Collections of the MHS*, 2:7-88. Minnesota Historical Society, St. Paul.

Longacre, William A.

- 1972 Current thinking in American archaeology. In *Current Directions in Anthropology*, edited by A. Fisher, pp. 126-138. Bulletin of the American Anthropological Association 3(2).

Lueth, Robert A.

- 1973 *Soil Survey of Hennepin County, Minnesota*. United States Department of Agriculture, Soil Conservation Service. US Government Printing Office, Washington, DC.

Majewski, Teresita and Michael J. O'Brien

- 1987 The use and misuse of nineteenth-century English and American ceramics in archaeological analysis. In *Advances in Archaeological Method and Theory, Volume 11*, edited by M.B. Schiffer, pp. 97-209. Academic Press, Inc., New York.

Meyer, Gary N. and Howard C. Hobbs

- 1989 Surficial Geology. County Atlas Series, Atlas C-4, Plate 3. In *Geological Atlas of Hennepin County, Minnesota*. Minnesota Geological Survey, University of Minnesota.

Mossler, John

- 1972 Paleozoic structure and stratigraphy of the Twin City region. In *Geology of Minnesota: A Centennial Volume*, edited by P.K. Sims and G.B. Morey, pp. 485-497. Minnesota Geological Survey, St. Paul.

Millis, Walter

- 1956 *Arms and men; a study of American military history*. Putnam, New York.

Nass, John P. Jr.

- 1981 Refuse disposal and military behavior at Fort Meigs, a War of 1812 military site in northern Ohio: An intrasite analysis. *North American Archaeologist*, 2(3):239-250.

Neill, Edward. D.

- 1889 Occurrences in and around Fort Snelling, from 1819 to 1840. *Collections of the Minnesota Historical Society* I:102-142.

Nelson, Lee H.

- 1968 *Nail chronology as an aid to dating old buildings*. American Association for State and Local History, Technical Leaflet 48.

Newlands, David L. and Claus Breede

- 1975 *An Introduction to Canadian Archaeology*. McGraw-Hill Ryerson Limited, Toronto.

Ollendorf, Amy L.

- 1996 Cultural Resource Management Investigation: Closure of the Twin Cities Research Center U.S. Bureau of Mines, Hennepin County, Minnesota, Phase II Evaluation. Report prepared by Braun Intertec Corporation.

Orser, Charles E., Jr.

- 1988 *The Material Basis of the Postbellum Tenent Plantation: Historical Archaeology in the South Carolina Piedmont*. University of Georgia Press, Athens.

Preiss, Peter J.

- 1973 Wire nails in North America. *Association for Preservation Technology Journal*. Vol. 5, No 4: 87-92.

Prucha, Francis Paul

- 1947 The army post on the Minnesota frontier 1819-1882. Unpublished MA thesis. University of Minnesota, Minneapolis.
1953 *Broadax and Bayonet*. State Historical Society of Wisconsin, Madison.
1969 *The Sword of the Republic*. The Macmillan Company, Toronto.

Rhodes, James B.

- 1956 The Fort Snelling area in 1835. *Minnesota History*, 35(4):22-29.

Robinson, Willard B.

- 1977 *American Forts: Architectural Form and Function*. University of Illinois Press, Urbana.

Schiffer, Michael B.

- 1974 Archaeological context and systemic context. *American Antiquity*, 37:156-165.
1975 Archaeology as behavioral science. *American Anthropologist*, 77:836-848
1987 *Formation Processes of the Archaeological Record*. University of New Mexico Press, Albuquerque.

Schoolcraft, Henry

1966 [1821] *Travels through the Northwestern Regions of the United States*. Readex Microprint Corporation.

Scofield, John (editor)

1980 *Archaeological Site Manual: Part 1--The Written Record*. The Museum of London: Department of Urban Archaeology, Publication 2. London.

Sexton, Mike

n.d. A study of Selkirk colony refugees at Camp Coldwater. Unpublished ms. on file at the Minnesota Historical Society, Fort Snelling History Center.

Stein, Julie K. and William R. Farrand (editors)

1985 *Archaeological Sediments in Context*. Peopling of the Americas Edited Volume Series No. 1. Center for the Studies of Early Man, Institute for Quaternary Studies, University of Maine, Orono.

Surgeon General's Office

1870 *Circular No. 4*, Surgeon General's Office. U.S. Army, Washington, D.C.

Szondy, David and Robert A. Clouse

1990 Archaeology along the West River Parkway—1989, Minneapolis, Minnesota. Prepared for the Minneapolis Park Board. Report on file in the Archaeology Department, Minnesota Historical Society.

Tordoff, Jeffrey P.

1979 Some observations on the quantitative relationship between Stanley South's artifact patterns and "primary de facto" refuse. *Historical Archaeology*, 13:38-47.

U.S. War Department

1825 *General Regulations for the Army; or, Military Institutes*. Davis and Force, Washington D.C.

Weigley, Russell

1967 *History of the United States Army*. New York.

1975 *The American way of war; A history of United States military strategy and policy*. Macmillan, New York.

White, Bruce

2000 Highway 55 and the Camp Coldwater Settlement: An Independent Study. Turnstone Historical Research.

White, Helen and Bruce White

- 2000 Fort Snelling in 1838: An Ethnographic and Historical Study. Prepared for the Minnesota Historical Society. Unpublished ms. on file at Historic Fort Snelling.

Wright, Herbert E. Jr.

- 1972 Quaternary History of Minnesota. In. P.K. Sims and G.B. Morey (eds) *Geology of Minnesota: A Centennial Volume*. Minnesota Geological Survey, University of Minnesota.

Ziebarth, Marilyn and Alan Ominsky

- 1970 *Anchor Post of the Northwest*. Minnesota Historical Society Press, St. Paul.