



APPENDIX C: HISTORIC PRESERVATION REPORTS

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3. Front Royal Site Cultural Resource Assessment

Appendix C:

Historic Preservation Reports

Front Royal Site Cultural Resource Assessment

**NATIONAL ZOOLOGICAL PARK COMPREHENSIVE FACILITIES
MASTER PLAN
FRONT ROYAL CAMPUS, WARREN COUNTY, VIRGINIA
CULTURAL RESOURCES ASSESSMENT**

20 September 2007

**NATIONAL ZOOLOGICAL PARK COMPREHENSIVE FACILITIES
MASTER PLAN
FRONT ROYAL CAMPUS, WARREN COUNTY, VIRGINIA
CULTURAL RESOURCES ASSESSMENT**

prepared for

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EXECUTIVE SUMMARY

This cultural resources assessment is designed to provide the National Zoological Park's master planning team with an inventory of architectural and landscape resources and identification of locations likely to include archeological resources at the Front Royal campus of the National Zoological Park. The Front Royal campus, which houses the functions of the Conservation and Research Center, includes approximately 1,296 hectares (3,200 acres) of pasture, timber, animal enclosures, and a densely developed core of early twentieth-century buildings in Warren County, Virginia. The campus is approximately 3.2 k (2 miles) southeast of Front Royal along both sides of State Route (SR) 522 (Remount Road). It is characterized by rolling terrain typical of the lower side slopes of the Blue Ridge Mountains. The central core of the campus was constructed by the U.S. Army from 1911 through 1916 as the Front Royal Remount Quartermaster Depot.

The assessment will assist the Smithsonian Institution's National Zoological Park in complying with Smithsonian Directive 418 (18 April 2005), which outlines the institution's policy of following the principles of the National Historic Preservation Act of 1966, as amended. The findings in this document provide data necessary to evaluate the significance of the cultural resources at the Front Royal campus that meet the National Register criteria for eligibility.

The Front Royal campus's land-use history includes occupation by Native Americans, who established camps and exploited and processed natural resources. Evidence of these uses may survive as archeological sites. Sites from the Paleo-Indian and Early Archaic periods are usually found associated with higher order streams, stream junctions, springs, ridge tops, and on Pleistocene terraces. Five site types have been identified: quarry, lithic reduction station, base camp, maintenance site, and hunting camp. During the Early Archaic period, the environment and food resources, as well as the settlement pattern, changed. High-quality lithic materials were replaced by a variety of locally available materials, such as quartzite and rhyolite.

Middle and Late Archaic settlement patterns were more diversified than those of earlier periods. Base camps, which served as bases for local and nearby resource exploitation, were located near springs. Large multi-purpose sites in the Shenandoah Valley can be found along the riverine floodplain, in foothills at the base of mountains, and in the mountains. Smaller transient hunting camps were located on flood plains and terraces. Three such sites are located along Happy Creek west and south of the Front Royal campus. Native Americans sought areas with good lithic resources; thus, quarry sites are found in mountainous areas and in areas having many rock outcrops.

The Woodland period is not well represented in the Front Royal vicinity. Adaptive strategies that relied on horticulture, characteristic of the Woodland period, were not as common in mountainous areas as in other regions. During the Woodland period, people were more sedentary, and base camps were located on floodplains of rivers and larger streams where the soil was rich and easily tilled. Archeological sites of the Woodland period include a cluster of several houses, hearths of various sizes, pottery, and storage pits. Storage pits demonstrate a greater degree of residential permanence than seen in earlier periods. The uplands and other areas were used to obtain wild resources.

Settlement patterns changed during the Middle Woodland. Occupation sites shifted to the inner part of the floodplains, on the poorly drained, backwater floodplain areas, where Native

Americans gathered plants. The Late Woodland period is when dependence on the production of corn, beans, and squash developed. Occupation sites changed from the inner floodplain back to the natural levees adjacent to the river where Early Woodland populations had dwelt. The soil was rich and easily tilled in these areas, but the crop yield was low and a large percentage of the food resources were obtained from hunting, fishing, and gathering.

Native American archeological sites are generally found near water sources (such as springs, rivers, and streams), especially at stream junctions and on flood plains, terraces, and ridge tops. Rock outcrops often yield evidence of resource extraction and processing. A number of these types of areas exist on the Front Royal campus, and some are likely to include prehistoric archeological sites.

The land purchased by the army in 1911 for the remount depot had been part of two large tracts, Leeds Manor and Gooney Manor, owned by Lord Fairfax in the eighteenth century. Chief Justice John Marshall and his brother, James Markham Marshall, purchased most of these tracts in 1797. In 1848, the land of Leeds Manor was divided between James Markham Marshall and the heirs of Judge John Marshall. During the nineteenth century, the land was divided and sold as smaller parcels, each of which probably had a farmhouse, outbuildings, and a barn. Physical remains of these farmhouses and associated buildings may survive as archeological sites.

During the Civil War, no battles were fought on land that is now the Front Royal Campus, but troops may have moved through the area. The Chester Gap Road (now SR 522) was a major north-south route for moving men and supplies through Warren County. The nearest battle took place in Front Royal on 23 May 1862, when Stonewall Jackson and other Confederate troops took the town from Union forces. Various stories of that battle mention troop movements and placements that indicate that troops may have moved through the Front Royal campus. Diaries of the time state that troops entered Front Royal from South Royal Avenue; others came down Chester Gap Road (SR 522) and from the Luray Turnpike.

Mosby's Rangers were active in the area; the Mosby-Sheridan feud started in Front Royal after the death of one of Sheridan's officers. Sheridan had some of Mosby's men executed, and in revenge Mosby's Rangers caught some of Sheridan's men on the Valley Turnpike (SR 522). Later in the war, General Lee and his troops used the road marching to and from Gettysburg.

The war had destroyed houses and barns, fences, and mills all over Warren County, but within a decade the farms had recovered. Farmers in the area gathered chestnut-oak bark and sumac for use in tanning and dyeing. The newly built sawmills produced lumber harvested from the Warren County forests. Mills were an important industry in the nineteenth century for grinding grain, sawing lumber, and producing plaster. There are a number of streams that run through the area encompassed by the Front Royal campus, and there were probably mills located on some of them. One of the archeological sites near the Front Royal campus was a nineteenth-century mill with a historic dwelling nearby. When the remount depot began construction of its buildings and structures, the army may have operated a sawmill to produce the needed lumber.

Mining was a viable industry in the area from the mid-nineteenth century through the first quarter of the twentieth, and there is old copper mine near the northeast corner of the Front Royal campus. This was the Sealoach Copper Mine, which shipped 35 tons of ore averaging ten percent copper as early as 1861.

During the early twentieth century the private horse market declined due to the increased popularity of the automobile, and the army sought a way to ensure an ample supply of quality horses for their cavalry units. The solution to this problem was to establish the Remount Service within the Quartermaster Corps. In 1911, Front Royal, Virginia, was chosen as the site of a remount depot, owing to its proximity to the horse-raising areas of Virginia and its easy access to rail transportation.

Purchase of land for the remount depot at Front Royal began in 1911 and was completed in 1915. A total of 2,077.26 hectares (5,132.84 acres) were purchased in tracts ranging from 0.08 hectares (0.20 acres) to 270.74 hectares (669 acres) in size. Soon after purchasing the property, construction began on permanent buildings to serve the remount depot. Most of the depot buildings were grouped together to form a central post, while eleven barn complexes were built in outlying pastures. The building types constructed at this time included a veterinary hospital, a dispensary, a granary, hay sheds, a fire station, stables, an animal dip (now demolished), and both a gravity-fed water system and a sewage disposal plant for the depot. Personnel quarters were also constructed, ranging from barracks to officers quarters of various sizes.

In 1920, the Front Royal Quartermaster Remount Depot added the U.S. Army Horse Breeding Plan to its mission. The breeding plan began with 159 stallions and by 1928 was breeding 18,000 mares a year. With the increased popularity of the breeding plan and the Front Royal Quartermaster Remount Depot's role in the program, additional stables were constructed at the depot in the mid-1930s through early 1940s.

On 13 June 1939, approximately 395.4 hectares (977 acres) of the western portion of the Front Royal Quartermaster Remount Depot were transferred to the National Park Service to become part of the Shenandoah National Park (Construction Service 1939).

The Front Royal Quartermaster Remount Depot was active in preparations for World War II. Beginning in August 1942, the first War Dog Reception and Training Center in the United States was established at the remount depot. The K-9 facilities at Front Royal were located on a hilltop north of the Central Post.

From May 1945 until the spring of 1946, the Front Royal Remount Depot also served as a prisoner of war camp for German and Italian prisoners of war. Approximately 600 prisoners were held at the Front Royal facility. Most prisoners worked as temporary laborers on nearby farms and orchards. Prisoners also worked on the remount depot itself. The prisoner of war camp included barracks, day rooms, class rooms, a library, a barbershop, and a mess hall. This complex was located on a hilltop above the Central Post and the buildings were destroyed once the prisoners had left.

In 1945, the Front Royal Quartermaster Remount Depot was renamed the Aleshire Remount Depot to honor Maj. Gen. James B. Aleshire, Quartermaster General from 1909 to 1916. As part of the war recovery effort, this remount depot was a United Nations Relief and Rehabilitation Administration shipment coordinator. On 1 July 1948, oversight of the Army Remount Depots, their livestock, and staff were transferred to the United States Department of Agriculture (USDA) to improve the breeding of horses. Instead of continuing to use the former remount depot for horses, the USDA conducted research on beef cattle breeding and meat production.

The USDA does not appear to have constructed many buildings during its tenure at the Front Royal campus, but re-used existing buildings. The USDA discontinued its use of the Front Royal

Beef Cattle Research Station on 30 June 1973. In January 1974, the National Zoological Park was granted a temporary use permit for the facility. Permanent use of this facility was given to the National Zoological Park on 22 June 1975. As part of the transfer of the property from the USDA, several outlying parcels were allotted to different parties, including the Northern Virginia 4-H Clubs, the U.S. Customs Service, the National Park Service, the Warren County School Board, and the Appalachian Trail, leaving the National Zoological Park with 1266.31 hectares (3129 acres) of land for its Front Royal facility.

The National Zoological Park and the Conservation and Research Center have largely retained the pasture and field boundaries as they were in the remount and USDA periods. They have also retained many of the historic buildings found throughout the property. To support the mission of the Conservation and Research Center, the Front Royal campus has built several new buildings on the Central Post, including the Small Animal Facility and several storage buildings. New animal complexes have been built in various areas of the facility, including the Juvenile Bird Yards, and the Hardy Crane Yards on the Central Post, and the Rivinus Barn and associated shelters in the Bear Pond area.

The National Zoological Park also undertook several landscape improvements after their acquisition of the Front Royal campus. These include the 1978-1980 construction of new fencing along the property boundary, planting 20,000 loblolly and white pine seedlings along Route 522, and planting 250 trees and shrubs, including junipers, yews, walnuts, cherries, crabapples, in the Central Core. Plantings were also added to new animal yards, including mulberries in the bird yards and olive and pine trees around the wolf yards. More recently, roads in the Central Post were repaved and a curb and gutter groundwater system installed.

The National Zoological Park's Front Royal campus appears to meet the criteria for eligibility to the National Register of Historic Places as a regionally significant historic district. The property warrants evaluation under Criterion A in the areas of military history, for its association with the history of the U.S. Army's Remount Service, and under Criterion C in the area of architecture, for the design of the facility and its buildings. The Front Royal Quartermaster Remount Depot was the only one of the four permanent remount depots to have been built specifically for the purpose of a remount depot. The National Zoological Park's Front Royal campus, as defined by its present boundary, comprises the historic district.

The architectural, landscape, and archeological resources associated with the Leach farm are not character-defining elements of the Front Royal Quartermaster Remount Depot historic district, as this land was not part of the remount depot during its period of significance. The Leach farm resources may be eligible as a contributing resource to an individually eligible nineteenth-century farmstead or to a larger rural historic district extending beyond the boundaries of the Front Royal campus. Other historic archeological resources that pre-date the remount depot and prehistoric resources may be individually eligible for the National Register if they retain integrity and have the potential to contribute important information on the past.

The cultural resources assessment includes a text that summarizes the results of the resource inventory and evaluation of architecture and landscape resources and identifies locations that are likely to yield preserved archeological remains. Based on the team's analysis of the documentary research and fieldwork, the team has prepared an inventory of resources, a map showing resource locations, and index table of resources, and the discussion of the history and importance of these cultural resources.

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1.0 INTRODUCTION

1.1 PURPOSE AND GOALS OF THE CULTURAL RESOURCES ASSESSMENT

This cultural resources assessment is designed to provide the master plan team with an inventory and appraisal of architectural and landscape resources and identification of locations likely to include archeological resources at the Front Royal campus of the National Zoological Park. The Front Royal campus includes approximately 1,296 hectares (3,500 acres) of pasture, timber, animal enclosures, and a densely developed core of early twentieth-century buildings in Warren County, Virginia. The facility houses functions of the zoo's Conservation and Research Center (CRC).

The information in this assessment will assist the Smithsonian Institution's National Zoological Park in complying with Smithsonian Directive 418 (18 April 2005), which outlines the institution's policy of following the principles of the National Historic Preservation Act of 1966, as amended. The findings in this document provide data necessary to evaluate the significance of the cultural resources at the Front Royal campus that meet the National Register criteria for eligibility.

The cultural resources team reviewed documents and maps for the Front Royal campus and conducted reconnaissance survey of the campus. Based on the team's analysis of the documentary research and fieldwork, the team has prepared an inventory of resources, a map showing resource locations, and index table of resources, and the following discussion of the history and importance of the cultural resources.

The central core of the campus was constructed by the U.S. Army from 1911 through 1916 as the Front Royal Remount Quartermaster Depot. This facility played a central role in the army's development of the remount program in the eastern United States, preparing horses, mules, and dogs for use in World Wars I and II. The facility also played an important role in improving horse breeding in the eastern United States by providing stallions to horse farms in the region for stud purposes.

The cohesive architectural design of the core complex, including the cream walls and red-tile and standing-seam metal roofs, conveys the distinctive identity of the site. The surrounding landscape of rolling topography supported the army's activities by providing pasture and feed for the animals trained and housed there. The site is also notable for its many examples of cultural adaptations to environmental conditions. Physical connections between cultural features and uses and the natural resources include the siting of built features to fit with the site's undulating topography, consideration of views, the engineering of a sensitive system to adapt water resources to cultural needs, consideration of underlying soils conditions in establishing and managing vegetation communities, and land uses.

The Front Royal campus is well suited to use as a research facility for the zoo. The rich history of the site and the high potential for adaptive reuse of the existing landscape and built environment offer great opportunities for the master planning process. The campus also lends itself well to enhanced public access and visitor education and interpretation programming. Continued adaptive reuse of existing buildings and structures, road systems, field patterns, and water resources for use by the Smithsonian Institution is appropriate and consistent with recognition of the site's historical importance.

1.2 ROLE OF THE CULTURAL RESOURCE ASSESSMENT IN THE MASTER PLAN

The cultural resources assessment provides detailed information on the campus and the importance of its historic resources, including an inventory of existing buildings and features; identification of missing buildings and features; and major changes that have affected the landscape and built environment. Identification of all types of existing cultural resources and assessment of their historic role in the development of the complex is essential so that these resources can be considered in the planning process. The cultural resources assessment includes this text, supplemented by campus maps showing resource locations, an inventory composed of inventory records (each with a photograph and a description), and an index of inventoried resources.

Existing conditions base mapping for this project has been developed using electronic files provided by Ayers Saint Gross (ASG) Architects. The team updated the files using information gathered during field investigations in October and November 2005 and revised the drawings to include feature labels that are consistent with the information presented in the cultural resources assessment.

The individual resource descriptions are organized by area within the campus. The six areas include groups of related cultural features: Central Post, Race Track and Slate Hills, Green and Meade Barns, Bear Pond, Leach Farm/Posey Hollow, and South Pastures.

1.3 DESCRIPTION OF THE FRONT ROYAL CAMPUS

The Front Royal campus of the National Zoological Park, including the Conservation and Research Center, is located in Warren County, Virginia, approximately 3.2 k (2 miles) southeast of Front Royal along both sides of State Route (SR) 522 (also known as Remount Road). It is characterized by rolling terrain typical of the lower side slopes of the Blue Ridge Mountains. The area has been utilized primarily for agricultural activities and pursuits by occupants since the early nineteenth century. Soils associated with the property range from gently sloping, well-drained soils that are suitable for crop and hay production, to steeply sloping stony soils that are best suited to woodland. Soil suitability and capability are an important consideration for new uses and development on the site.

The built core, known as the Central Post, is sited just north of SR 522. Other smaller groupings of buildings and structures occur on the property. A small farmstead cluster with numerous outbuildings edges SR 522 across the road from the Central Post. There is also a small grouping of features to the north of the post, which includes water towers and an archives building. To the west of the post there is a small group of buildings along SR 522 off of Slate Hill Drive. A cluster of barns and other outbuildings edge Rivinus Road to the east of the Central Post. The former Leach property includes a farmstead cluster of nineteenth-century buildings and outbuildings to the northeast of the Central Post.

Currently a mix of open grassland and successional deciduous hardwood woodland, the site has a remarkable pastoral beauty. The natural setting also includes springs, seeps, and geologic formations, such as rock outcrops. Longer views of surrounding mountains and hills are afforded from high points around the site. Elevations associated with the property range from a high point of approximately 616 m (2,020 ft) above mean sea level (MSL) along the side slopes of High Knob at the site's eastern boundary, to 219 m (720 ft) MSL along SR 522 at the western edge of

the property near Happy Creek. The Central Post is sited on a knoll near the highway, with elevations ranging from 262 to 305 m (860 to 1000 ft) MSL.

Nestled within surrounding hillsides, the Central Post includes a dense cluster of buildings, structures, work areas, plantings, and site furnishing connected by a paved road network. Most of the buildings and structures, and the road network that connects them, survive from the site's early to mid-twentieth-century use as an army remount depot. The collection of buildings is architecturally cohesive, due to the predominant use of cream-colored-wall and red-roofing materials. Surrounding areas continue to serve as pasture land and crop fields where feed is grown to support the animals housed at both the Front Royal and Rock Creek campuses of the National Zoological Park. These agricultural uses perpetuate long-standing land use activities associated with the site; many of the existing field patterns, hedgerows, and access roads were established by or during the army remount depot period.

The property also includes evidence of nineteenth-century occupation and use, including copper mining. In addition to these types of historic sites, it is likely that evidence of prehistoric occupation and use is preserved in undeveloped parts of the property.

1.4 PROJECT TEAM

The John Milner Associates cultural resources team includes specialists in archeology, architectural history, and cultural landscapes. Donna J. Seifert served as project manager and supervised the work of Sarah Traum, architectural historian, and Lynn Jones, archeologist. Liz Sargent supervised the cultural landscape assessment. She was assisted by Julie Basic, Laura Knott, and Jes Koepfler. Julie Basic prepared the cultural resources maps, and Casey Gonzalez prepared the manuscript.

To document the existing landscape conditions, the team conducted field investigation, inventoried existing landscape features, and assessed the physical condition of each inventoried feature. Electronic base map files were provided by Ayers Saint Gross (ASG) Architects. The JMA team annotated hard copies of the base maps during field investigations, recording each feature's materials, condition, and relationship to its surroundings. All resources were digitally photographed.

Each landscape feature identified through field survey was assigned a landscape resource inventory number, beginning with L501. Complexes that include a building or structure (which may have an individual number) and landscape features were given a landscape inventory number, as well. These numbers identify resources in the table, on the base map, and in the inventory records.

The resources are also depicted according to the framework established in National Register Bulletin 30: *Guidelines for Documenting and Evaluating Rural Historic Landscapes*, which identifies various landscape characteristics to be used in organizing and presenting landscape conditions documentation: natural features and systems, topography, spatial organization, views and vistas, circulation, land use, vegetation, constructed water features, and small-scale features. Features located within each character area that represent a system or set of resources that express a particular use or need, such as light poles or fence posts, are represented only once in the inventory. Each other individual landscape resource has been described in the inventory in its own inventory record.

The team also assessed the physical condition of each resource, archeological, architectural, or landscape, in terms of function and amount of deterioration using categories of good, fair, poor, and unknown. A condition rating "good" indicated that there were few or no visible problems with a resource that would require immediate attention. For features rated fair, poor, or unknown, the team included notes in the individual inventory records on the problems observed that led to the rating. Integrity problems are also explained in the individual inventory records.

3.0 HISTORICAL OVERVIEW OF THE FRONT ROYAL CAMPUS

3.1 INTRODUCTION

The Smithsonian Institution acquired the site formerly occupied by the Front Royal Remount depot in 1974 and established a center for conservation research for the National Zoological Park and associated units of the Smithsonian Institution in 1975. At Front Royal, science could be conducted separately from education and recreation, which were important components of the Rock Creek campus. The center was originally staffed by a dozen employees from various zoo departments and several former remount depot employees. Today, the staff comprises 72 with roles ranging from scientists to outreach staff.

The Front Royal campus's land-use history includes farming during the eighteenth and nineteenth centuries and occupation by Native Americans, who camped and exploited and processed natural resources. Evidence of these uses may survive as archeological sites. The following discussion reviews the prehistory and history of the Front Royal campus and its vicinity.

3.2 PREHISTORIC OCCUPATION IN THE FRONT ROYAL VICINITY

Sites from the Paleo-Indian and Early Archaic periods are usually found associated with higher order streams, stream junctions, springs, ridge tops, and on Pleistocene terraces (Hulse 1993). Most of the information about Paleo-Indian sites in the eastern United States comes from the Thunderbird Site, located on the South Fork of the Shenandoah River about 9.7 k (6 miles) south of Front Royal (Gardner 1986:34). The model developed from the Thunderbird Site (called the Flint Run Paleo-Indian Complex) showed an integrated system of Native American lifeways and adaptation through time. Five site types have been identified: quarry, lithic reduction station, base camp, maintenance site, and hunting camp (Gardner 1986:37). Thunderbird Site was used by Native Americans for a period of approximately 4,000 years and was probably established at that locality to obtain jasper to make tools and projectile points (arrowheads and spear points).

During the Early Archaic period, the environment and food resources changed as springs and surface streams were disappeared, resulting in a change in settlement pattern (Gardner 1986:51). High-quality lithic materials were replaced by a variety of locally available materials, such as quartzite and rhyolite (Hulse 1993; Gardner 1989). Archeological Site 44WR258, located on the floodplain along the Shenandoah River northwest of the Front Royal Campus, was a temporary camp of the Archaic period (Figure 1) (VDHR 1980a). The artifacts recovered from this site included many rhyolite flakes, quartzite flakes, and fire-cracked rock.

Middle and Late Archaic settlement patterns were more diversified than those of earlier periods. Base camps, which served as bases for local and nearby resource exploitation, were located near springs (Gardner 1989; Hulse 1993). Large multi-purpose sites in the Shenandoah Valley can be found along the riverine floodplain, in foothills at the base of mountains, and, rarely, in the mountains (Gardner 1989). Smaller transient hunting camps were located on flood plains and terraces (Hulse 1993). Three such sites (44WR286, 44WR287, and 44WR312) are located along Happy Creek west and south of the Front Royal campus (Figure 1) (VDHR 1980b, 1980c, 1981b). Native Americans sought areas with good lithic resources; thus, quarry sites are found in mountainous areas and in areas having many rock outcrops.

The Woodland period is not well represented in the Front Royal vicinity. Adaptive strategies that relied on horticulture, characteristic of the Woodland period, were not as common in

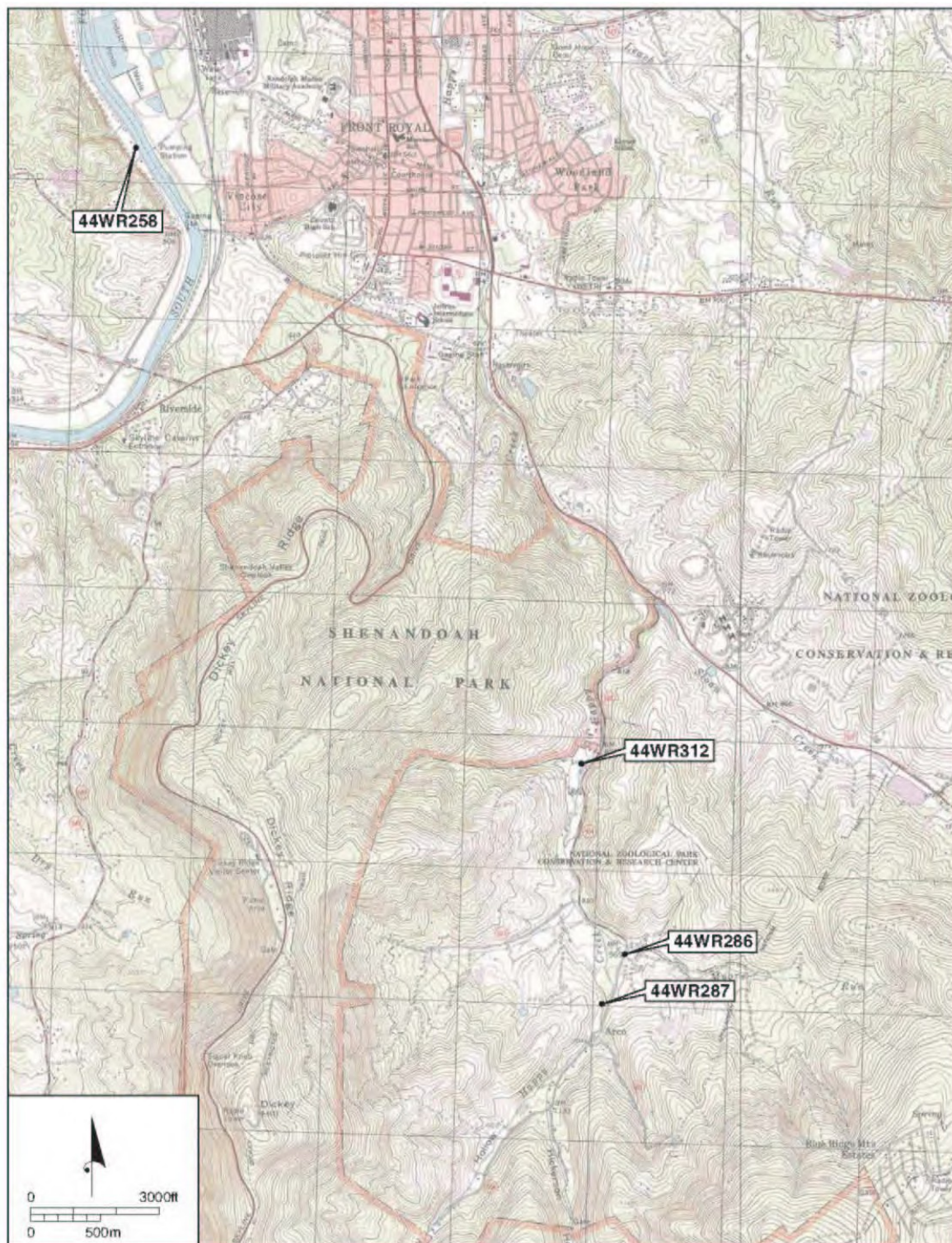


Figure 1. Prehistoric archeological site locations in the Front Royal vicinity (USGS 1986, 1987, 1994).

mountainous areas as in other regions. However, there was a gradual change toward greater reliance on horticulture and agriculture for food resources (Hulse 1993). During the Woodland period, people were more sedentary, not moving as frequently as in earlier periods. Major base camps of the Woodland period tended to be located on floodplains of rivers and larger streams where the soil was rich and easily tilled (Anderson 1996). Archeological sites of the Woodland period include a cluster of several houses, hearths of various sizes, pottery, and storage pits (Gardner 1986:68). Storage pits demonstrate a greater degree of residential permanence than seen in earlier periods. People had developed food storage technology and the ability to produce sufficient food surplus to warrant digging pits for storage (Gardner 1986:68). The uplands and other areas were used to obtain wild resources.

Settlement patterns changed during the Middle Woodland. Occupation sites shifted to the inner part of the floodplains, on the poorly drained, backwater floodplain areas. Native Americans focused on gathering plants in these swampy areas (Gardner 1986:730). During the Middle Woodland period, stone burial mounds were used to inter the dead. Graves were excavated into the ground and, after burial, were covered with earth and river cobbles. Such mounds cover one or more graves and tend to occur in clusters that may represent socio-political centers as well as population centers, indicating social complexity not seen in earlier periods (Gardner 1986:71-72). The Late Woodland period is when dependence on the production of corn, beans, and squash developed. Occupation sites changed from the inner floodplain back to the natural levees adjacent to the river where Early Woodland populations had dwelt (Gardner 1986:77). While the soil was rich and easily tilled in these areas, the crop yield was low. The result was that a large percentage of the food resources were obtained from hunting, fishing, and gathering (Gardner 1986:77).

Native American archeological sites are generally found near water sources (such as springs, rivers, and streams), especially at stream junctions and on flood plains, terraces, and ridge tops. Rock outcrops often yield evidence of resource extraction and processing. A number of these types of areas exist on the Front Royal Campus, and some of them have been noted on the map as having potential for prehistoric archeological sites.

3.3 HISTORIC OCCUPATION OF THE FRONT ROYAL CAMPUS AND VICINITY

The land purchased by the army in 1911 had been part of two large tracts, Leeds Manor and Gooney Manor, owned by Lord Fairfax in the eighteenth century (Dickinson 1959). Chief Justice John Marshall and his brother, James Markham Marshall, purchased most of these tracts in 1797. Most of the land was leased at this time, but owners had great difficulty collecting rent. Marshall went to two of his renters, William Ball and Peter Schultz, to collect the rent, but Schultz raised his musket and told Marshall to get out (Dickinson 1959). Ball grabbed his sword and told Marshall leave or he would use it on him. In some cases, settlers had moved into the hollows during the eighteenth century and built small farmsteads without regard for ownership or the law. They refused to pay rent, and when confronted, some just packed up and moved to a different site.

In 1848, the land of Leeds Manor was divided between James Markham Marshall and the heirs of Judge John Marshall (Dickinson 1959). During the nineteenth century, the land was divided and sold as smaller parcels. These small tracts probably each had a farmhouse, outbuildings, and a barn. Physical remains of the farmhouse and associated buildings may survive as an archeological site. Some of the farms had a family cemetery. The cemetery on the Central Post is such a cemetery. It contains approximately seven graves, the earliest from 1834 and the latest,

1861 (Dickinson 1959:101). The names included Finnell, Pulliam, Clanahan, Gardner, and Hockman (Dickinson 1959:101).

During the Civil War, no battles were fought on land that is now the Front Royal Campus, but troops may have moved through the area. The Chester Gap Road (now SR 522) was a major north-south route for moving men and supplies through Warren County. The nearest battle took place in Front Royal on 23 May 1862, when Stonewall Jackson and other Confederate troops took the town from Union forces (Hale 1962). Various stories of that battle mention troop movements and placements that indicate that troops may have moved through the Front Royal campus. Two companies of the First Maryland Regiment Volunteers were on picket duty 2.4 k (1.5 miles) south of Front Royal (Hale 1962). Just before the battle, the Confederate advance appeared on the wooded heights south of town. Diaries of the time state that troops entered Front Royal from South Royal Avenue; others came down Chester Gap Road (SR 522) and from the Luray Turnpike (Hale 1962).

Mosby's Rangers were active in the area; the Mosby-Sheridan feud started in Front Royal after the death of one of Sheridan's officers. Sheridan had some of Mosby's men executed, and in revenge Mosby's Rangers caught some of Sheridan's men on the Valley Turnpike (SR 522). Later in the war, General Lee and his troops used the road marching to and from Gettysburg (Haley et al. 1943:22-25).

The war had destroyed houses and barns, fences, and mills all over Warren County, but within a decade the farms had recovered and were producing corn, wheat, rye, and hay. Agricultural reconstruction in Warren County was aided by the work of General Hubert Dilger, a German who came to America, joined the army, and distinguished himself during the Civil War. Impressed by the area around Front Royal because of its resemblance to his native country, he decided to settle on a farm a few kilometers east of Front Royal. He had one of the first purebred herd of Holstein-Friesian cattle in the area, along with prize-winning horses and a flock of Southdown sheep (Haley et al. 1943:27-28). Dilger is the name of one of the property owners from whom the government bought land for the remount depot.

Farmers in the area also gathered chestnut-oak bark and sumac for use in tanning and dyeing. Most of the sumac was sold to the sumac mill of George and Samuel Macatee, who exported much of it to Europe (Haley et al. 1943). Macatee is also the name of a property owner from whom land was purchased for the remount depot.

The newly built sawmills produced lumber harvested from the Warren County forests. Mills were an important industry in the nineteenth century for grinding grain, sawing lumber, and producing plaster. There are a number of streams that run through the area encompassed by the Front Royal campus, and there were probably mills located on some of them. One of the archeological sites near the Front Royal campus was a nineteenth-century mill with a historic dwelling nearby, Sites 44WR346 and 44WR302 (Figure 2) (VDHR 1981a, 1993). On the campus, an area near the top of Long Hill Road was referred to as "Sawmill Hollow" during the cultural resources survey (Jennifer Buff, Noah Rutledge, Max Cameron, pers. comm.). There may have been a sawmill there before the army bought the property. When the remount depot began construction of its buildings and structures, the army may have operated a sawmill to produce the needed lumber. A sawmill was located here during the time that the USDA owned the property (Max Cameron, pers. comm.).

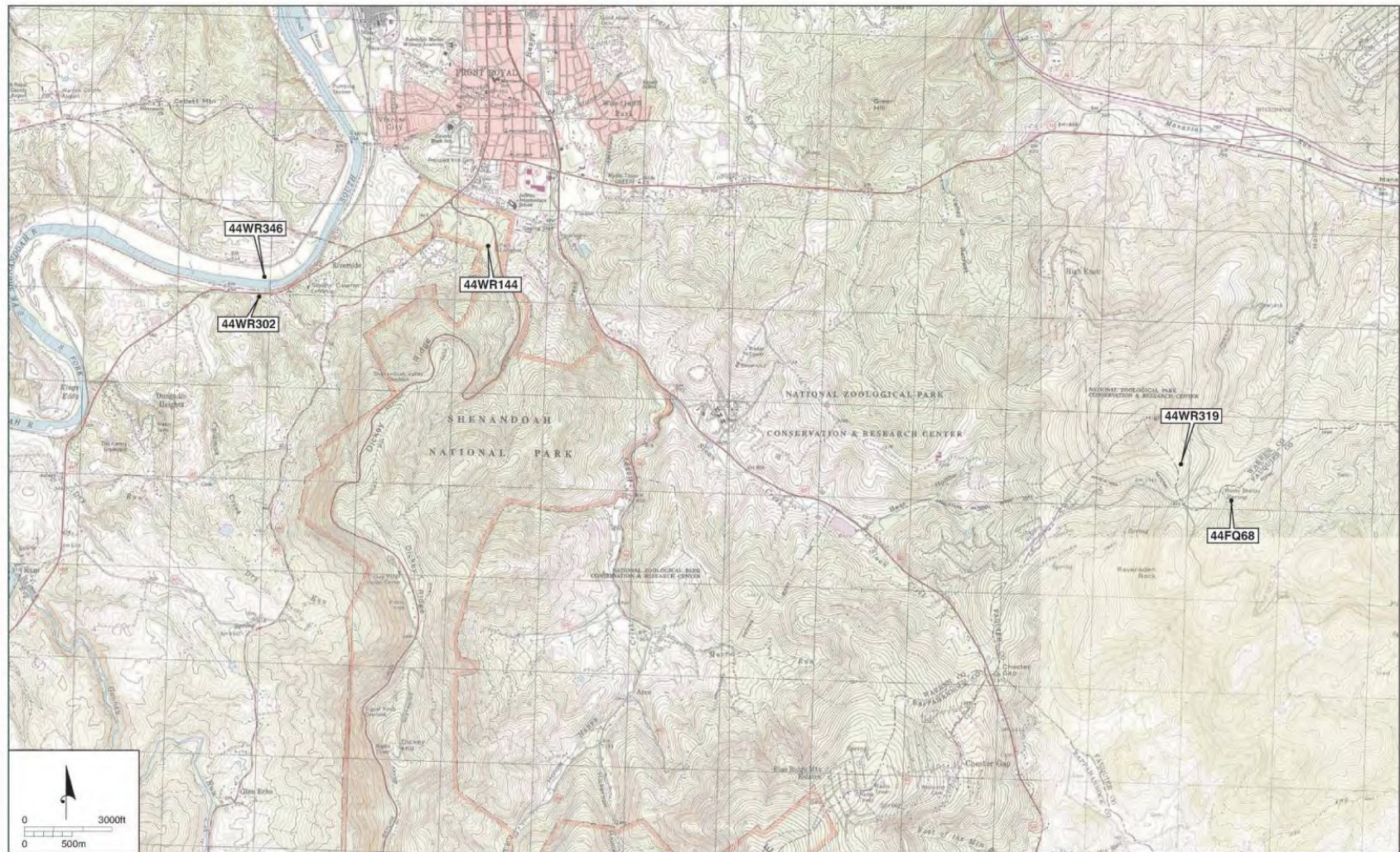


Figure 2. Historic archeological site locations in the Front Royal vicinity (USGS 1986, 1987, 1994).

Mining was a viable industry in the area from the mid-nineteenth century through the first quarter of the twentieth. There are remains of an old copper mine near the northeast corner of the Front Royal campus. This was the Sealoch Copper Mine, which shipped 35 tons of ore averaging ten percent copper as early as 1861 (Sweet et al. 1989). There are two registered archeological sites that were mines, Sites 44WR319 and 44FQ68 (Figure 2) (VDHR 1984a, 1984b), located southeast of the Front Royal campus.

Other archeological sites may be associated with the remount depot. Buildings and structures that are no longer extant, areas used for training animals, and areas associated with the prisoner of war camp may also survive as archeological sites

3.4 FRONT ROYAL REMOUNT DEPOT, 1911-1948

In the early twentieth century, as the private horse market declined due to the increased popularity of the automobile, the army sought a way to ensure an ample supply of quality horses for their cavalry units. The solution to this problem was to establish the Remount Service within the Quartermaster Corps (Tuttle 1928:11). Remount depots would be established in different parts of the United States to procure, condition, and train horses and mules for use by the army. Fort Reno, Oklahoma, and Fort Keogh, Montana, were the earliest remount depots, created in 1908 and 1909, respectively. Fort Robinson, Nebraska, was selected for the site of a remount depot in 1919. In 1911, Front Royal, Virginia, was chosen as the site of a remount depot. This location was chosen for its proximity to the horse-raising areas of Virginia and for its easy access to rail transportation. Fort Keogh was a temporary remount depot, while Forts Reno and Robinson were permanent installations. Because these two forts were adapted from their previous uses as army cavalry posts, they have a different spatial organization than Front Royal, which was built specifically for use as a remount depot. The buildings at Forts Reno and Robinson are both organized around central parade grounds, while the spatial organization of the Front Royal Depot is more irregular and decentralized, following the natural topography of the site, with the racetrack located northwest of the central cluster of buildings (Bueker 2002:25).

Purchase of land for the remount depot at Front Royal began in 1911 and was completed in 1915. A total of 2,077.26 hectares (5,132.84 acres) were purchased in tracts ranging from 0.08 hectares (0.20 acres) to 270.74 hectares (669 acres) in size (War Department 1936:np). Existing on the property at the time of its purchase by the U.S. government were several farmsteads, most dating from the nineteenth century. The Remount Service utilized these existing buildings on the property, using houses to accommodate personnel, and any agricultural outbuildings to support the farming operations of the property. Soon after purchasing the property, construction began on permanent buildings to serve the remount depot. Most of the depot buildings were grouped together to form a central “post,” while 11 barn complexes were built in outlying pastures (Figures 3 and 4). The building types constructed at this time included a veterinary hospital (701-0023), a dispensary (701-0025), a granary (701-0133), hay sheds (701-018), a fire station (701-0019), stables (701-0100), an animal dip (now demolished), and a gravity-fed water system for the depot. Personnel quarters were also constructed, ranging from barracks (701-0318) to officers quarters of various sizes (701-0074 and 701-0098).

The most expensive construction project completed during this period was the 1913 installation of the water system for the depot. The system consisted of a reinforced concrete reservoir with a capacity of 150,000 gallons to be supplied by a gravity pipeline system from springs on the reservation two miles from the reservoir. In 1917, a slow sand filter was constructed in connection with this system. In 1914, the depot sewer system was constructed, comprising one

mile of underground pipe, one sedimentation plant with two large tanks built to hold 10,000 gallons, and a sewage disposal plant with two sprinkling beds and one sludge bed.

Other landscape-related construction projects from this time included roads and fencing. Early fencing included miles of split rail made from local chestnut (History of CRC's Land [<http://national.zoo.si.edu>]). Lanes created from double rows of fencing provided a way to move stock from pasture to pasture and also formed a corridor for moving horses from the remount depot to the railhead in Front Royal, two miles away. It appears that this chestnut fencing was supported with poured concrete posts. The early remount aerial shows fencing with white supports, and it is assumed that these are the concrete posts that are extant on the site today.

At one point, a flag pole, transferred from Gettysburg, was installed at the depot (Beard:1922:4). Early aerials show its location to the southwest of the Administration Building. A cemetery was also established during the early days of the remount depot for internment of a small number of celebrated horses and, later, a small group of dogs from the World War II era.

Other projects occurring simultaneously with construction included clearing to create pastures and other land improvements. Major Beard, who took command of the post in 1919, explained:

The mountainous nature of the Reservation was apparent in the spotty nature of the soil, so that the first farming operations was [sic] confined to improving these spots of poor land by fertilization and sowing grass seed; so practically no crops, as such, were attempted except to improve the soil. In addition, much of the rank undergrowth of briers and locusts were grubbed and removed. The scheme of land improvement was carried on by Captain Browne, and had assumed a definite character when war was declared with Germany, in 1917 (Beard:1922:7).

Beard responded to poor soil conditions by concentrating more effort on repairing the land, creating more pasture, and raising forage for winter use. Six hundred acres were set aside in the northeast corner of the site as a farm to be completely cleared, on which would be raised enough forage to pay for the operation. Also during that time, land on both sides of Chester Gap was cleared and stable manure was applied on areas of particularly poor soil. As a result of this activity, nearly all of the woodlands on the property were eventually converted to pasture (History of CRC's Land). Since World War II, forest cover has begun to re-establish itself, especially in the upper portions of the site.

In 1920, the Front Royal Quartermaster Remount Depot added another task to its mission with the creation of the U.S. Army Horse Breeding Plan. This program was intended to increase the quality of horses available for use by the army (Tuttle 1928:11). This breeding plan operated by making government-owned stallions available at no cost to breeders throughout the United States. Each remount depot oversaw the breeding program in its geographic region, with Front Royal serving the eastern United States. As many of the stallions purchased for use in the breeding plan were from the East Coast, Front Royal did the majority of stallion conditioning for the Remount Services. The western depots had larger local breeding programs than Front Royal, so many of these stallions were then shipped elsewhere. The breeding plan began with 159 stallions and by 1928 was breeding 18,000 mares a year (Cederwald 1928:29). With the increased popularity of the breeding plan and the Front Royal Quartermaster Remount Depot's role in the program, additional stables were needed at the facility by the 1930s (Reynolds 1930:24). Several additional stables and support buildings were constructed at the depot in the mid-1930s through early 1940s,

such as additional hay sheds (701-0078), additional stable complexes (701-3015 and 701-3019), and an officers' club (701-0111) (Figure 5).

On 13 June 1939, approximately 395.4 hectares (977 acres) of the western portion of the Front Royal Quartermaster Remount Depot were transferred to the National Park Service to become part of the Shenandoah National Park (Construction Service 1939).

The Front Royal Quartermaster Remount Depot was active in preparations for World War II, but not quite as initially expected. The number of horses required for the war effort was less than anticipated, but the need for mules to serve as pack animals increased. The Quartermaster purchased few horses from 1943 to 1945, while the number of mules purchased remained steady or increased slightly (Waller 1958:np).

The Front Royal Quartermaster Remount Depot also received additional war effort duties. Beginning in August 1942, the first War Dog Reception and Training Center in the United States was established at the remount depot. This center received dogs whose owners had volunteered them for the war effort and trained them to be sentry, messenger, or patrol dogs (Born 2002:np). The K-9 facilities at Front Royal were located on a hilltop north of the Central Post. Each dog had its own kennel with common buildings for training, a dog hospital, and food cookhouses. Old or unneeded horses from the remount area of the depot were used as dog food (Simpich 1943:93). Some of the headstones in the horse and dog cemetery on Race Track Hill were from this period.

From May 1945 until the spring of 1946, the Front Royal Remount Depot also served as a prisoner of war camp for German and Italian prisoners of war. This camp was a base camp with seven branch camps, including one at Winchester. Approximately 600 prisoners were held at the Front Royal facility. Most prisoners worked as temporary laborers on nearby farms and orchards (Brumback 1997:B1). Prisoners also worked on the Remount Depot itself. One of their remount projects was the construction of erosion check dams, built using rock found on the remount depot. These dams were built across run-off channels to slow soil erosion. The prisoner of war camp included barracks, day rooms, class rooms, a library, a barbershop, and a mess hall. This complex was located on a hilltop above the Central Post and the buildings were destroyed once the prisoners had left (Park 1980:76)

In 1945, the Front Royal Quartermaster Remount Depot was renamed the Aleshire Remount Depot to honor Maj. Gen. James B. Aleshire, Quartermaster General from 1909 to 1916. As part of the war recovery effort, this remount depot was a United Nations Relief and Rehabilitation Administration shipment coordinator. To fulfill this function, the depot assembled horses to be sent to Europe as part of the recovery effort. The Front Royal depot also cared for European horses captured during the war. These horses were intended for use in the army breeding program and were featured in a 1946 Parade of Horses at the depot (Henson 1990:1-2).

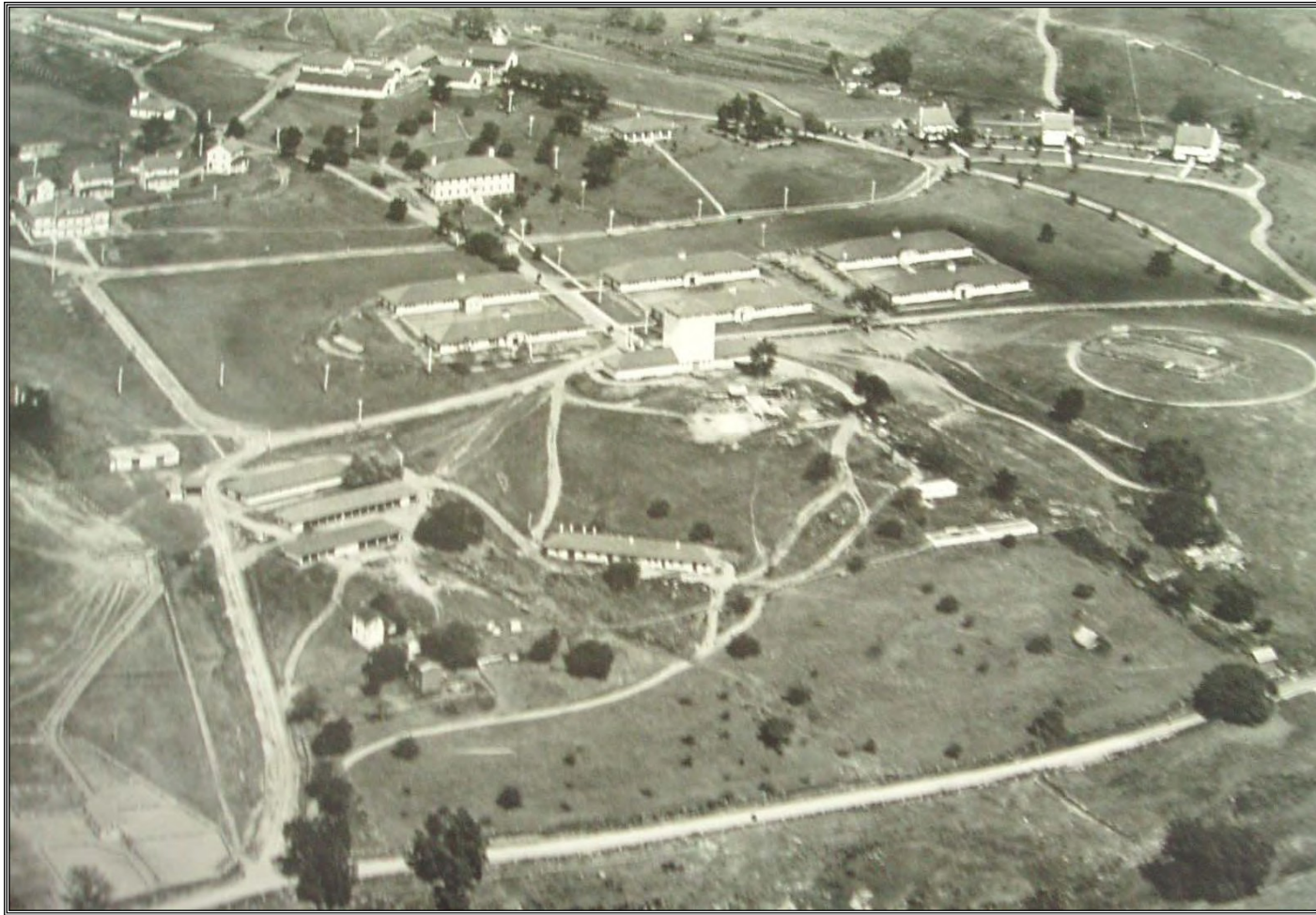


Figure 3. Ca. 1933 aerial photograph of the Front Royal Remount Depot, central post area (Quartermaster Corps ca. 1933-1937).



Figure 4. Ca. 1941 general view of agricultural buildings southwest of the central post, looking east (Front Royal Architectural Index).

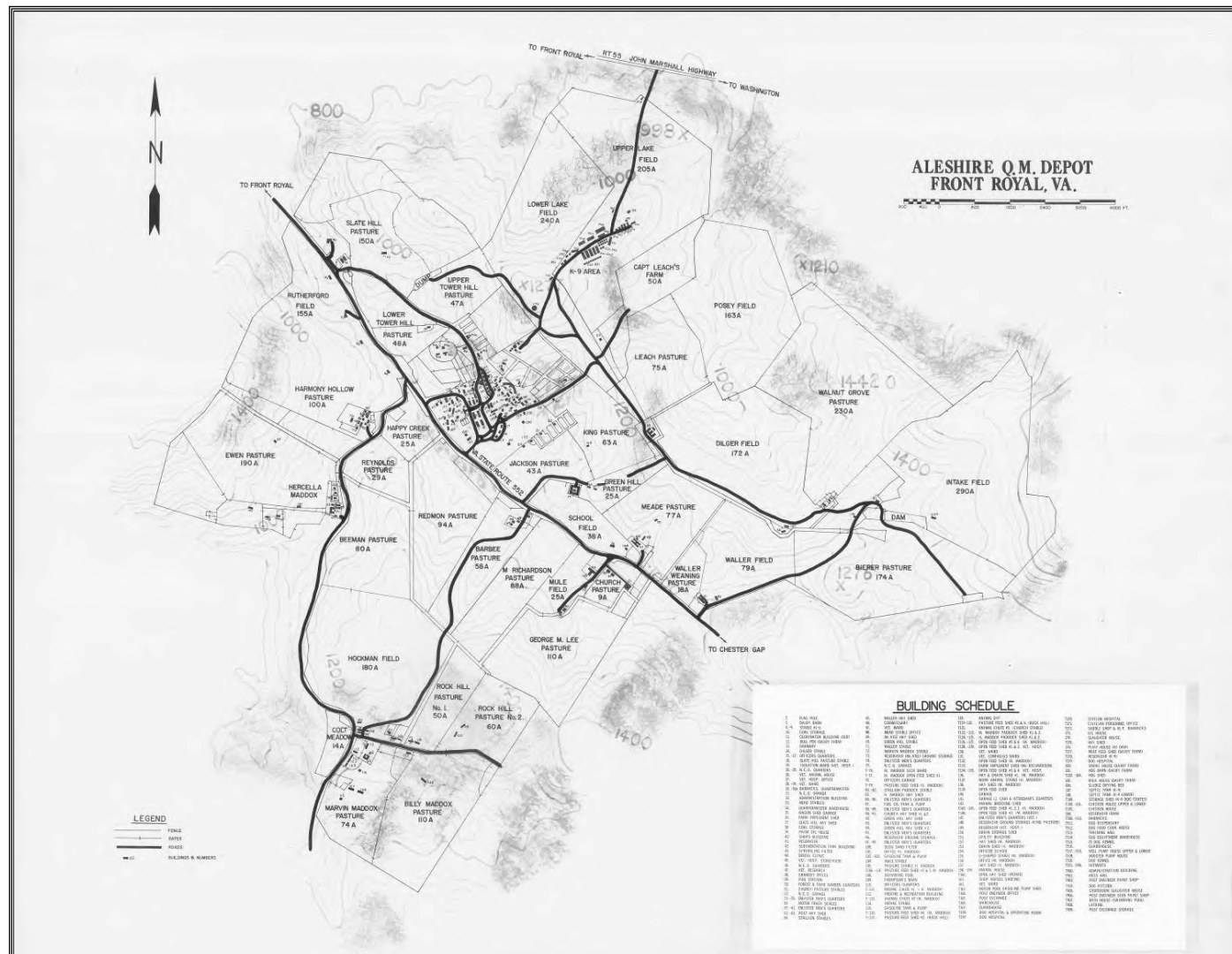


Figure 5. Ca. 1945 plan of Aleshire Quartermaster Depot (Quartermaster Corps ca. 1945).

3.5 U.S. DEPARTMENT OF AGRICULTURE, BEEF CATTLE RESEARCH STATION, 1948-1973

The army did not have the opportunity to continue its horse training and breeding programs after World War II. On 1 July 1948, oversight of the Army Remount Depots, their livestock, and staff were transferred to the United States Department of Agriculture (USDA). The former remount depots were to be administered so as to “advance the livestock and agricultural interests of the United States, including improvement in the breeding of horses suited to the needs the United States” (Roos 1972:np). Instead of continuing to use the former Aleshire Remount Depot for horses, the USDA conducted research on beef cattle breeding and meat production. The USDA officials thought that the topography of the Beef Cattle Research Station at Front Royal was typical of areas of Appalachia that were used for commercial beef production; thus, this facility would serve as a good testing ground for new methods of beef production (Roos 1972:np). The Front Royal Beef Cattle Research Station was run jointly by the USDA and the Virginia Polytechnic Institute.

The USDA does not appear to have constructed many buildings during its tenure at the Front Royal campus, but re-used existing buildings. It was during the USDA period that the six former stables along Conservation Drive and Training Center Drive (701-0070, 701-0090, 701-0100, 701-0166, 701-245 and 701-267) were connected with hyphen additions to form three H-plan buildings. Eight hundred head of cattle, mostly Angus, Hereford, and Shorthorn, were housed at the research station. In 1972, this research station was home to the largest herd of Shorthorn cattle in Virginia and the fourth largest in the United States. Many of the stables and barns were readily re-used for beef cattle, while the pastures were used as breeding pastures, each with 15 to 25 cattle. The USDA seems to have maintained the pasture and field layout remaining when the former remount depot was transferred to its use. During this same period, approximately 97.13 hectares (240 acres) of the property were in crop production, primarily hay and silage, while 52.611 hectares (130 acres) of bottomland were leased for grain production (Roos 1972:np).

The USDA also allowed other government bodies to use its facilities at Front Royal. Several buildings on the Central Post were used by the U.S. Department of State from 1952 until 1964 as an emergency relocation site. This site would have been able to accommodate the Secretary of State and 700 support staff, but it was never used for this purpose. Other buildings were also adapted to new uses. In 1964 two former colt stables (701-0070 and 701-0090) were renovated to become a training center with classrooms, seminar space, and a cafeteria. Former depot personnel housing was used as overnight accommodations for training center students. The USDA, State Department, and Foreign Service all used this center for conferences (Wemmer 1976:np).

3.6 NATIONAL ZOOLOGICAL PARK, CONSERVATION AND RESEARCH CENTER, 1974-2005

The USDA discontinued its use of the Front Royal Beef Cattle Research Station on 30 June 1973. While most of the staff members were immediately let go, a few remained to oversee the sale of livestock on 1 November 1973 (Perry to Gabrielson 17 August 1973). Following the USDA departure from the Front Royal facility, the property was declared excess by GSA. In January 1974, the National Zoological Park was granted a temporary use permit for the facility (Carlton to Barwick 21 January 1974). Permanent use of this facility was given to the National Zoological Park on 22 June 1975 (Smithsonian Institution 1975:123). As part of the transfer of the property from the USDA, several outlying parcels were allotted to different parties, including the Northern

Virginia 4-H Clubs, the U.S. Customs Service, the National Park Service, the Warren County School Board, and the Appalachian Trail, leaving the National Zoological Park with 1266.31 hectares (3129 acres) of land for its Front Royal facility (Figure 6) (Kohn to Kilby 20 September 1977).

The National Zoological Park and the Conservation and Research Center have largely retained the pasture and field boundaries as they were in the remount and USDA periods. They have also retained many of the historic buildings found throughout the property. Some buildings were demolished due to their dilapidated condition, but others have been renovated. A former barracks building was extensively renovated with a large rear addition to serve as a veterinary hospital and private residence (701-0318). As part of an effort to increase the energy efficiency of many of the Central Post buildings, the original stucco exteriors have been covered with vinyl siding. Several of the original tile roofs have also been replaced with standing-seam metal ones.

To support the mission of the Conservation and Research Center, the Front Royal campus has built several new buildings on the Central Post, including the Small Animal Facility (701-0046) and several storage buildings (701-0102). New animal complexes have been built in various areas of the facility, including the Juvenile Bird Yards (B503-B512), and the Hardy Crane Yards (701-CR01-701-CR21) on the Central Post, and the Rivinus Barn and associated shelters (701-1375, 701-1437, 701-1316, etc) in the Bear Pond area.

The National Zoological Park also undertook several landscape improvements after acquisition of the Front Royal campus. These include the 1978-1980 construction of new fencing along the property boundary, planting 20,000 loblolly and white pine seedlings along Route 522, and planting 250 trees and shrubs, including junipers, yews, walnuts, cherries, crabapples, in the Central Core (Wemmer 1978:np). Plantings were also added to new animal yards, including mulberries in the bird yards and olive and pine trees around the wolf yards (Wemmer 1980:np). More recently, roads in the Central Post were repaved and a curb and gutter groundwater system installed.

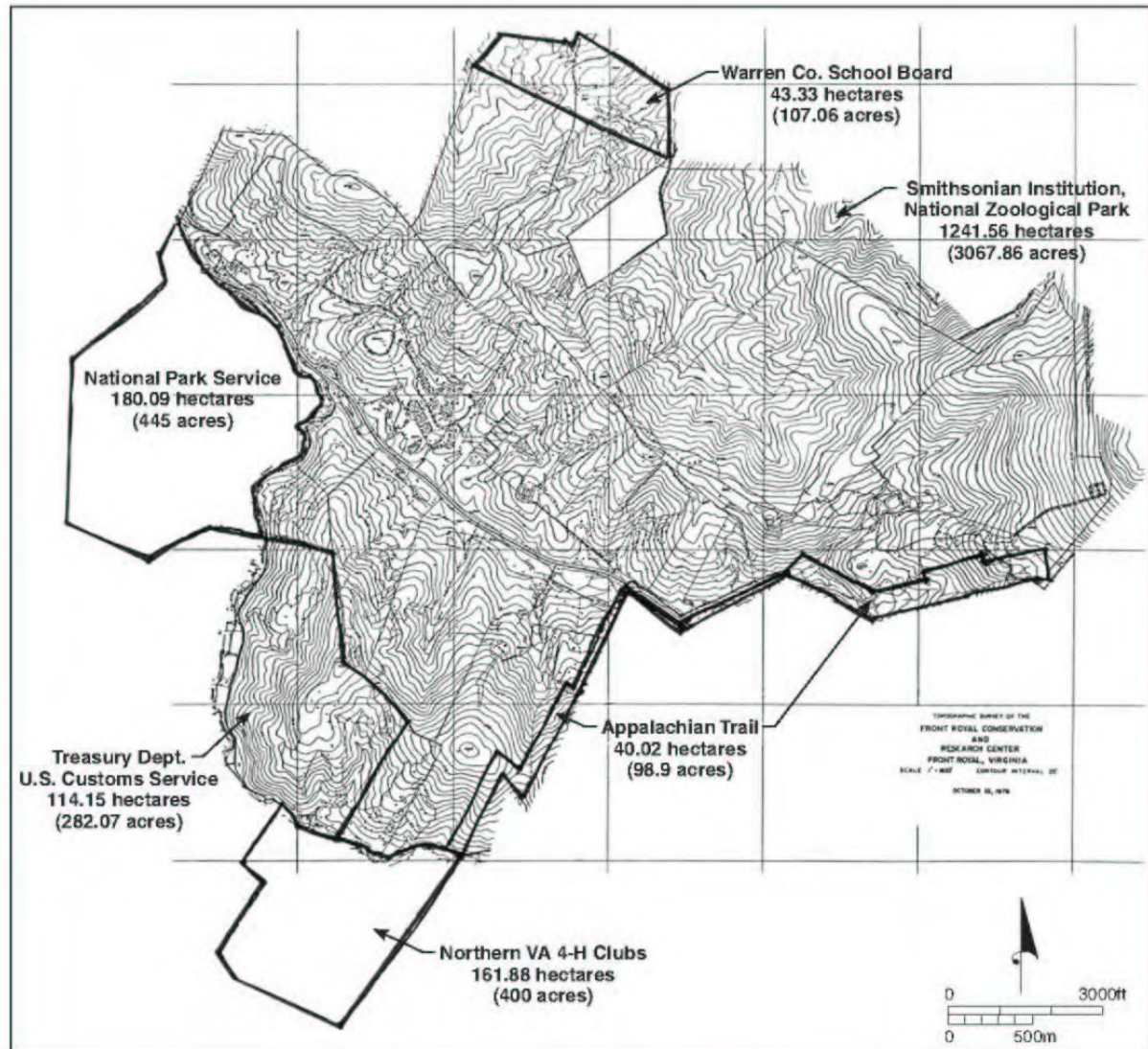


Figure 6. Topographic map showing distribution of property of the former USDA Beef Cattle Experiment Station (Kohn to Kilby 20 September 1977).

4.0 SUMMARY OF FINDINGS

4.1 PREVIOUS CULTURAL RESOURCE ASSESSMENTS

JMA's cultural resource evaluation for the Front Royal property appears to be the first such evaluation of the property. The 1974 transfer of the Front Royal property to the National Zoological Park should have triggered a Section 106 assessment of the effect of this transfer to cultural resources. JMA attempted to find such an assessment, but no such document was found. Repositories reviewed in this search include the files of the Virginia Department of Historic Resources, the Smithsonian Institution, Office of Architectural History and Historic Preservation, and the Smithsonian Institution Archives. No environmental assessment from the 1974 property transfer was located, but a February 1983 Draft Environmental Impact Assessment for the construction of a new bridge at the intersection of SR 522 and SR 604 was found. This draft assessment found that "a review of archaeological and historical resources indicated there are no known sites of interest that would be affected" by the project (Williams to Cline 1983). It is unclear if the area examined for cultural resources extended beyond the four acres taken as part of this project. Since this project area was so small, it may not have affected any archaeological, architectural, or landscape resources identified in JMA's survey. JMA was unable to locate a final environmental assessment for this project.

A November 1972 Real Property Survey, by Curtis A. Roos for the GSA, was undertaken to determine if any part of the USDA Beef Cattle Experiment Station was not being fully utilized and should be declared surplus. This survey did not include an assessment of cultural resources, instead focusing on whether the property was being utilized fully. This report recommended that two outlying parcels, a 180.09-hectare (445-acre) tract at the northwest corner of the property, and a 40.47-hectare (100-acre) tract near US 55, be declared surplus. This survey also recommended finding a federal or local agency with a use compatible with the USDA Beef Cattle Experiment Station to occupy buildings 4-9 (now 701-267 and 701-245), 5-8 (now 701-100 and 701-116), and 30-30A (now 701-318), which were unused at the time of the survey (Roos 1972). These recommendations to declare the two tracts as surplus do not appear to have been carried out by late 1973, when the USDA Beef Cattle Experiment Station was closing.

4.2 FRONT ROYAL REMOUNT DEPOT HISTORIC DISTRICT

Using the inventory of existing resources, the JMA team assessed the integrity and importance of the Front Royal campus relative to the National Register of Historic Places criteria. The team considered the documentation of the history of the property and its historic context as an Army Remount Station and role in army operations during the early twentieth century. This property is important under Criterion A in the areas of military history, for its association with the history of the U.S. Army's Remount Service, and under Criterion C in the area of architecture, for the design of its buildings and landscape. The current property boundaries of the National Zoological Park's Front Royal campus define the historic district and includes elements representing the range of resource types at the remount depot, from the administrative and residential buildings of the Central Post, to the fence lines and barns located in outlying areas of the property. The former Front Royal Remount Depot appears to be eligible for listing on the National Register of Historic Places as a regionally important historic district, dating from 1910, when the remount depot was founded at Front Royal, through 1948, when the depot closed. The Front Royal campus

warrants evaluation for the National Register; thus, preparation of a National Register nomination is recommended.

This property appears to meet the criteria established for a historic district set forth in National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation*. While the individual resources within the property “may lack individual distinction,” the resources together “possess a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development” (National Park Service 1997:5). The Front Royal campus is a united complex that illustrates the early twentieth century remount program of the Quartermaster Corps.

This property is important within the historic context of military history through its role in military history associated with training animals for the army’s use. The Front Royal facility was established as a Quartermaster Remount Depot in 1911, with construction of most of the permanent buildings completed by 1916 (War Department 1936:2-3e). Initially, the Remount Service’s mission was to procure and condition remounts for use by the service. This mission expanded in 1919 to include oversight of the Horse Breeding Program for the eastern United States. The Front Royal Remount Depot was the only one of the four remount depots that served as a remount area headquarters as well as a remount depot. This meant that the Front Royal Quartermaster Depot oversaw all aspects of horse procurement and conditioning, as well as the horse-breeding program, in the eastern United States (Rogers 1940:2-3). During World War II, the Front Royal facility’s mission changed again to include a War Dog Reception and Training Center from 1942 until 1944 and a prisoner of war camp from 1945 through the spring of 1946. In June 1948, jurisdiction over this remount depot was transferred to the USDA. From 1949 through 1973, the facility functioned as a Beef Cattle Research Station. From 1974 to the present it has been the Conservation and Research Center for the National Zoological Park. These two post-1948 uses of the property are not associated with important historic contexts.

This property is also important within the context of architecture. The Front Royal facility retains many original buildings and their spatial arrangement from the Quartermaster Remount Depot period. These buildings encompass all of the functions necessary for the operation of the depot: stables, veterinary buildings, farm buildings, administrative buildings, and housing for staff. The Front Royal Quartermaster Remount Depot was the only one of the four permanent remount depots to have been built specifically for this purpose. The other three depots at Fort Reno, Oklahoma; Fort Keogh, Montana; and Fort Robinson, Nebraska; were earlier army installations that were adapted for use as remount depots.

In addition, the facility also retains many features of the landscape from the original depot period. Fencing constructed with cast concrete posts and locally harvested chestnut rails was designed to enclosed pastures and form lanes for herding horses between pastures and over the mountain to the train depot in Front Royal. These lanes and the fences used to define them are still evident along the southern edge of the property. Other landscape feature that still remain from the original depot period include paired ornate stone gate piers that marked the entrances to pastures or lanes on the north side of the depot and elaborate stone entrance portals still extant along SR 522. In addition, a stone bridge that may pre-date the depot may have led to the farm family cemetery at the center of the complex—both are extant today.

The architectural, cultural landscape, and archeological resources associated with the Leach farm are not considered character-defining elements of the Front Royal Quartermaster Remount Depot historic district, as this land was not part of the remount depot during its period of use by the

Quartermaster Remount Depot. The Leach farm may be important individually or within a larger regional context extending beyond the boundaries of the Front Royal campus.

The archeological, architectural, and cultural landscape resources were assessed according to the seven aspects of integrity set forth in the National Register of Historic Places criteria: location, design, setting, materials, workmanship, feeling, and association. Resources dating from the remount depot's period of use, 1910-1948, were also assessed for their role as character-defining elements of the historic district. Those resources built after 1948 were not considered character-defining elements.

The following discussion summarizes the results of the resource inventory and assess much of architecture and landscape resources. No archeological resources have been recorded on the Front Royal campus, but there are several locations that are likely to yield preserved archeological remains; these locations are identified and described (see Appendices III and IV). This text complements the resource maps and inventory records. The resource index also summarizes the inventory of resources in a tabular format. These maps and tables are appended to the text.

4.3 ARCHEOLOGICAL RESOURCES

This assessment is based on a review of documents and maps and reconnaissance-level field survey. None of the locations described here have been tested; thus, this discussion focuses on identifying areas that are likely to include archeological resources, not on archeological sites that have been confirmed through subsurface excavation. The locations discussed below are shown on the cultural resources maps of the Front Royal campus.

On the Front Royal campus, the team identified sixteen locations of historic resources that are likely to include archeological resources and ten locations with potential for prehistoric archeological deposits. The historic resource locations include the place where prisoners of war were interned and the site of a sawmill, a copper mine, an airplane crash, foundations representing dwellings, and two cemeteries shown on the cultural resources map.

The prehistoric locations are on the flat tops of hills and ridges and along the floodplains of streams. Locations on hilltops and ridge tops were commonly chosen by Native Americans for small temporary camps associated with resource procurement. The locations on floodplains were likely to have been selected for longer-term base camps related to horticulture, hunting, and resource processing.

Archeological sites that retain integrity and are associated with the functions of the remount depot may contribute to the significance of a Front Royal Remount Depot historic district. Other archeological sites with integrity that have the potential to contribute to understanding the prehistory and history of Warren County may be individually eligible for the National Register. Any location identified as likely to include archeological resources and that is to be subjected to ground disturbance warrants subsurface testing to determine whether or not archeological resources are present.

4.4 ARCHITECTURAL RESOURCES

The architectural resources at the National Zoological Park's Front Royal facility range in date from the 1912 Veterinary Hospital (701-0023) to the 1984 Small Animal Facility (701-0046).

Most of the buildings at this facility are vernacular and agricultural in nature, with some of the residences, such as Private Residence 0111 (701-0111) embodying the Colonial Revival style. These buildings taken together illustrate the U.S. Army's efforts in the early to mid-twentieth century to produce quality remounts for its combat units at the Front Royal Quartermaster Remount Depot from 1919-1948.

The vast majority of buildings at the National Zoological Park's Front Royal facility date from the Quartermaster Remount Depot period of use. While some buildings that existed in 1948 when the remount depot closed have since been demolished, the facility today retains most of the buildings present in 1948. The loss of a few buildings from this important period does not detract from the overwhelming sense of place at the facility, especially in the Central Post area.

The National Zoological Park has renovated many of the buildings to better meet its needs. These changes include altering materials (such as siding and roofing materials), changing fenestration patterns, enclosing porches, and making additions to buildings. Most of these modifications, including changes in siding and roofing materials and enclosure of porches, are minor and do not impair the integrity of design for the district as a whole. The use of standing-seam metal as a replacement for tile roofs is not an in-kind repair as would be preferred for architectural integrity, but standing seam metal roofs were used on many of the remount-era buildings at the Front Royal campus. Because the elements of the campus

The National Zoological Park has also constructed some new buildings to support its mission. While the two new buildings at the Central Post, the Veterinary Hospital and Private Residence (701-0318) and the Small Animal Facility (701-0046) are slightly larger than most of the Central Post buildings, they do not overwhelm the buildings that remain from the period of significance. The Veterinary Hospital and Private Residence (701-0318) actually includes as its core a much-modified barracks building from 1943, but this building has been greatly altered and reads as a modern building. The new buildings in the outlying pastures and fields are mostly of a smaller scale and do not intrude on the integrity of the pre-1948 resources.

Character-defining elements within this property date from the period of use by the Quartermaster Remount Depot, 1910-1948 and retain integrity. To be considered a character-defining element, a building must have the original fenestration pattern largely intact, and exhibit no major additions. A resource with replacement siding and roofing materials that retains its form, massing, and design is considered a character-defining element. All of the pre-1948 architectural resources on the property retain their integrity of setting and location. Those architectural resources that were constructed after 1948 are not considered character defining.

4.5 CULTURAL LANDSCAPE RESOURCES

Numerous cultural landscape resources survive from the Quartermaster Remount Depot era, 1910-1948, of the Front Royal campus. These resources are important components of the historic property and illustrate the U.S. Army's efforts in the early-to-mid-twentieth century to produce quality horses for its combat units. These landscape resources include surviving examples of early twentieth-century responses to natural systems and features, landform and topography, patterns of spatial organization, views and vistas, land uses, vegetation, circulation, buildings and structures, and constructed water features that continue to convey a character and configuration consistent with and contributing to the period of significance for the property.

Many of the cultural landscape resources at the Front Royal Campus date from the period of significance, while some pre-date that period. Some features that likely existed in 1948 have since been demolished; yet, the site today retains many landscape features present in 1948. The loss of certain features from the period of significance does not detract from the overwhelming sense of place at the facility.

The features and qualities that survive from the 1911-1948 Quartermaster Remount Depot period of use include the following:

- the rolling, rural topography and natural drainageways;
- the spatial patterns created by topography, fence lines, and hedgerows;
- the locations and alignments of most roads within the Central Post area, gravel roads leading to pastures, as well as lanes created by double fencing used to move horses between pastures and from the Depot to rail transport in Front Royal;
- sweeping views of the countryside from high points and a designed vista on Race Track hill;
- ornamental vegetation within the Central Post, such as the maple alleés and boxwood hedges, as well as hedgerows in the pastureland;
- many stone and concrete features, such as stone and concrete bridges in the Central Post area, the stone and concrete entrance portals, rock check dams, Bear Pond dam, the hillside water cistern, the subsurface spring system and the sewage disposal plant; and
- various small-scale features, including both the cemetery and the animal cemetery headstones, stone gate piers, concrete fence posts that once held chestnut railings, and pre-1948 fire hydrants.

Over time, new landscape features were continually added and altered at the Front Royal Campus in order to accommodate the facility's changing uses. After 1948, for example, new roads were constructed, new pastures and fencing patterns were created, vegetation grew taller and more dense, new trees and shrubs were planted, and a multitude of small-scale features were installed to address new uses and a changing employee population and demographic.

Although alterations have occurred, the wealth of remaining contributing historic features continue to define the physical appearance of the landscape. Protection of these extant historic and cultural landscape resources is important to maintain the sense of place visible today.

5.0 BIBLIOGRAPHY

I. Master Plan

Folder 4 “CRC: Master Plan, 1974-1977.” SIA, RU 326, box 9, folder 11 “CRC: Master Plan, 1974-1977.” Correspondence relating to changes to the NZP Master Plan because of the acquisition of CRC: less space needed at Rock Creek for breeding because of breeding program at CRC; populations at Rock Creek vs. CRC. No copies of amended Master Plan.

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Warren County, Virginia. “Comprehensive Plan, amended January 19, 1999.” [Online] Available: http://www.warrencountyva.net/comprehensive_plan.asp.

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II. Facilities, Utilities, Grounds

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“Annual Statistics of Land Use at the National Zoological Park’s Conservation and Research Center, Front Royal, VA.” 29 September 1976. SIA, RU 326, Box 7, folder 1 “Animal Breeding Site, 1971-1977.”

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Barwick, Fred T., Chief, SI Supply Division, to R. Carlton Brooks, Acting Director, Real Property Division, GSA. 28 November 1973. SIA, RU 326, box 7, folder 1 “CRC: Animal Breeding Site, 1971-1977.”

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5: sections & details; A-6: sections & details; A-7: schedule & details; S-1: structural plan; S-2: structural details; M-1: mechanical; P-1: plumbing; E-1: electrical; L-1: landscaping.

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National Zoological Park. “Annual Report: January 1, 1978. December 31, 1978.” SIA, RU 9596, box 1, folder “CRC Oral History Research”

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Reed, T.H. to Mr. Ripley through Dr. Challinor. 1 August 1978. SIA, RU 404, box 33, folder "CRC – 1977-1980."

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sections: A-7: wall sections, details; A-8: wall sections, details; A-9: stall details, hollow metal windows & details; A-10: cage elevations & details; A-11: casework details; A-13: miscellaneous details; A-14: miscellaneous details; A-15: finish schedule; A-16: door schedule; P-1: plumbing floor plan; P-2: plumbing plan details & schedules; P-3: riser design; P-4: riser design; M-1: mechanical & plumbing symbols & abbreviations; M-2: mechanical floor plan; M-3: roof plan sections & details; M-4: details; M5: schedules; M-6: control diagrams; E-1: fixture schedule, legend, & details; E-2: lighting plan; E-3: power plan; E-4: paging, fire alarm, telephone plans; E-5: panel schedule & power risers.

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Wemmer, Christen, Curator-in-Charge. "Conservation and Research Center." 1980 Annual Report. SIA, Accession # 03-037, box 1, folder "Annual Reports from 1978-1981."

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Wemmer, Christen. "Master Plan for 1975." 1975. SIA, RU 326, box 11, folder 6 "CRC: Miscellaneous, 1973-1977."

Lists construction plans and projects, research projects for 1975.

Wemmer, Dr. Chris, NZIP Associate Director for Conservation, to Jonathan E. Pascarella, VA DEQ. 13 September 2001. M&G, CRC, file drawer "Deeds/Rights-of-Ways/Property lines & fencing;" folder "Landfill Closure-CRC-2000."

CRC's solid waste management area has been closed per CRC-DEQ agreement dated 22 September 2000.

Wemmer, Christen, curator-in-charge, CRC. Excerpt from NZIP triannual report (1973, 1974, 1975). SIA, RU 326, box 7, folder 1 "CRC: Animal Breeding Site, 1971-1977."

Typescript. Purpose of CRC, historical background, topography, ground & facilities, programs at CRC.

Wemmer, Christian. "National Zoological Park Triannual Report." 1976. np. SIA, RU 326, box 7, folder 1.

Information on programs and improvements at the Front Royal facility.

Wemmer, Chris to Dr. Reed. 12 August 1980. SIA, Accession #03-037, box 1, folder "Annual Reports from 1978-1981."

Subject: Information about CRC for Secretary's Executive Committee Meeting of August 20, 1980. Includes information on rents collected from employees and researchers and expenditures of this rent; also some description of buildings at Front Royal and construction projects undertaken by NZIP.

Williams, Jack. 14 March 1979. SIA, RU 326, Box 9, folder 11 "CRC: Fencing, 1974-1979."

Map showing status of perimeter fencing construction at CRC.

Williams, Jack to Moses Benton through Chris Wemmer. 14 November 1980. SIA, RU 404, box 33, folder "CRC – 1977-1980."

Alfalfa production at CRC from 1974 – 1980 and the decision to discontinue growing it because deer eat most of it; and how to get alfalfa without growing it.

Williams, Jack to Vince Doyle through Chris Wemmer and others, 27 June 1980. SIA, RU 404, box 33, folder "CRC – 1977-1980."

FY-82 construction budget for Front Royal CRC. Lists road renovations, construction of small animal building, hardy bird yards, and renovations to older barns and buildings – general description, no drawings or maps attached.

Williams, Jack to Dr. Eisenberg through Chris Wemmer. 25 July 1979. FY-80 Construction Planning for CRC. SIA, RU 404, box 33, folder “CRC – 1977-1980.”

Breaks out the projects included in the \$1,100,000 construction program, including the Centralized Hoofed Stock Management Complex (Long Field Barn), miscellaneous renovations and repairs, small mammal and bird breeding complex. These projects appear to have largely been completed as planned.

Williams, Jack to Dr. Reed. 14 March 1972. SIA, RU 326, box 9, folder 11 “CRC: Fencing, 1974-79.”

Map of perimeter fence status: cleared, fenced, yet to be fenced and height of fence.

Roger Yankoupe, PE. “Management Evaluation and Technical Review of the National Zoological Park – Rock Creek and Conservation and Research Center.” 2004.

Evaluation of fire safety and risk assessment at CRC and Rock Creek campus.

III. Circulation & Parking

Virginia Department of Transportation (VDOT). Mobility Management Division. “Daily Traffic Volume Estimates, Jurisdiction Report 93, Warren County, Town of Front Royal.” 2002 & 2003.

Study conducted by VDOT where traffic count data was gathered from sensors in or along streets and highways and other sources. From these data, estimates of the average number of vehicles that traveled each segment of road are calculated.

IV. Visitor Experience

V. Environmental Assessments

Williams, Jack, Facilities Manager, Conservation and Research Center, to A. R. Cline, District Environmental Coordinator. VDOT. 10 February 1983. SIA, Accession #03-037, box 3, folder “Construction.”

Draft environmental impact of a new bridge at intersection of Routes 522 and 604, necessitating acquisition of 4 acres of land that were part of the CRC.

VI. Exhibits & Animal Collections

CHATELAIN Architects, William McDonough & Partners, OveArup & Partners, Susan Nelson - Warren Byrd Landscape Architects, Chermayeff & Geismas/Metaform. “National Zoological Park Conservation Education Center - Program of Requirements and Site Analysis.” 2000.

Horizontal layout: includes project goals, site analysis of Zoo and project site, utility and environmental analyses, program requirements and departmental interviews.

“Front Royal Projects & Use Permit Requirements NZP revised 9/5/1973”. SIA, RU 326, box 9, folder 11 “CRC: Front Royal Property Acquisition 1973-1975.”

Lists uses of buildings and fields at CRC (by name and animal/crop use).

National Zoological Park. “Information Booklet Conservation and Research Center.” 1977. AHHP, NZP, box 2, folder “Conservation Center.”

Philosophy and mission historical background; topography; grounds and facilities; programs; research program; animal inventory.

Smithsonian Year 1975 Annual Report of the Smithsonian Institution for the Year Ended June 30, 1975. 1975. Smithsonian Press, Washington, D.C. SIA. p.123-124.

Acquisition of CRC, and animals there so far.

VII. FONZ

VIII. Smithsonian Visions & Strategic Thinking

IX. History (until 1960)

Anderson, Sally C. "Phase II archeological Investigation at Seven Sites in the Cedar Run Dam #6 Impact Area, Fauquier County, Virginia. Report to USDA Natural Resources Conservation Service, Richmond, from Thunderbird Archeological Associates, Inc., Woodstock, VA." 1996. On file at Winchester Regional Preservation Office, Virginia Department of Historic Resources.

Beard, Maj. L. A. "History of the Front Royal Remount Depot." 1922. Special Collections, University of Virginia.

Typescript listing construction of buildings at Front Royal through 1916. Details construction date, builder, and use.

Born, K. M. "Quartermaster War Dog Program" May 20 2002. <http://www.qmfound.com/K-9.htm>. accessed 17 October 2005.

Training and outfitting dogs for military use during WWII.

Brumback, Teresa. "German P.O.W.s at Remount were treated well." *The Warren Sentinel*, 28 August 1997, B1, B4.

Brief discussion of POWs at Front Royal.

Bueker, Thomas R. *Fort Robinson and the American Century*. 2002. Lincoln, NE: Nebraska State Historical Society.

"Building 50, Revised Floor Plan." ND. M&G, CRC, flat file drawer "Housing Residences-Dorm." 1st floor plan.

Carr, Frank L., Col. QMC, assistant, to Commanding Officer, Front Royal Quartermaster Depot, Remount. 20 October 1944. M&G. CRC, file drawer "Deeds/Rights-of-Ways/Property lines & fencing."

Activities needed to discontinue the Quartermaster Corps Remount Depot at Front Royal. Does not appear to have been implemented as the remount remained open until 1948.

Cederwald, Maj. A. A. "The Remount Service Past and Present." *The Quartermaster Review*. November-December 1928. vol. 8, no. 3. p. 26-29. Quartermaster Museum, Fort Lee, Virginia.

History and goals of the Remount Service.

Construction Division, Office of the Quartermaster General. "Single F.O. Quarter's, No. 110." 12 April 1940. M&G, CRC, flat file drawer "Housing Residences-Dorm."

- Elevations; structural-framing plans & details; exterior & interior details; entrance type 2 & alternate porch; sun porch alternate plan; plumbing plan; electrical plan.
- Construction Service, QMC, USA, 1st District Office. "Reservation Map of Front Royal Remount Depot, near Front Royal, VA, drawing #6574-104." 16 April 1921, revised 1939. M&G, CRC, flat file drawer "Site Topo Plots Boundaries-survey-fencing."
- Shows field boundaries, and buildings completed and planned.
- Deeds conveying original core of property (1911-1912). File drawer "Deeds/Rights-of-Ways/Property lines & fencing," folder "Landfill Closure-CRC-2000."
- Copies of deeds and abstracts of title for land purchased by the United States for use as a Quartermaster Corps Remount Depot in Front Royal, VA.
- Dickinson, Josiah Look. *The Fairfax Proprietary: The Northern Neck, the Fairfax Manors and the Beginning of Warren County in Virginia*. Warren Press, Front Royal, VA. 1950. Virginia Room, Fairfax City Regional Library.
- "Dorm Building 147, Barn & Other Building Improvements, drawing # CRC 77-05." 7 June 1977. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 9 of 11: 1st & 2nd floor plans, detail sections; 10 of 11: site plan, revised electrical riser diagram, plumbing & electrical systems 1st & 2nd floors.
- "Dwg. 1, Building 60." ND. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 1st floor plan, renovations to existing building.
- "Dwg. 2, Building 60." ND. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 2nd floor plan, renovations to existing building.
- "Front Royal Q.M. Depot Front Royal, VA (Front Royal Architectural Index) OAHP." Ca. 1910-1946. copy at AHHP, originals at M&G, CRC, top of filing cabinets.
- Forms for individual buildings (also includes structures such as a flagpole and chlorination building) listing dates of construction and renovation, building uses, materials, utilities, etc. 500+ pages (1-2 pages/building). These forms appear to have been used to manage the built inventory on the property.
- "Front Royal Q.M. Remount, Front Royal, VA, General Layout Plan." ND. Sheet 1 of 3. M&G, CRC, flat file drawer "Site Planes Topo Plots Boundaries-survey-fencing." Also SIA, RU 326, box 7, folder 1 "Animal Breeding Site, 1971-1977."
- Shows pasture boundaries and buildings.

“Front Royal Q.M. Depot, Front Royal, Virginia, Water Lines System, Main Post.” ND. M&G, CRC, flat file drawer “Water System Site Planes.”

Shows buildings and water lines within the administrative area.

Gardner, William M. *Lost Arrowheads and Broken Pottery: Traces of Indians in the Shenandoah Valley*. Thunderbird Publications. 1986.

Gardner, William M. “An Examination of Cultural Change in the Late Pleistocene and Early Holocene (Circa 9200 to 6800 B.C.).” In *Paleoindian Research in Virginia: A Synthesis*, J. Mark Wittkofski and Theodore R. Reinhart, editors. *Special Publication No. 19*. Archeological Society of Virginia. 1989.

Hale, Laura Virginia. ““Stonewall” Jackson Gave North Its Worst Scare at Front Royal, Virginia, May 23, 1862.” In *Warren County Civil War Centennial Observance, Battle of Front Royal, Virginia*. 1962.

Haley, Elliott C., William H. Sager, William M. Stull, Robert B. Crane, Sumner W. Matteson, and Langdon T. Christian, III. *An Economic and Social Survey of Warren County*. University of Virginia School of Rural Social Economics, University of Virginia, Charlottesville. 1943.

“History of CRC’s Land.” Smithsonian National Zoological Park web site, <http://nationalzoo.si.edu/PrintPage/default.cfm>.

Hulse, Charles A. “A Phase II Archeological Investigation of 18WA451, Washington County Museum of Fine Arts Expansion Project, Hagerstown, Maryland.” Report to Washington County Museum of Fine Arts, Hagerstown, from Anthropology Department, Shepherd College, Shepherdstown, WV. *Shepherd College Cultural Resource Management Report #21*. 1993.

OCQMC. “Addition to Junior Officer’s Quarters, Plan No. 329, Building No. 16, Front Royal Remount Depot, Front Royal, Virginia.” ND. M&G, CRC, flat file drawer “Housing Residences-Dorm.”

Basement, 1st, 2nd, & 3rd floor plans for addition.

Park, Edwards. “The Smithsonian’s Front Royal Conservation and Research Center studies and breeds exotic rare animals.” *Smithsonian* January 1980, vol. 10, no.10. SIA, RU 404, box 33, folder “CRC – 1977-1980.”

General description of work done and animals kept at Front Royal; brief history of the facility’s use prior to NZP acquisition.

OCQMC. “Administration Building & Storehouse, Front Royal Remount Depot, Front Royal, Virginia, 333, No. 32.” January 1914. M&G, CRC, flat file drawer “Admin. & Auditorium.”

- Sheet 1: 1st & 2nd floor plans, stairway & counter details; Sheet 2: attic & roof plan, end elevations; Sheet 3: front & rear elevations; Sheet 4: cross-section & details.
- OCQMC. "Commanding Officer's Quarters, Front Royal Remount Depot, Front Royal, Virginia, 328." January 1914. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 5 sheets. 1: front elevation, 2nd floor plan; 2: basement & 1st floor plans; 3: rear & side elevations; 4: side elevation, door & window details; 5: interior, window, & door details.
- OCQMC. "Dispensary, 332, Front Royal Remount Depot, Front Royal, Virginia." January 1914. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 1: front & end elevations, 1st & basement/cellar floor plans; 2: rear & end elevations, porch, wall, & window details.
- OCMQC. "Double Set N.C.O. Quarters, 330, Bldg. 24." January 1914. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- front, side, & rear elevations, basement, 1st, & 2nd floor plans.
- OCMQC. "Extra Sheet, Grades, No. 46, 330, Double Set N.C.O. Quarters, Quarters 24 & 25." January 1914. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- #24: front, side, & rear elevations; #25: front, side, and rear elevations.
- OCMQC. "Extra Sheet, Grades, No. 46, Front Royal Remount Depot, Front Royal, Virginia, 330, Double Set N.C.O. Quarters, Bldg. 24. January 1915. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- West, east, north, & south elevations.
- OCQMC. "Junior Officer's Quarters, Front Royal Remount Depot, Front Royal, Virginia, 329, Bldg. 17." January 1914. M&G, CRC, flat file drawer "Housing Residences-Dorm."
- 1: basement, 1st, 2nd, & 3rd floor plans; 2: front, rear, and 2 side elevations; 3: interior, door, & railing details; 4: grading plans bldg. 16 and bldg. 17.
- OCQMC. "Water Supply System, Front Royal Remount Depot, Front Royal, Virginia, 4-1134 a, No. 41." April 1913. M&G, CRC, flat file drawer "Water System Site Planes."
- 1: possible groundwater plan; 3: reservoir elevation, sections, and valve chamber details.
- Quartermaster Corps. "Aleshire (formerly Front Royal) Quartermaster Depot (Remount), Front Royal, VA" aerial photograph. Ca. 1933-1937. Quartermaster Museum, Fort Lee, VA.

Quartermaster Corps. "Aleshire Q.M. Depot, Front Royal, VA." ca. 1945. M&G, CRC.

The Quartermaster Review. July-August 1921. pp. 16-18, 24. SIA, RU 9596, box 1, folder "CRC land & early history."

Activities of the Remount Depots in general with some information on the Front Royal Quartermaster Intermediate Depot.

"Recreation Building, Front Royal, Remount Depot, Front Royal, Virginia. ND.

Front & site elevations, basement & 1st floor plan.

"Remount Station, Front Royal, Virginia, Bldg. #27, Revised Plans." August 1952. M&G, CRC, flat file drawer "Housing Residences-Dorm."

1: section, ground floor plan; 2: left & right elevations, front & rear elevations.

Reynolds, Lt. Col. S. C., Q. M. C. "The Front Royal Remount Depot." *The Quartermaster Review*. September-October 1930. pp. 23-25. SIA, RU 9596, box 1, folder "CRC land & early history."

Activities at the Front Royal Remount Depot, including number of stallions, number of mares bred, etc.

Rogers, Pleas B., Lt. Col., QMC, c. 1940, CRC, Facilities Office, #701-0407, deed drawer.

Operations at the Front Royal Remount Depot in 1940 – discusses process of procuring and conditioning the horses.

Simpich, Frederick. "Your Dog Joins Up." *The National Geographic Magazine*, January 1943. vol. 83, no. 1, pp. 93-113. Library of Congress.

Discusses the training of war dogs and their uses in the war. Includes several photographs of the Front Royal Remount Depot.

Sweet, Palmer C., Richard S. Good, James A. Lovett, Elizabeth V. M. Campbell, Gerald P. Wilkes, and Lesley L. Meyers. *Copper, Lead, and Zinc Resources in Virginia, Virginia Division of Mineral Resources Publication 93*. Department of Mines, Minerals and Energy, Charlottesville, VA. 1989.

Tuttle, Capt. H. E. "Purchasing and Issuing Remounts." *The Quartermaster Review*, November-December 1928, vol. 8, no. 3, p. 11-14. Quartermaster Museum, Fort Lee, VA.

Describes the goals and techniques for purchasing horses for remount and issuing them to military units.

United States Geological Survey (USGS). *Chester Gap, Virginia, Quadrangle Map*, 7.5 minute series, 1987. United States Geological Survey, Washington, D. C.

United States Geological Survey (USGS). *Front Royal, Virginia, Quadrangle Map*, 7.5 minute series, 1994. United States Geological Survey, Washington, D. C.

United States Geological Survey (USGS). *Linden, Virginia, Quadrangle Map*, 7.5 minute series, 1986. United States Geological Survey, Washington, D. C.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0258, completed by C. L. Rodgers, Thunderbird RPO. 1980a.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0286, completed by C. L. Rodgers, Thunderbird RPO. 1980b.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0287, completed by C. L. Rodgers, Thunderbird RPO. 1980c.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0302, completed by Martha McCartney. 1981a.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0312, completed by K. H. Louthan, VDOT. 1981b.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These

were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44FQ0068, completed by Mark Wittkofski. 1984a.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0319, completed by Mark Wittkofski. 1984b.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Virginia Department of Historic Resources (VDHR). Archeological Site Form 44WR0346, completed by William E. Trout. 1993.

Registration form for archeological site, providing information about sites in the vicinity of the Front Royal Campus. The forms are on file at VDHR in Richmond, VA. These were printed using the Department of Historic Resources Data Sharing System, an electronic database.

Waller, Anna L. "Horses and Mules for National Defense." 1958. np. Quartermaster Museum, Fort Lee, VA.

History of using horses and mules in American military.

War Department, no title. 9 October 1936. M&G, CRC, deed drawer.

Provides information on date and amounts of land purchased from private parties to create Front Royal Remount Depot and mission of that remount depot.

Weedle, Karen. November 1998. SIA, RU 9592, box 1, folder "CRC land & early history."

Oral history notes. From Dr. Joseph W. A. Whitehorne, professor at Lord Fairfax Community College, Middletown: information on development of the idea/need for remount depots, activities at the depot, training war dogs, housing prisoners of war. Carl Thompson: resident of Front Royal, information on life in town with the soldiers at the remount depot. Mrs. Eleanor Rappaport, Front Royal resident. Red McDaniels, worked at the Beef Research Station; Richard Ault: SI Director of Support Activities when the Front Royal property was acquired; Col. And Mrs. Roy Batterton, lived near Front Royal; Elmer Hickerson, Jr.: employed at the Remount Depot and Beef Cattle Research Station.

Abbreviations:

NZP = National Zoological Park

AHHP = Smithsonian Architectural History and Historic Preservation files

SIA = Smithsonian Institution Archives

FLO = Frederick Law Olmsted (Sr. or Jr. as noted)

LoC = Library of Congress

[] = unsure of information within brackets

M&G, CRC = Maintenance and Grounds Office, Conservation and Research Center

APPENDIX I

Acknowledgements

The John Milner Associates team wishes to thank the many people who assisted us in our research and fieldwork: Robert Nenninger (National Archives and Records Administration); Luther Hanson (Quartermaster Museum, Fort Lee, Virginia); Thoma Buecker (Fort Robinson Museum, Crawford, Nebraska); Dr. Cynthia Field (Smithsonian Institution, Office of Architectural History and Historic Preservation); Pamela Henson and Ellen Alers (Smithsonian Institution Archives); Richard Hider, Scott Derrikson, Jennifer Buff, Noah (Dick) Rutledge, Lisa Ware and Linwood Williamson (National Zoological Park); and Max Cameron, local resident and former employee of the Front Royal campus.

APPENDIX II

Character-defining elements

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
701-0005	Central	Visitor Cottage	Building	Yes	
701-0010	Central	GIS Computer Lab	Building	Yes	
701-0018	South Pastures	Hay Storage 1	Building	Yes	
701-0019	Central	Fire Station	Building	Yes	
701-0023	Central	Private Residence 0023	Building	Yes	
701-0025	Central	Private Residence 0025	Building	Yes	
701-0032	Central	Grounds Equipment Storage	Building	Yes	
701-0037	Central	Office Annex	Building	Yes	
701-0040	Central	Private Residence 0040	Building	Yes	
701-0041	Central	Garage 0041	Building	Yes	
701-0044	South Pastures	Hay Storage 2	Building	Yes	
701-0046	Central	Grounds Maintenance Bldg	Building	Yes	
701-0054	Central	Private Residence 54	Building	Yes	
701-0056	Central	Private Residence 56	Building	Yes	
701-0058	Central	Farm Equipment Storage	Building	Yes	
701-0058	Central	Farm Equipment Storage	Building	Yes	
701-0062	Central	Garage 0062	Building	Yes	
701-0064	Central	Garage 0064	Building	Yes	
701-0070	Central	Training Center	Building	Yes	
701-0073	Central	Fence Crew Shop	Building	Yes	
701-0074	Central	Private Residence 0074	Building	Yes	QM #46
701-0074	Central	Private Residence 0074	Building	Yes	QM #15
701-0076	Central	Private Residence 0076	Building	Yes	
701-0078	Central	Lumber Storage Shed	Building	Yes	QM #62
701-0082	Racetrack/Slate	Private Residence 0082	Building	Yes	
701-0083	Central	Administration Bldg.	Building	Yes	
701-0086	Central	Private Residence 0086	Building	Yes	
701-0090	Central	Lecture Hall / Cafeteria	Building	Yes	
701-0098	Central	Private Residence 0098	Building	Yes	QM #21
701-0098	Central	Private Residence 0098	Building	Yes	QM #16
701-0099	Central	Paint Shop	Building	Yes	
701-0100	Central	Animal Bldg 4	Building	Yes	
701-0100	Central	Garage 0100	Building	Yes	
701-0104	South Pastures	Mule Barn	Building	Yes	
701-0108	Central	Maintenance & Research Office Bldg.	Building	Yes	
701-0110	Central	Private Residence 0110	Building	Yes	
701-0111	Central	Private Residence 0111	Building	Yes	
701-0115	Central	Private Residence 0115	Building	Yes	

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
701-0116	Central	Animal Bldg 3	Building	Yes	
701-0118	Central	Private Residence 0118	Building	Yes	
701-0129	Central	Recycling Center	Building	Yes	
701-0133	Central	Commissary & Supply	Building	Yes	
701-0142	Central	Private Residence 0142	Building	Yes	
701-0143	Central	Scale House	Building	Yes	
701-0148	Green/Meade	Breeding Barn	Building	Yes	
701-0158	Central	Waste Water Treatment Bldg	Building	Yes	
701-0173	South Pastures	Church Barn	Building	Yes	
701-0173A	Central	Oil Storage Shed	Building	Yes	
701-0175	South Pastures	Private Residence 0175	Building	Yes	
701-0181	Central	Animal Supply	Building	Yes	
701-0234	Racetrack/Slate	Horse Barn	Building	Yes	
701-0245	Central	Animal Bldg 1	Building	Yes	
701-0267	Central	Animal Bldg 2	Building	Yes	
701-0277	Central	Dormitory	Building	Yes	
701-0285	Central	Auditorium	Building	Yes	
701-0317	Central	Laundry/Office	Building	Yes	
701-0338	Central	Office Annex	Building	Yes	
701-0348	Racetrack/Slate	Fire Crew Drill House	Building	Yes	
701-0371	Central	Garage 0371	Building	Yes	
701-0395	Central	Vehicle Repair Shop	Building	Yes	
701-0412	Central	Carpenter Shop	Building	Yes	
701-0445	Central	Maintenance Warehouse	Building	Yes	
701-0576	Green/Meade	Green Hill Barn	Building	Yes	
701-0576A	Green/Meade	Green Hill Annex	Building	Yes	
701-0978	Racetrack/Slate	Slate Hill Barn	Building	Yes	
701-1154	Bear Pond	Private Residence 1154	Building	Yes	
701-1166	Bear Pond	Garage 1166	Building	Yes	
701-2518	South Pastures	Private Residence 2518	Building	Yes	
701-3015	Green/Meade	Meade Barn	Building	Yes	
701-3289	Green/Meade	Waller Barn	Building	Yes	
701-PH01	Central	Pump House 1	Building	Yes	
701-PH02	Central	Pump House 2	Building	Yes	
701-PH04	Central	Pump House 4	Building	Yes	
A500	Leach/Posey	K-9 and Prisoner-of-war Area	Site	yes	
A526	South pastures	House	Site	yes	
B501	Central	Shed	Building	Yes	
B502	Racetrack/Slate	Storage	Building	Yes	

APPENDIX III

Inventory of Resources

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
701-0005	Central	Visitor Cottage	Building	Yes	
701-0010	Central	GIS Computer Lab	Building	Yes	
701-0018	South Pastures	Hay Storage 1	Building	Yes	
701-0019	Central	Fire Station	Building	Yes	
701-0023	Central	Private Residence 0023	Building	Yes	
701-0025	Central	Private Residence 0025	Building	Yes	
701-0032	Central	Grounds Equipment Storage	Building	Yes	
701-0037	Central	Office Annex	Building	Yes	
701-0040	Central	Private Residence 0040	Building	Yes	
701-0041	Central	Garage 0041	Building	Yes	
701-0044	South Pastures	Hay Storage 2	Building	Yes	
701-0046	Central	Grounds Maintenance Bldg	Building	Yes	
701-0046	Central	Small Animal Facility	Building	No	
701-0047	South Pastures	Hay Storage 3	Building	No	
701-0054	Central	Private Residence 54	Building	Yes	
701-0056	Central	Private Residence 56	Building	Yes	
701-0058	Central	Farm Equipment Storage	Building	Yes	
701-0058	Central	Farm Equipment Storage	Building	Yes	
701-0062	Central	Garage 0062	Building	Yes	
701-0064	Central	Garage 0064	Building	Yes	
701-0065	Central	Tractor Storage Shed	Building	No	
701-0067	Central	Storage Shed 0067	Building	No	
701-0070	Central	Training Center	Building	Yes	
701-0073	Central	Fence Crew Shop	Building	Yes	
701-0074	Central	Private Residence 0074	Building	Yes	QM #46
701-0074	Central	Private Residence 0074	Building	Yes	QM #15
701-0074	Bear Pond	Longfield Shelter 3	Building	No	
701-0076	Central	Private Residence 0076	Building	Yes	
701-0078	Central	Lumber Storage Shed	Building	Yes	QM #62
701-0078	Central	Lumber Storage Shed	Building	No	QM #150
701-0082	Racetrack/Slate	Private Residence 0082	Building	Yes	
701-0083	Central	Administration Bldg.	Building	Yes	
701-0086	Central	Private Residence 0086	Building	Yes	
701-0086	Leach/Posey	King 2 Shed	Building	No	
701-0086	Central	Lower Research Shed	Building	No	
701-0090	Central	Lecture Hall / Cafeteria	Building	Yes	

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
701-0098	Central	Private Residence 0098	Building	Yes	QM #21
701-0098	Central	Private Residence 0098	Building	Yes	QM #16
701-0099	Central	Paint Shop	Building	Yes	
701-0100	Central	Animal Bldg 4	Building	Yes	
701-0100	Central	Garage 0100	Building	Yes	
701-0102	Central	Butler Bldg.	Building	No	
701-0104	South Pastures	Mule Barn	Building	Yes	
701-0108	Central	Maintenance & Research Office Bldg.	Building	Yes	
701-0110	Central	Private Residence 0110	Building	Yes	
701-0111	Central	Private Residence 0111	Building	Yes	
701-0115	Central	Private Residence 0115	Building	Yes	
701-0116	Central	Animal Bldg 3	Building	Yes	
701-0118	Central	Private Residence 0118	Building	Yes	
701-0129	Central	Recycling Center	Building	Yes	
701-0132	South Pastures	Trailer Shed	Building	No	
701-0133	Central	Commissary & Supply	Building	Yes	
701-0139	Green/Meade	King Shed	Building	No	
701-0142	Central	Private Residence 0142	Building	Yes	
701-0143	Central	Scale House	Building	Yes	
701-0147	Central	Lower Wolf Facility	Building	No	
701-0148	Green/Meade	Breeding Barn	Building	Yes	
701-0152	Central	HAZMAT Storage	Structure	No	
701-0158	Central	Waste Water Treatment Bldg	Building	Yes	
701-0173	South Pastures	Church Barn	Building	Yes	
701-0173A	Central	Oil Storage Shed	Building	Yes	
701-0175	South Pastures	Private Residence 0175	Building	Yes	
701-0181	Central	Animal Supply	Building	Yes	
701-0231	Central	Archives Storage Facility	Building	No	
701-0234	Racetrack/Slat e	Horse Barn	Building	Yes	
701-0245	Central	Animal Bldg 1	Building	Yes	
701-0267	Central	Animal Bldg 2	Building	Yes	
701-0277	Central	Dormitory	Building	Yes	
701-0285	Central	Auditorium	Building	Yes	
701-0302	Racetrack/Slat e	Upper Wolf Building	Building	No	
701-0303	Central	Research Office & Private Residence	Building	No	
701-0317	Central	Laundry/Office	Building	Yes	
701-0318	Central	Veterinary Hospital &	Building	No	

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
		Private Residence			
701-0338	Central	Office Annex	Building	Yes	
701-0346	Green/Meade	Rhea Facility	Building	No	
701-0348	Racetrack/Slate	Fire Crew Drill House	Building	Yes	
701-0371	Central	Garage 0371	Building	Yes	
701-0395	Central	Vehicle Repair Shop	Building	Yes	
701-0407	Central	Boiler Room / Mason Shop	Building	No	
701-0412	Central	Carpenter Shop	Building	Yes	
701-0445	Central	Maintenance Warehouse	Building	Yes	
701-0467	Leach/Posey	Leach House	Building	No	
701-0467A	Leach/Posey	Lower Barn @ Leach House	Building	No	
701-0467B	Leach/Posey	Upper Barn @ Leach House	Building	No	
701-0576	Green/Meade	Green Hill Barn	Building	Yes	
701-0576A	Green/Meade	Green Hill Annex	Building	Yes	
701-0619	Green/Meade	Green Hill Shelter	Building	No	
701-0865	Leach/Posey	Long Hill Storage	Building	No	
701-0978	Racetrack/Slate	Slate Hill Barn	Building	Yes	
701-0981	Racetrack/Slate	Slate Hill Shelter	Building	No	
701-1016	Racetrack/Slate	Private Residence 1016	Building	No	
701-1154	Bear Pond	Private Residence 1154	Building	Yes	
701-1166	Bear Pond	Garage 1166	Building	Yes	
701-1316	Bear Pond	Longfield Shelter 1	Building	No	
701-1375	Bear Pond	Rivinus Barn	Building	No	
701-1437	Bear Pond	Rivinus Annex	Building	No	
701-1561	Bear Pond	Longfield Shelter 5	Building	No	
701-1562	Bear Pond	Longfield Shelter 4	Building	No	
701-2518	South Pastures	Private Residence 2518	Building	Yes	
701-3015	Green/Meade	Meade Barn	Building	Yes	
701-3019	Green/Meade	Meade Shelter	Building	No	
701-3200	Bear Pond	Longfield Shelter 2	Building	No	
701-3289	Green/Meade	Waller Barn	Building	Yes	
701-3293	Green/Meade	Waller Shelter	Building	No	
701-CR01	Central	Crane House 01	Building	No	
701-CR02	Central	Crane House 02	Building	No	
701-CR03	Central	Crane House 03	Building	No	
701-CR04	Central	Crane House 04	Building	No	

Resource #	Location	Resource Name	Resource type	Character-defining element	Notes
701-CR05	Central	Crane House 05	Building	No	
701-CR06	Central	Crane House 06	Building	No	
701-CR07	Central	Crane House 07	Building	No	
701-CR08	Central	Crane House 08	Building	No	
701-CR09	Central	Crane House 09	Building	No	
701-CR10	Central	Crane House 10	Building	No	
701-CR11	Central	Crane House 11	Building	No	
701-CR12	Central	Crane House 12	Building	No	
701-CR13	Central	Crane House 13	Building	No	
701-CR14	Central	Crane House 14	Building	No	
701-CR15	Central	Crane House 15	Building	No	
701-CR16	Central	Crane House 16	Building	No	
701-CR17	Central	Crane House 17	Building	No	
701-CR18	Central	Crane House 18	Building	No	
701-CR19	Central	Crane House 19	Building	No	
701-CR20	Central	Crane House 20	Building	No	
701-CR21	Central	Crane House 21	Building	No	
701-PH01	Central	Pump House 1	Building	Yes	
701-PH02	Central	Pump House 2	Building	Yes	
701-PH03	Central	Pump House 3	Building	No	
701-PH04	Central	Pump House 4	Building	Yes	
701-PH05	Bear Pond	Pump House 5	Building	No	
701-TO01	Central	Muntjac Tower	Building	No	
A500	Leach/Posey	K-9 and Prisoner-of-war Area	Site	Yes	
A501	Central	Sawmill Hollow	site	No	
A502	Leach/Posey	Old Leach house foundation	Site	No	
A503	Leach/Posey	Leach Farm	Site	No	
A504	Leach/Posey	Leach Road prehistoric site	Site	No	
A505	Leach/Posey	Posey Hollow prehistoric site	Site	No	
A506	Bear Pond	Sealoch Copper Mine	Site	No	
A507	Bear Pond	Three-sided foundation	Site	No	
A508	Bear Pond	Airplane Wreck	Site	No	
A509	Bear Pond	Foundation near Bear Pond	Site	No	
A510	Leach/Posey	Dilger Field prehistoric	Site	No	
A511	Racetrack/Slate	Foundation at racetrack hill	Site	No	
A512	Central	Foundation	Site	No	