

RESEARCH DESIGN OF FORT ANDERSON

by

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The purpose of this thesis is to produce a research design for Fort Anderson, a State Historic Site on the west bank of the Cape Fear River in Brunswick County, North Carolina. The thesis opens with the history of Fort Anderson, starting with a history of the Colonial town Brunswick, to provide a context for the site. A specific history of the fort begins with discussing the importance of Wilmington and the defenses of the Cape Fear River. Following this overview there is a summary of the construction of and capture of Fort Anderson. The research design uses the historical and archaeological background to formulate site-specific archaeological questions and uses cases studies of Civil War archaeology to ensure that research at Fort Anderson is within the context of Civil War archaeology. This research touches upon the following areas: previous archaeological research, the archaeology of fort construction, a survey of the site, the fort's hospital, and the archaeology of camp life. This research is designed to provide future archaeologists and the site manager of Fort Anderson with ways to better interpret the fortification and enhance the preservation of earthworks.

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by

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TABLE OF CONTENTS

LIST OF FIGURES	vi
CHAPTER ONE – INTRODUCTION	1
Statement of Purpose	3
CHAPTER TWO – HISTORICAL BACKGROUND	6
Brunswick Town	6
Wilmington and the Defenses Along the Cape Fear River	11
Fort Anderson	21
After the War to Present Day	44
CHAPTER THREE – PREVIOUS ARCHAEOLOGY	46
CHAPTER FOUR – RESEARCH DESIGN	55
The Archaeology of Fort Construction	55
Survey of Fort Anderson	58
Fort Anderson’s Hospital	66
The Archaeology of Camp Life	69
Conclusion	71
CHAPTER FIVE – SITE PRESERVATION	73
CHAPTER SIX – CONCLUSION	79
BIBLIOGRAPHY	81

LIST OF FIGURES

Figure 1.1: Map of Fort Anderson, 1865	2
Figure 1.2: Location of Fort Anderson	4
Figure 2.1: Reconstruction of Lot Plan by Dr. E. Lawrence Lee	7
Figure 2.2: 1769 Map of Brunswick by C.J. Sauthier	8
Figure 2.3: Ecce Homo	9
Figure 2.4: Map of Wilmington during Civil War	13
Figure 2.5: Map Indicating Defenses of Cape Fear River	15
Figure 2.6: Fort Anderson	16
Figure 2.7: Fort Pender	17
Figure 2.8: Defenses of Old Inlet- Forts Campbell, Caswell, and Holmes	18
Figure 2.9: Fort Fisher	29
Figure 2.10: Remains of Old Brunswick Battery	22
Figure 2.11: Lieutenant Rowland's map of Fort St. Philip in April 1862	24
Figure 2.12: Overlay of Fort Anderson with Sauthier's Brunswick Map	26
Figure 2.13: Map of Fort St. Philip, 1863	28
Figure 2.14: General Whiting's General Orders No. 33	29
Figure 2.15: Comparison of Blueprint of 32-Pound Cannon on Wooden Carriage with Replica	31
Figure 2.16: Map of Fort Anderson and the Sugar Loaf	36
Figure 2.17: 12-Pound Whitworth Rifle Cannon	38
Figure 2.18: Map of Fort Anderson, 1865	39

Figure 2.19: General Cox’s Route Towards Fort Anderson	41
Figure 3.1: 1865 Twining Map Indicating The Suspected Barracks West of Battery B	47
Figure 3.2: Gun Emplacement #3 in Battery B	49
Figure 3.3: Gun Emplacement #2 in Battery B	50
Figure 3.4: Area Excavated in Gun Emplacement #2, Facing South	51
Figure 3.5: Pintle Plate and Central Pintle	52
Figure 3.6: Platform Bolt	53
Figure 3.7: Light Bulb Found in Southern Unit	53
Figure 4.1: Topographic Survey of Battery B	59
Figure 4.2: Topographic Survey of Battery B	60
Figure 4.3: Detailed Measurements of Earthworks with Notes Based on Mahan’s Manual	61
Figure 4.4: Detailed Measurements of Gun Emplacement	62
Figure 4.5: Two Magnetometer Grids Over Fort Anderson’s Magazines	63
Figure 4.6: Anomalies Found From Magnetometer	64
Figure 4.7: Inventory Collected on December 20, 1964 by Major James Reilly	65
Figure 5.1: Prescribed Burning on Military Earthworks at Fort Harrison	74
Figure 5.2: Mowing of Military Earthworks at the Colonial National Historical Park	75
Figure 5.3: Herbaceous Trimming the Military Earthworks at Fort Harrison	75
Figure 5.4: Woody Trimming Treatment of Military Earthworks at Fort Gilmer	76
Figure 5.5: Forested Military Earthworks at Fort Harrison	76
Figure 5.6: Estimated for Five Treatments Over The Time Period of March 2000 through February 2001	77

CHAPTER ONE – INTRODUCTION

In this author's opinion, the importance of Fort Anderson (Figure 1.1) is in the information it can provide about a defining moment in the history of the United States.

Archaeology presents a chance to add new perspectives to researchers' understanding of the time period and contribute to historical accounts of the Civil War. Beginning on April 12, 1861 with the first shots fired at Fort Sumter in Charleston Harbor, the Civil War is one of the most studied events in all of American history (Geier & Winter, 1994). "The events of the Civil War, as suggested by Lincoln, were not an end in themselves. Instead they marked the beginning of a new national identity and the emergence of a dynamic society whose history is still being written" (Geier, Scott, & Babits, 2014, p. 1).

Concerning the Civil War, archaeological research can be used to supplement and correct the historical record, either supporting or refuting both academic and popular histories. Archaeology is often the only way to document events when the historical record is either incomplete or nonexistent as well as provide new perspectives on history.

Regarding this thesis, the question is how to develop a research program to investigate Fort Anderson. The goal of this research is to "devise techniques for gathering the facts which are pertinent to questions currently being asked of our data" (Binford, 1964, p. 427). The main goal of research design is to provide a framework for studies that are regional in scope; however, in order to collect regional data, the researcher must begin at the level of the individual site (Binford, 1964). The examination of archaeological features at the site-specific level is for the purpose of investigating variation between similar features and the structure of clusters of features. This can lead to the production of a typology, whereas archaeologists can then examine similarities and differences between similar sites within a region (Binford, 1964).



Figure 1.1: Map of Fort Anderson, 1865 (Fonvielle, 2015)

Based on the description of research design above, the research guide at Fort Anderson will focus on how research at Fort Anderson can be used to answer current questions in Civil

War archaeology and how the fort can contribute to a regional understanding of the Civil War and the culture of the Civil War military. Research is based on past archaeology and the historic background to develop site-specific questions. The plan also accounts for questions being asked at other Civil War sites and how Fort Anderson can yield relevant data about these questions and incorporate them into a regional understanding of the war.

Statement of Purpose

In this study I will set forth an archaeological research design and site preservation plan for Fort Anderson, a Confederate Civil War earthworks located in Brunswick County, North Carolina. This fort is a State Historic Site that is located on the west bank of the Cape Fear River, about 18 miles south of Wilmington, North Carolina (Figure 1.2).

The fort formed part of a defensive perimeter established by the Confederates in order to protect the port and railroad depot at Wilmington. To understand the importance of the fort in the Civil War, the second chapter of this thesis provides the historical overview. This summary opens with a discussion of the Colonial town located where Fort Anderson was later built and it addresses the defenses along the Cape Fear River. The following chapter describes the previous archaeological fieldwork conducted on Fort Anderson.

The fourth chapter describes my research design and how it could promote future research at Fort Anderson. This will address such questions concerning the archaeology of fort construction, site surveys of the fort, a discussion of the fort's hospital, and the archaeology of camp life. The fifth chapter concerns the preservation of the site and it includes suggestions on maintaining the earthworks and centralizing the location of records from previous excavations.



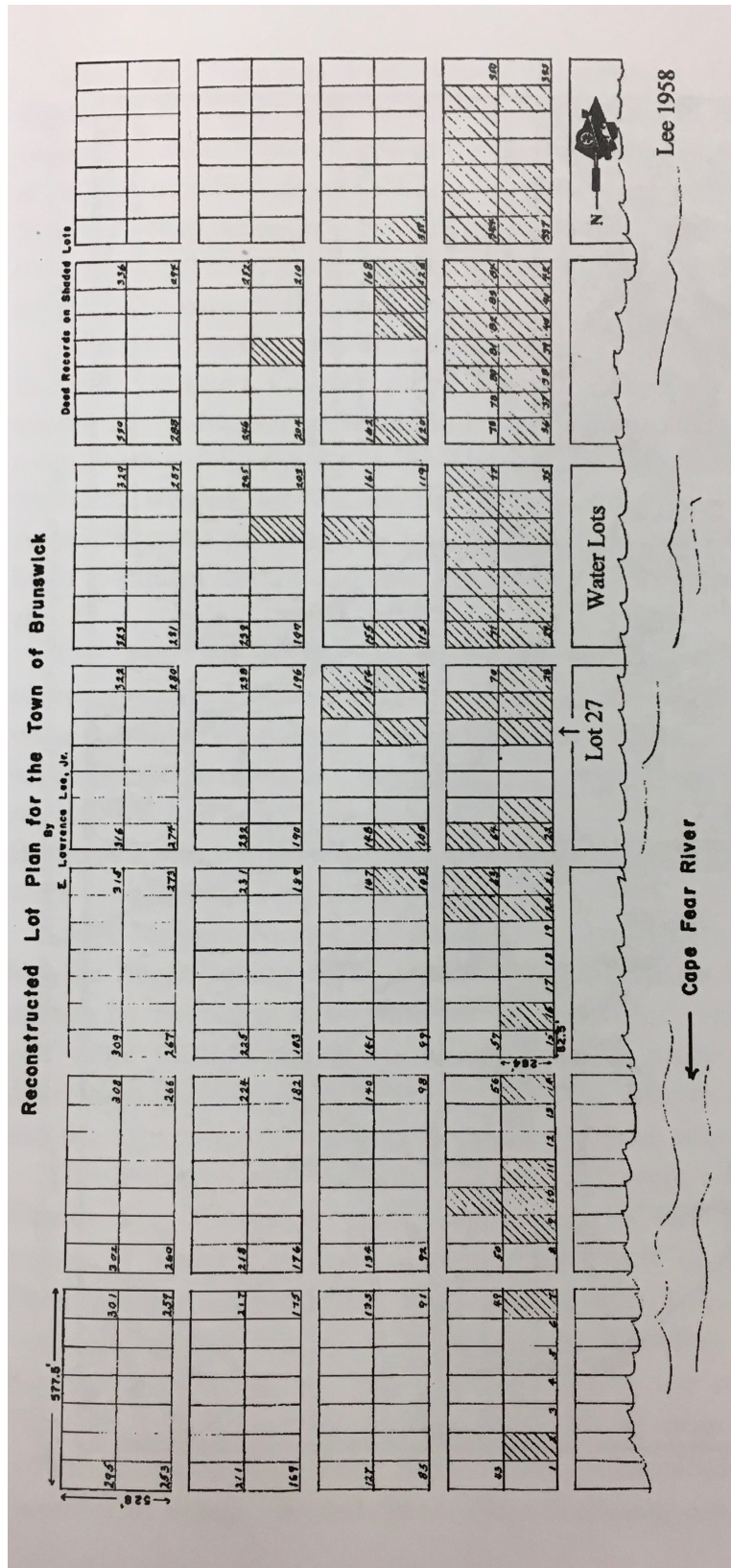
Figure 1.2: Location of Fort Anderson (Moore, 1999)

By synthesizing previous work on Fort Anderson, this thesis provides archaeologists with a starting point for future research. The research design also assures that future excavations are conducted within the context of other Civil War sites and add to the overall understanding of Civil War culture.

CHAPTER TWO- HISTORICAL BACKGROUND

Brunswick Town

Before there was the Confederate Civil War era, Fort Anderson, along the west bank of the Cape Fear River, there was the Colonial town, Brunswick. Maurice Moore founded Brunswick Town in 1725 after he was granted 1,500 acres of land, of which he set aside 320 acres for the town. Dr. E. Lawrence Lee Jr. examined the land records of Brunswick Town and was able to reconstruct the initial lot plan established by Maurice Moore, which indicated that the town was divided into 336 half-acre lots (Figure 2.1) (South, 2010). Roger Moore, Maurice's brother, later added 20 acres to the northern edge of the town plan, where Russellborough (the governor's house) was later built, increasing the total to 356 lots (South, 2010). In 1769, a Swiss surveyor, C.J. Sauthier, mapped Brunswick after being commissioned by Governor William Tryon to create a set of detailed maps of North Carolina's important colonial towns (Figure 2.2) (Fonvielle, 2015). To develop the town more quickly and prevent the land from being held for speculation, the lots were sold under the condition that a habitable house, sixteen by twenty feet, is built on the lot within eight months (South, 2010). The sale of the first two lots, numbers twenty-two and twenty-three occurred on June 30, 1726 to Cornelius Harnett Sr. for two pounds each (South, 2010).



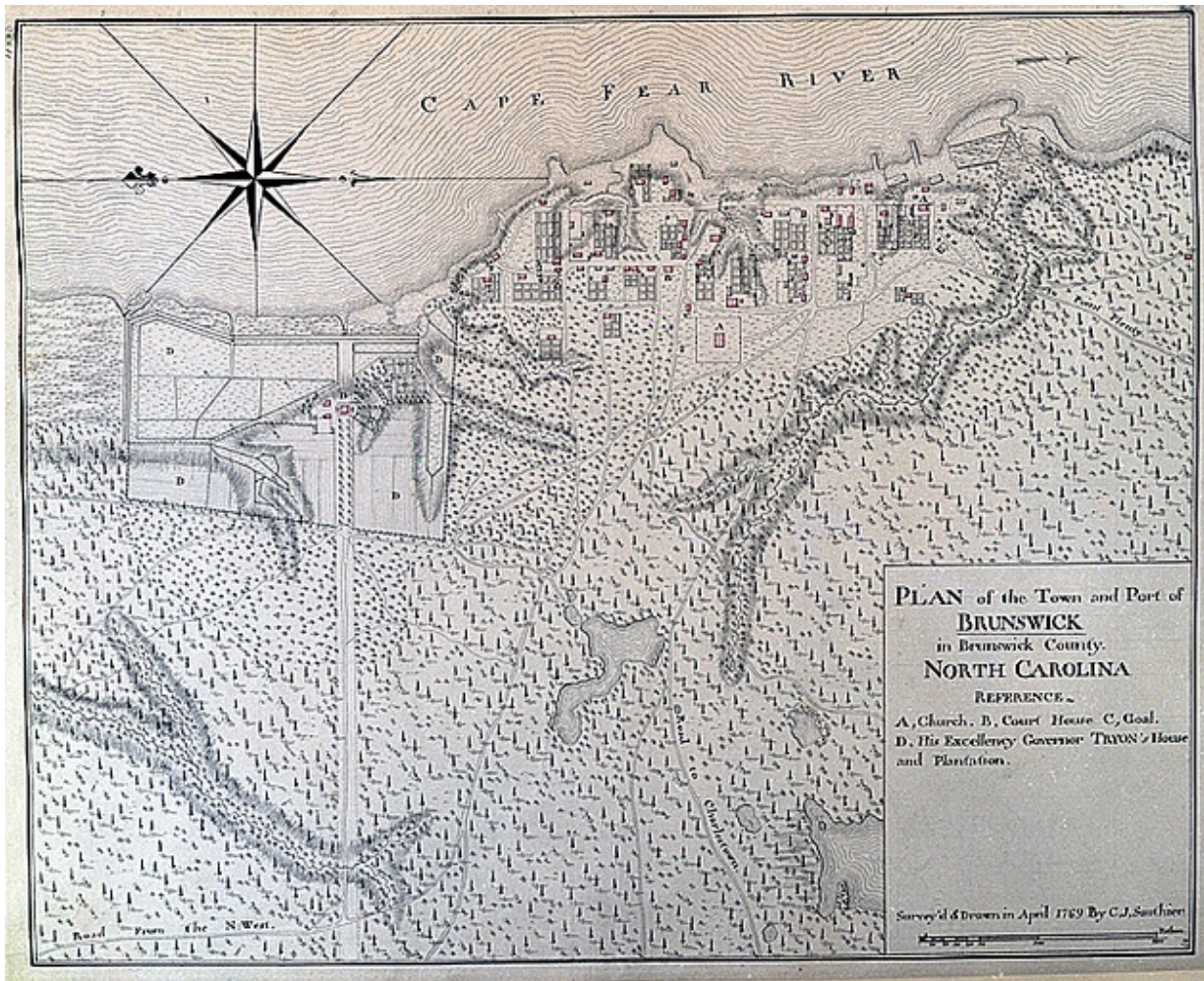


Figure 2.2: 1769 Map of Brunswick by C.J. Sauthier (South, 2010)

Brunswick was made the seat of the local government in 1729 after the establishment of the New Hanover Precinct. In 1731, Brunswick became the official Port of Entry for all shipping in the lower Cape Fear area, which contributed to its growth as one of the three major ports in North Carolina (Pedlow & Fryar, 2005). Governor Gabriel Johnston came into office in 1734 and was at odds with the Moores frequently over the administration of the colony. As a result Johnston favored the village of Newton founded in 1733, sixteen miles upriver from Brunswick Town, and later in 1740 renamed it Wilmington (Pedlow & Fryar, 2005). In 1740, Johnston

scored a major blow to Brunswick by having the precinct's courts moved to Wilmington (Pedlow & Fryar, 2005).

In 1748, while England and Spain were involved in the War of Jenkins' Ear, two Spanish warships and a captured South Carolina vessel dropped anchor along the river and sent men ashore to raid the town. It was three days after the initial landing that William Dry III led a surprise counter-attack against the Spanish and succeeded by killing or capturing many. The Spanish sloop offshore fired its cannons at the town, resulting in serious damage, until an explosion occurred causing the ship to sink. The second Spanish ship responded by sailing back downriver and fired upon the town before sailing away the next day. Among the recovered items from the wreckage was the painting "Ecce Homo", a painting of Christ, and it was subsequently given to the St. James Church in Wilmington (Figure 2.3).



Figure 2.3: Ecce Homo (South, 2010)

Construction of the St. Philips Anglican Church began in 1754 and it was completed in 1768, the walls of the building still stand today. The church later shared its name with the Civil War fort's founding name, Fort St. Philips. Then governor, Arthur Dobbs, helped raise funds for the completion of the church in 1759 by authorizing a lottery and later announced that when completed, St. Philips would become His Majesty's Church in North Carolina, where the King would donate to it a Bible, pulpit, communion plate and table, and a Book of Common Prayer for the congregation (Pedlow & Fryar, 2005).

In 1705 the production of naval stores was lucrative, thanks to the English parliament issuing a bounty to be paid for those shipping these items, largely due to Great Britain's dependence on its large navy for its continued success. The exportation of tar, pitch, and turpentine extracted from pine trees brought about a great amount of money and importance to the town of Brunswick (Pedlow & Fryar, 2005). For example the port at Brunswick provided 32% of all naval stores shipped by the combined other colonies, totaling 59,006 barrels in 1772 (Pedlow & Fryar, 2005). During its peak, 1773-1776, the Brunswick port saw over three hundred ships bringing cargoes in and out (Pedlow & Fryar, 2005).

Unrest between England and the colonies, including Brunswick picked up in 1765 with the Stamp Act, which mandated stamps had to be purchased and attached to all legal documents, including ships' clearance papers. This resulted in what may have been the first armed resistance in the colonies to the British government, when townspeople armed with muskets met a captain who arrived delivering stamps to Brunswick in late 1765 (Pedlow & Fryar, 2005). In February 1766, after two merchant ships were seized for not having stamp clearance, a mob of several hundred men marched on Russellborough, then called the "Bellfont" the property of Governor Tryon, resulting in Tryon leaving Brunswick and port collector William Dry III and other

officials resigning from their positions and a document being signed that no stamps would be required or sold in the lower Cape Fear region (Pedlow & Fryar, 2005). Several months later news arrived that the Stamp Act had been repealed in March 1766.

The Revolutionary War spelled the end of Brunswick. In 1775, after rumors spread that the British were planning on burning down Brunswick on their way to Wilmington, many of the townspeople fled the city. The British, led by Captain John Abraham Collett may have burned parts of Brunswick in early 1776 due to it being the home of Robert Howe's plantation, who had become an important officer in the North Carolina militia (Pedlow & Fryar, 2005). After Brunswick was deserted, the British moved the county seat to Lockwood's Folly, present day Holden Beach. The town lay abandoned except for the occasional visitor until in 1842 the town site was sold for \$4.25 to Dr. Frederick J. Hill, then owner of Orton Plantation (Fonvielle, 2015). In 1854, both Orton and the town site were sold to Thomas C. Miller Jr. It should be noted that books concerning Fort Anderson do not discuss the condition of Brunswick Town when construction began on the fort. They only briefly mention the overgrowth of vegetation covering ruins and St. Philip's Church (Fonvielle, 2015).

Wilmington and the Defenses Along the Cape Fear River

To put Fort Anderson into a broader historical context and to emphasize its importance in the war, a brief background concerning Wilmington is necessary. On the eve of the American Civil War, Wilmington, situated 25 miles north of the Cape Fear's confluence with the Atlantic and on the eastern bank of the river, with a population around 10,000 was North Carolina's largest city (Moore, 1999). As an active seaport exporting naval stores, Wilmington was also a hub connecting the port with three major railroads the "Wilmington, Charlotte, &

Rutherfordton”, the “Wilmington & Manchester”, and the most important “Wilmington & Weldon”, which lead into Virginia (Figure 2.4) (Moore, 1999). After President Abraham Lincoln called for a coastwide blockade in April 1861, Wilmington became a bustling maritime center for profit minded entrepreneurs who made a living as blockade-runners supplying the South with everyday necessities, military provisions and items of luxury and exporting cotton (Moore, 1999). The seaport was ideal for blockade running by its close proximity to major routing points for incoming European goods, such as the neutral ports Nassau (570 miles away) and Bermuda (674 miles away), and by being out of range from Federal bombardment from the ocean (Moore, 1999).

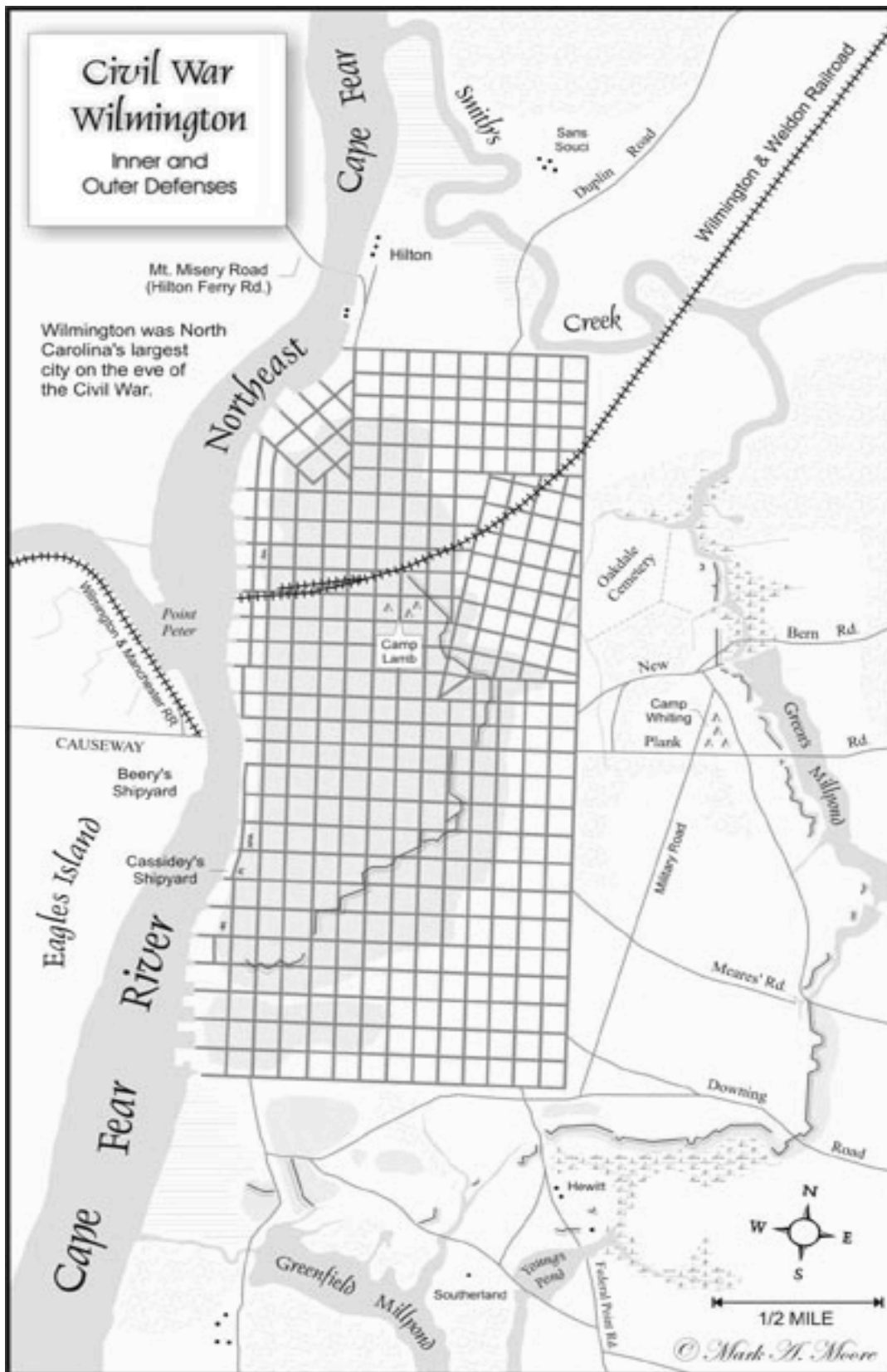


Figure 2.4: Map of Wilmington during Civil War (Moore, 1999)

After the fall of Norfolk, Virginia in May 1862, the importance of Wilmington grew, as it became the closest active seaport to the Eastern Theater battlefield in Virginia. Major General W. H. C. Whiting was assigned to command the District of the Cape Fear in November 1862, after Robert E. Lee reconstructed the Army of Northern Virginia. As part of the defenses along the river, four large gun batteries were constructed going from north to south these include: Forts Davis, Lee, Campbell, and Meares. These batteries were three miles south of Wilmington on the eastern bank bluff known as Mt. Tirza (Figure 2.5). Fort Anderson was positioned 15 miles south of Wilmington (Figure 2.6). Near the mouth of the Cape Fear River was Smithville, present-day Southport, which served as a pit stop for outgoing blockade-runners, as it provided a vantage point for viewing the Federal blockading forces guarding New and Old Inlet (Moore, 1999).



Figure 2.5: Map Indicating Defenses of Cape Fear River (Moore, 1999)

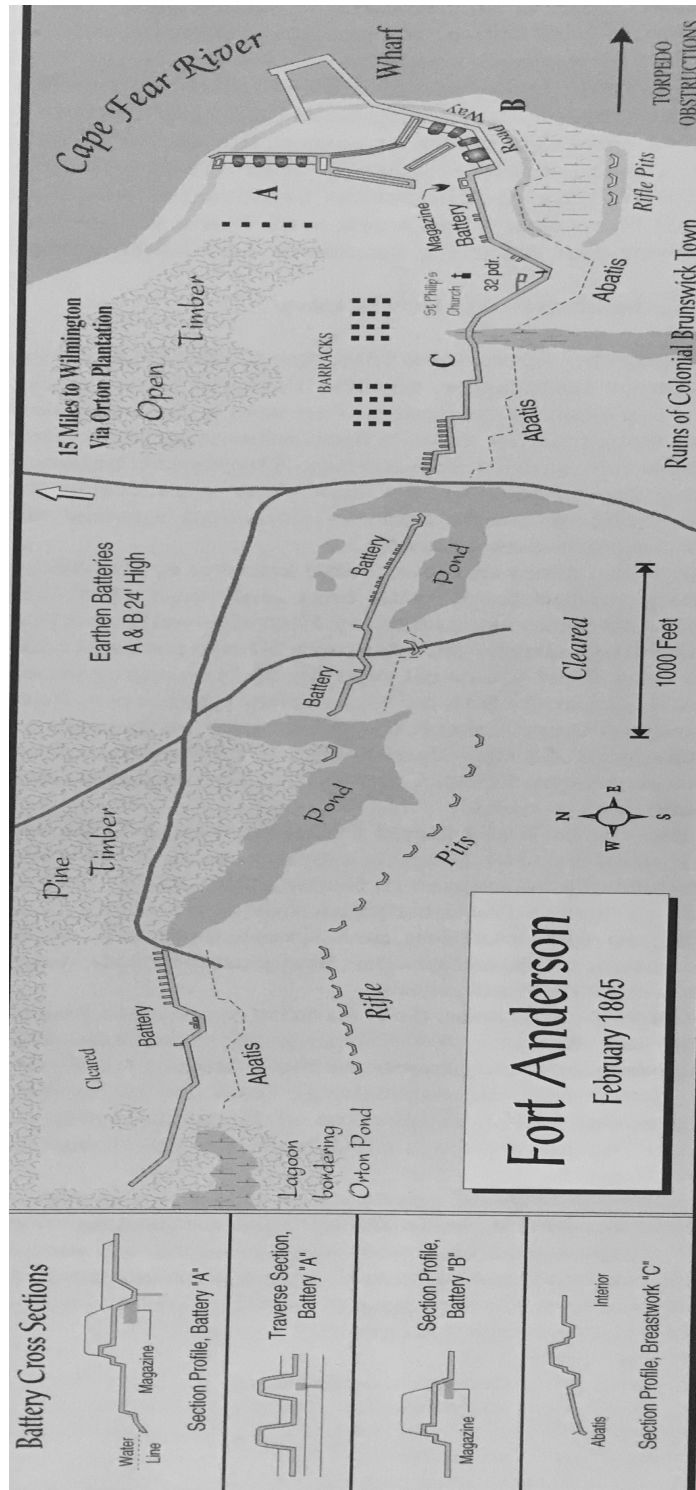


Figure 2.6: Fort Anderson (Moore, 1999)

Fort Pender, a four-gun earthwork, was built on top of Fort Johnston, a colonial period construction (Figure 2.7). There were two entrances to the estuary leading to the seaport at

Wilmington, Old Inlet and New Inlet. Protecting Old Inlet from the west on Oak Island were two forts, Fort Caswell and Fort Campbell, as well as a lone gun Battery Shaw, positioned in between (Figure 2.8). The east was protected by Fort Holmes on Bald Head Island, though the earthwork fortification was never completed. Protecting New Inlet on a peninsula named Federal Point east of the Cape Fear River was Fort Fisher and Battery Buchanan (Figure 2.9).

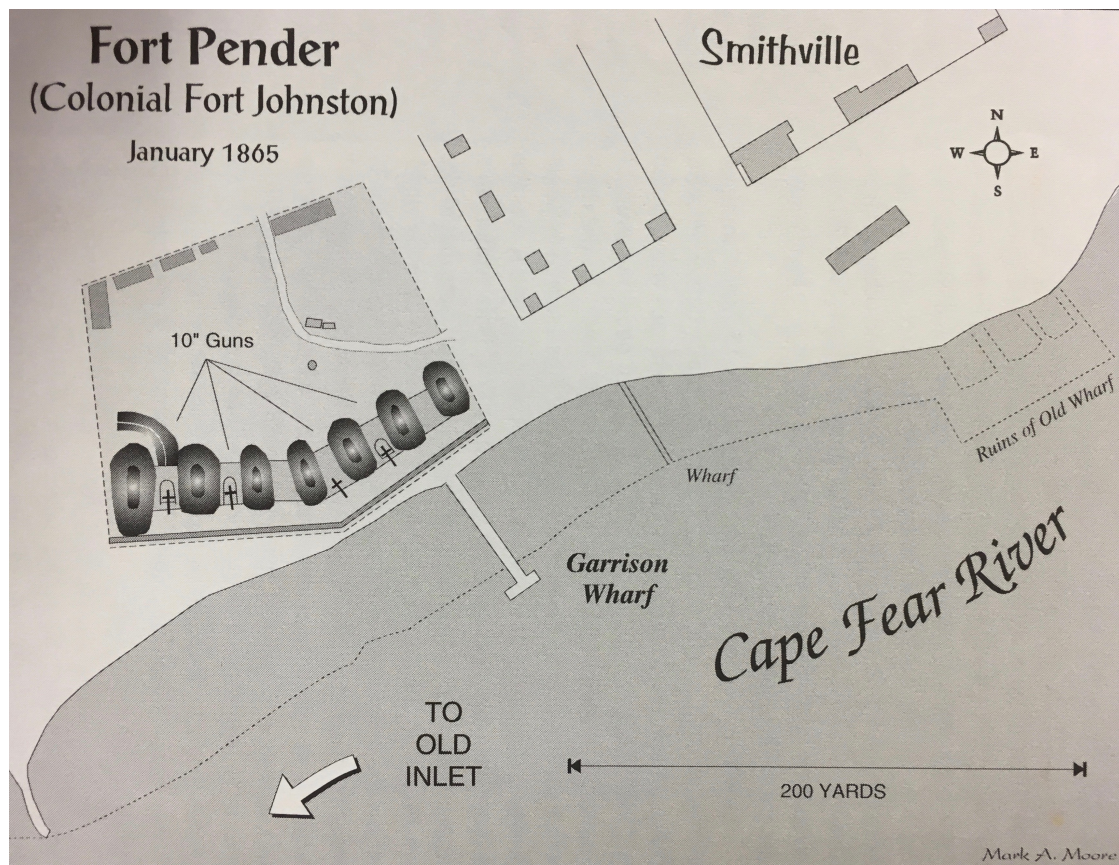


Figure 2.7: Fort Pender (Moore, 1999)

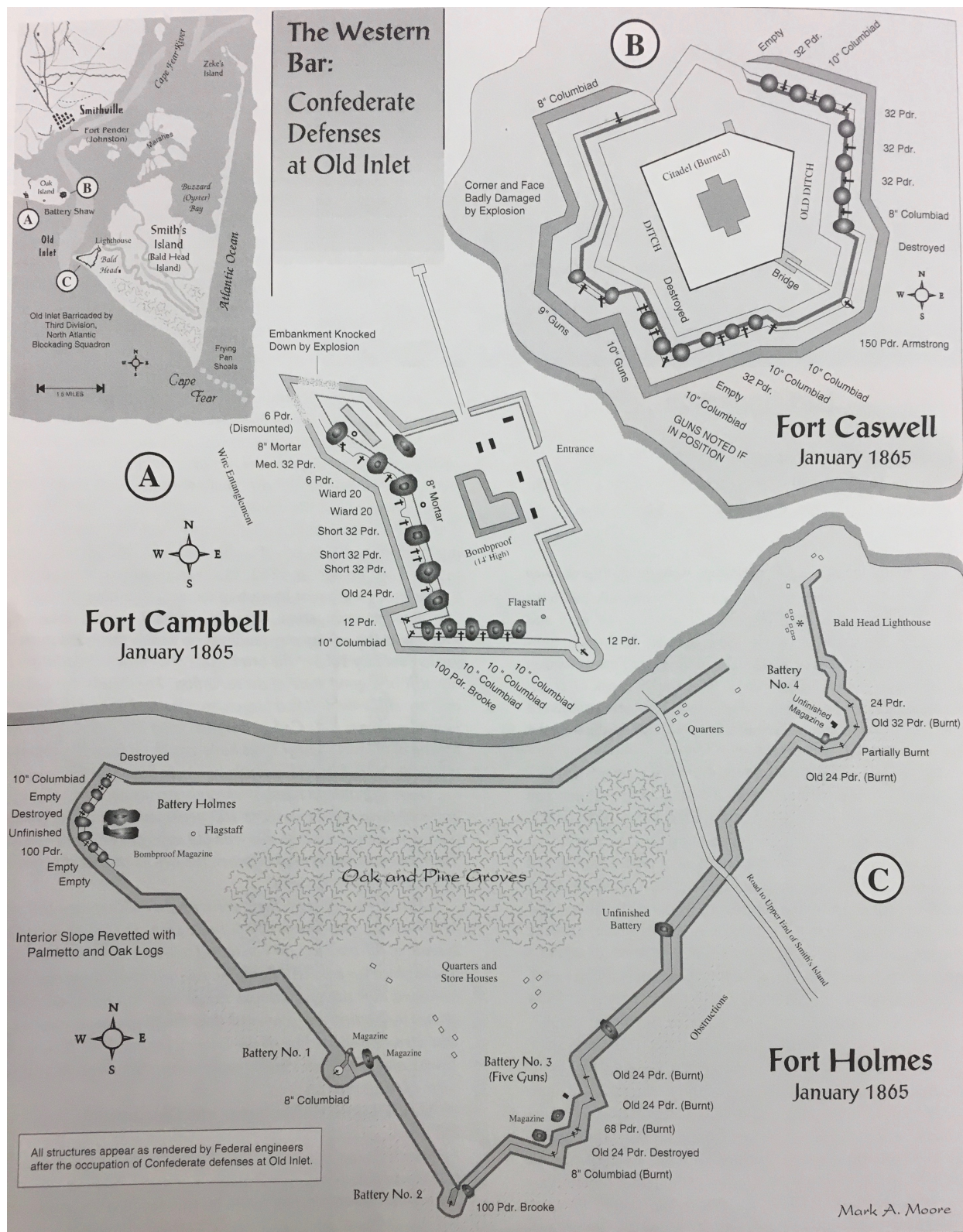
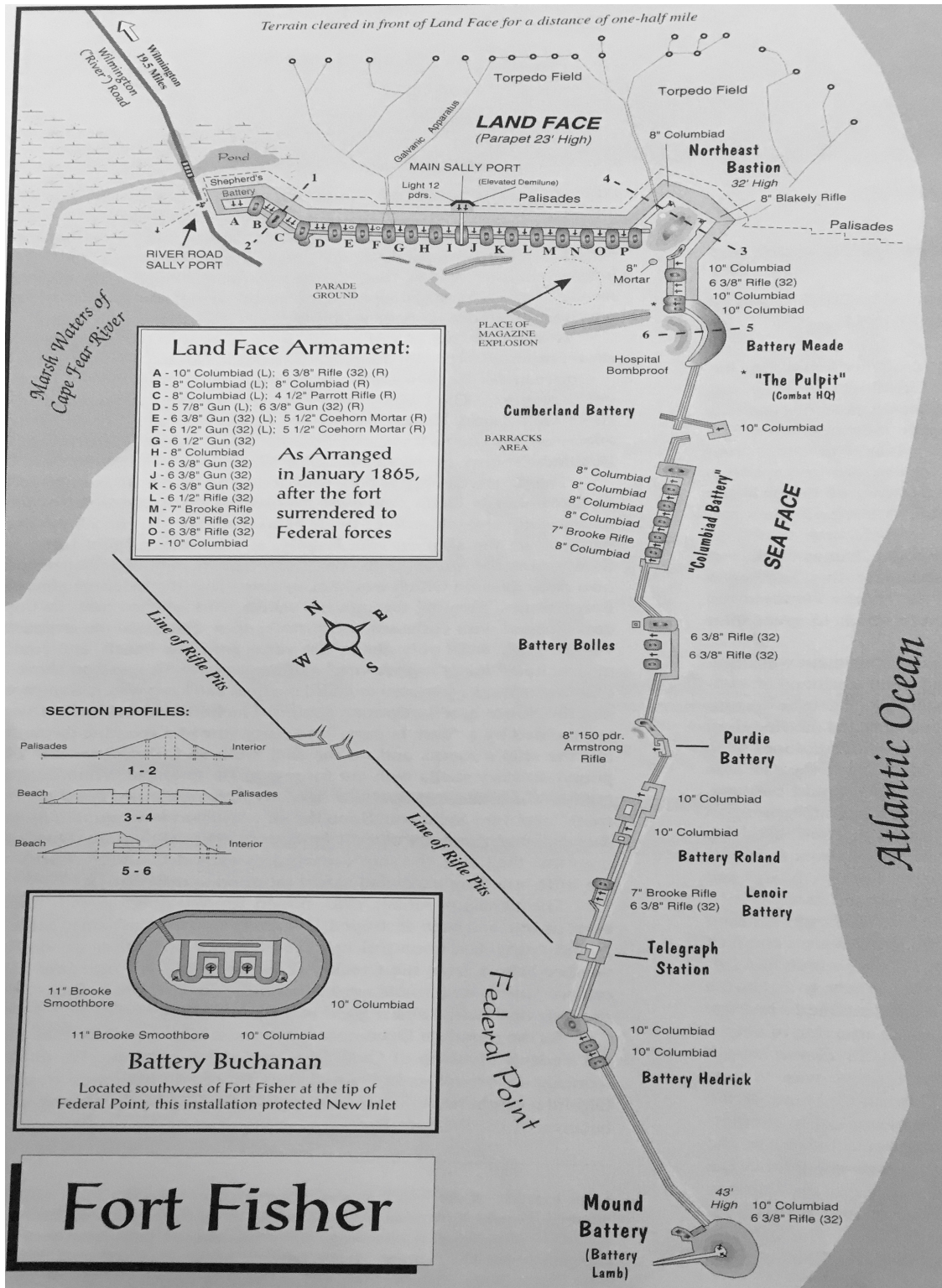


Figure 2.8: Defenses of Old Inlet- Forts Campbell, Caswell, and Holmes (Moore, 1999)



Fort Fisher was the largest and most important defense in the Cape Fear River. After its fall in 1865, the rest of the defenses along the Cape Fear River surrendered just months later. Construction of what would be known as Fort Fisher began in April 1861 with plans of a series of batteries a mile north of New Inlet created by and named after Major Charles Pattison Bolles and approved by Brigadier General Theophilus H. Holmes, organizer of the Southern Department of Coastal Defenses, and by W. H. C. Whiting (Moore, 1999). Major Bolles was transferred in May 1861 to Oak Island and was subsequently replaced by Captain William Lord DeRosset, who established a training post, Camp Wyatt north of Battery Bolles (Moore, 1999). In August, Colonel Seawell L. Fremont was put in charge of the state's coastal defense and with the engineers John C. Winder and Richard K. Meade established a series of batteries: Battery Meade (see Figure 2.9), Battery Anderson (north of Camp Wyatt), and Battery Gatlin (farther north between Myrtle Sound and the Atlantic); Colonel Fremont also christened the fort as "Fort Fisher" in September 1861 in honor of Colonel Charles F. Fisher of the 6th North Carolina Infantry, who died the previous July at the Battle of Bull Run (First Manassas) in Virginia (Moore, 1999). In January 1862, Colonel John J. Hedrick was appointed to over the continuation of the earthwork fortifications of Fort Fisher, replacing Colonel Fremont; however, by the summer of 1862 the fort was no more than a series of disconnected gun batteries (Moore, 1999). In July 1862, the last commander of the fort was appointed, Colonel William Lamb, who incorporated the previous batteries into his own design, see Figure 2.9 (Moore, 1999). The design called for a massive line of earthen batteries along the land face from Shepherds Battery all the way to the ocean and from there to nearly a mile south at Battery Lamb (Mound Battery) by New Inlet; this work was undertaken by the garrison, 36th North Carolina Regiment, and as

many as 500 slaves (Moore, 1999). Battery Buchanan was completed in October 1864 and completed the overall defense of Federal Point.

Fort Anderson

Before the construction of Fort St. Philip, later known as Fort Anderson, there was a two-gun battery at Brunswick Point that was constructed in December 1861. This battery was administrated by Captain William Blount Rodman until March 1862. This battery was constructed on the ruins of Brunswick Town's commercial sector and it was later referred to as Old Brunswick Battery (Figure 2.10) (Fonvielle, 2015). In March 1862, Brunswick Point was seen as an ideal spot to erect stronger defenses by the new commander of the District of the Cape Fear, Brigadier General Samuel Gibbs French, due to its proximity to the narrow channel running with 100 yards of the west shore and the main road that led from Wilmington to Smithville passed through the site (Fonvielle, 2015). This additional defensive position was desperately needed to protect the both the water and western land approaches to Wilmington due to Union forces advancing south, down North Carolina's coast. Union forces captured the following areas: Forts Hatteras and Clark (August 1861), Roanoke Island (February 1862), New Bern, Pamlico Sound, the adjacent rivers and towns, and North Carolina's Outer Banks (Spring 1862) (Fonvielle, 2015).



Figure 2.10: Remains of Old Brunswick Battery

After General French toured the rest of the defenses along the Cape Fear, he returned to Wilmington. There he ordered Lieutenant Thomas Rowland, who accompanied him during the tour, to construct a battery and line of earthworks at Brunswick. Lieutenant Rowland was a former cadet at the U.S. Military Academy in West Point, New York and while studying engineering he had also ranked first in his Math and English classes (Fonvielle, 2015). When Virginia, where Rowland made his home, seceded from the Union on April 17, 1861, he resigned from West Point, near the end of his sophomore year, in order to join the new Confederate States of America (Fonvielle, 2015). On May 4, 1861, Rowland received a commission as a second lieutenant in the Provisional Army of Virginia. On July 12, 1861, he was appointed as a cadet in

the Confederate Corps of Engineers and he was sent to southeastern North Carolina to help direct the construction of the defenses along the Cape Fear River (Fonvielle, 2015). This first involved supervising the building of batteries and mounting of artillery at Fort Johnston. The nineteen-year-old Rowland returned to Brunswick and took up residence at Orton Plantation, which was loaned, along with its occupying slaves, by then owner Thomas C. Miller Jr., on March 24, 1862.

Accompanying Rowland were two craftsmen, John C. Wood and George Rose, from Wilmington who were contracted by the Confederate army to help build the fortifications at Brunswick Point (Fonvielle, 2015). Over the following month, Rowland laid out a plan calling for the construction of several artillery emplacements, which were connected by a broad sand curtain. Wood and Rose planned and supervised the construction of the buildings, including: the barracks, storehouses, a hospital, and a wharf (Fonvielle, 2015). In late March 1862, General French reinforced Captain John E. Leggett's company with Captain Alexander MacRae's Company North Carolina Heavy Artillery; Company A (Rifle Rangers), 2nd Regiment North Carolina Troops; Captain John M. Whitford's Company I, 10th Regiment North Carolina Troops; and Captain Charles E. Edelin's Company B, 1st Regiment Maryland Infantry (Fonvielle, 2015). Initially, soldiers provided most of the labor in the forts construction until, in April 1862, the state government impressed slaves from plantations across eastern North Carolina (Fonvielle, 2015). Information regarding the African American laborers at Brunswick Point is scant. On April 25, 1862, Rowland reported in a letter to his sister Lizzie, "I have nearly finished the Line of Intrenchments; it is almost a mile in length, extending from the Battery on the river to a pond eight miles in length (Fonvielle, 2015, p. 27)." The earthworks stretched from the Cape Fear River to a large, fresh water lake called Orton Pond covering a distance of 1.25 miles (Figure 2.11) (Fonvielle, 2015).



Figure 2.11: Lieutenant Rowland's map of Fort St. Philip in April 1862 (Fonvielle, 2015)

The ruins of Brunswick Town and the newly constructed Confederate fortification presented an interesting juxtaposition (Figure 2.12). The earthworks superimposed themselves on a foundation of a house and separate kitchen owned by Stephen Parker Newman and then Nehimah Taylor and also approached the Lot 35 foundation columns and possible chimney-fall. The earthworks avoided the remains of the St. Philip's Anglican Church.

Historians suggest that bricklayers salvaged intact bricks and ballast stones from the Brunswick ruins to use for footings, piers, and chimneys in the new structures; other construction material, such as board lumber, and tools, including hammers, shovels, and picks, were acquired from Thomas Miller at Orton Plantation and from sources in Wilmington; which is based on military purchasing records (Fonvielle, 2015; South, 2010). Insects, humidity, and heat caused construction of the fort to be difficult and resulted in desertion by a number of Confederate soldiers.

On April 30, 1862, General French appointed twenty-six year old Colonel William Lamb commander at Fort St. Philip, while simultaneously serving as chief quartermaster in the District of the Cape Fear. In September 1861, Lamb was commissioned as a major in the Confederate States Provisional Army by the War Department and served on the staff of Brigadier General Joseph R. Anderson in Wilmington. Anderson was the chief quartermaster in the District of the Cape Fear (Fonvielle, 2015).

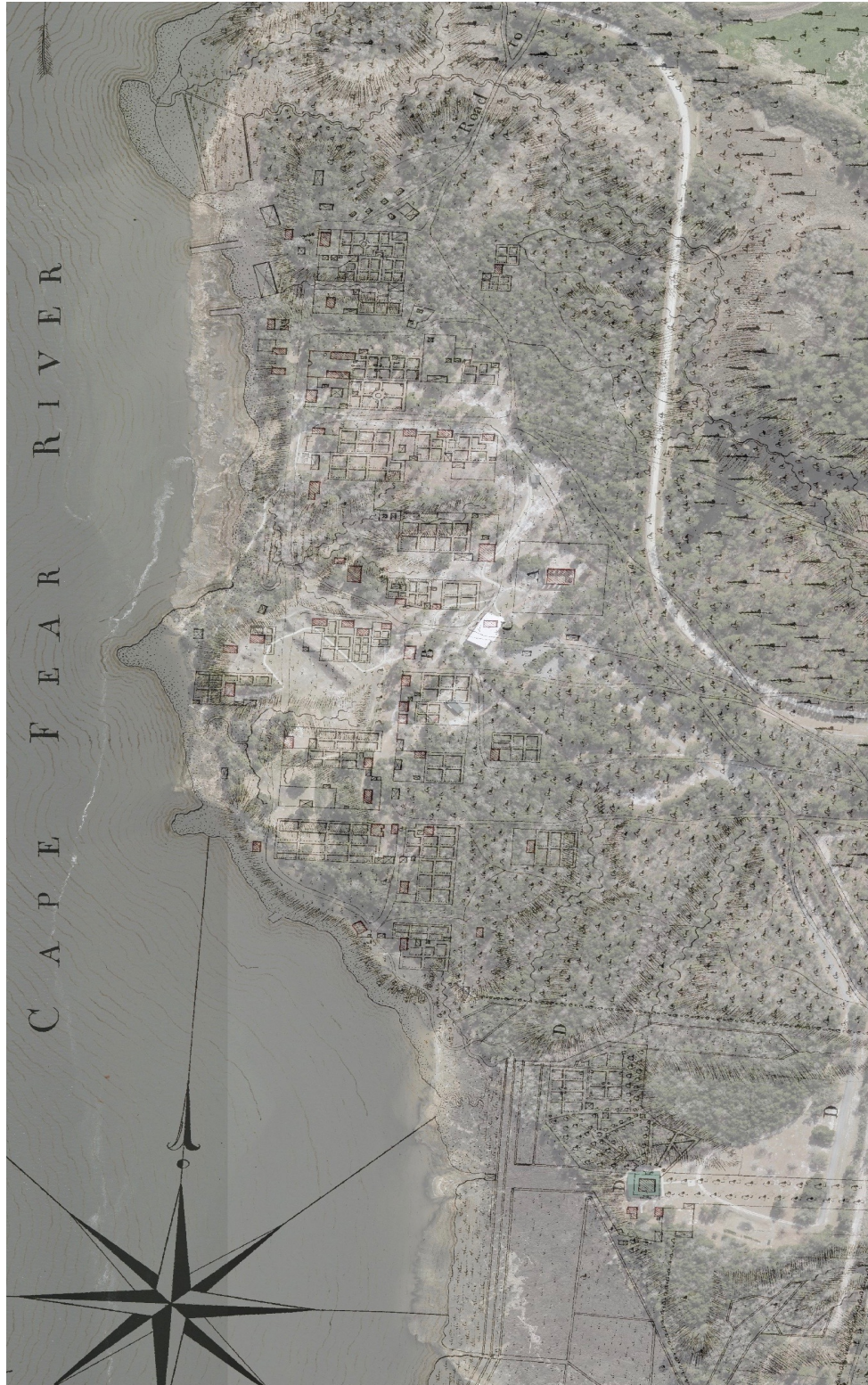


Figure 2.12: Overlay of Fort Anderson with Sauthier's Brunswick Map (Credit to Matthew Harrup)

Lamb was responsible for supplying soldiers in the district with equipment, providing their transportation, and paying their wages; as well as, dealing with planters by providing payment for the enlistment of their slaves on military construction projects (Fonvielle, 2015). After taking command at Fort St. Philip, Lamb studied fortification design and construction from a book he purchased the previous December on British and Russian forts of the Crimean War and he also learned the subject under the tutelage of Thomas Rowland (Fonvielle, 2015). Lamb and Rowland planned and began construction of a twenty to twenty-six foot high, crescent-shaped battery (later known as Battery B) along the river front. It was comprised of five gun emplacements, each containing a 6.4 inch, 32-pound cannon, that faced southeast along the fort's water approach (Fonvielle, 2015). On July 4, 1862, Colonel Lamb was reassigned by General French to take command at Fort Fisher; Lieutenant Rowland was also transferred in July 1862 back to Virginia and served for the remainder of the war as an assistant adjutant general on the staff of General Robert Ransom Jr. (Fonvielle, 2015).

With Lamb's reassignment, command was passed to Lieutenant Colonel John A. Richardson, who served until January 1863, where upon he was transferred to Fort Fisher. Major John J. Hedrick replaced Richardson as commander of the fort until December 1, 1863, where he was transferred to Fort Branch (former Fort Johnston) at Smithville (Fonvielle, 2015). During Hedrick's command at Fort St. Philip, he continued to strengthen and expand the earthworks built by Lieutenant Rowland and Colonel Lamb; the new plans were designed and directed by General Whiting. Hedrick concentrated his efforts along the riverfront with a large earthen battery to the north (later known as Battery A), supplementing the previous work from Rowland and Lamb and serving as a second line of defense in case Union warships managed to pass the

lower battery (Figure 2.13) (Fonvielle, 2015). There is little information regarding Richardson and Hedrick during their time in command of Fort St. Philip.

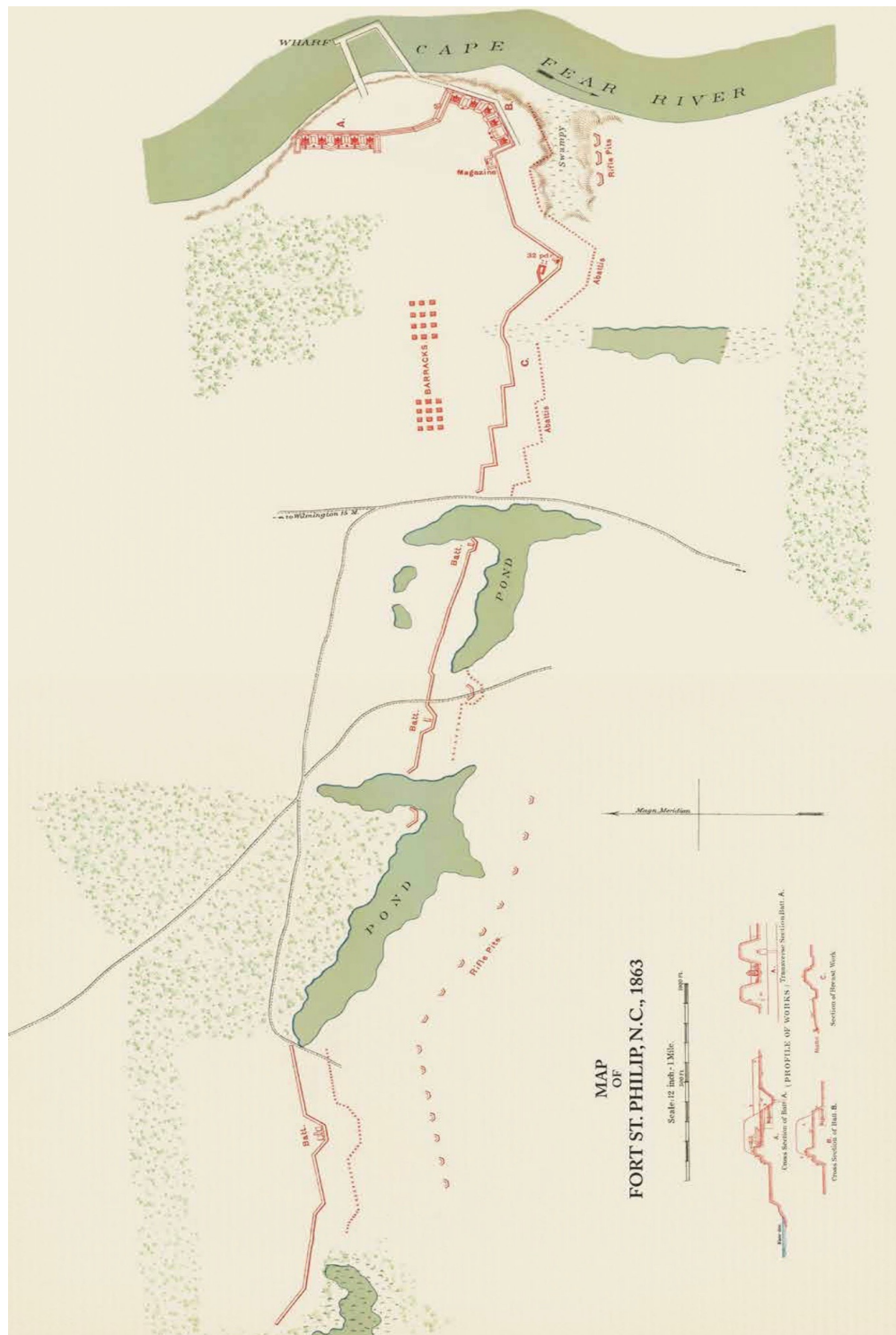


Figure 2.13: Map of Fort St. Philip, 1863 (Fonvielle, 2015)

On July 1, 1863 Fort St. Philip was renamed as Fort Anderson after General Whiting issued orders which instructed the forts and batteries along the Cape Fear River to be renamed to “commemorate some of the many distinguished gallant and dead of North Carolina, who have given their lives for their country” (Figure 2.14) (Fonvielle, 2015, p. 48).

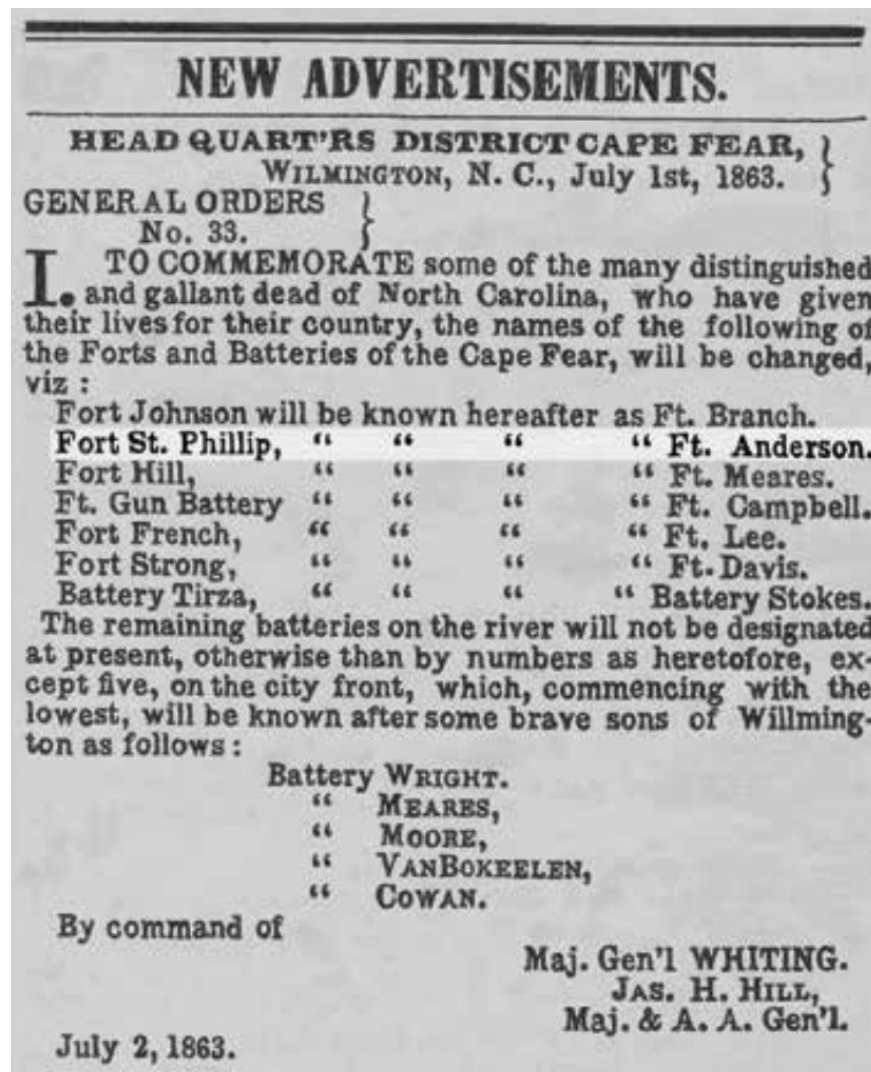


Figure 2.14: General Whiting's General Orders No. 33 (Fonvielle, 2015).

Fort Anderson was originally believed by historians to be named after Brigadier General Joseph Reid Anderson, a Virginia who served in North Carolina; however, the order was that the forts be named after the gallant dead of North Carolina and at the time the order was issued General

Joseph Reid Anderson was still alive (Fonvielle, 2015). Fort Anderson was named after Brigadier General George Burgwin Anderson, who was the only North Carolinian general officer with that surname and who was wounded at the battle at Antietam (Sharpsburg, Maryland) on September 17, 1862 and later died on October 16, 1862 (Fonvielle, 2015).

As of 1863, the fort's strong point was the five gun emplacements battery built by Rowland and Lamb. Each emplacement had a 6.4-inch, 32-pound smoothbore or rifled cannon mounted on large wooden carriages (Figure 2.15). The cannons and their crews were protected from enemy artillery fire by a sand traverse. Furthermore each emplacement was separated from one another by a traverse, so that if a shell exploded in one emplacement, the cannons and soldiers in the adjacent compartments would be protected from flying shrapnel and debris. Bombproofs were built underneath the first and fourth traverses and used as ordnance magazines for storing gunpowder and artillery projectiles and for soldiers to seek refuge during a bombardment (Fonvielle, 2015). The north battery also featured five gun emplacements with traverses that were mostly at the same height as the southern battery. At the southern end of the northern battery, however, the traverses rose six feet higher to serve as protection against enemy shells that overshot the southern battery (Fonvielle, 2015).

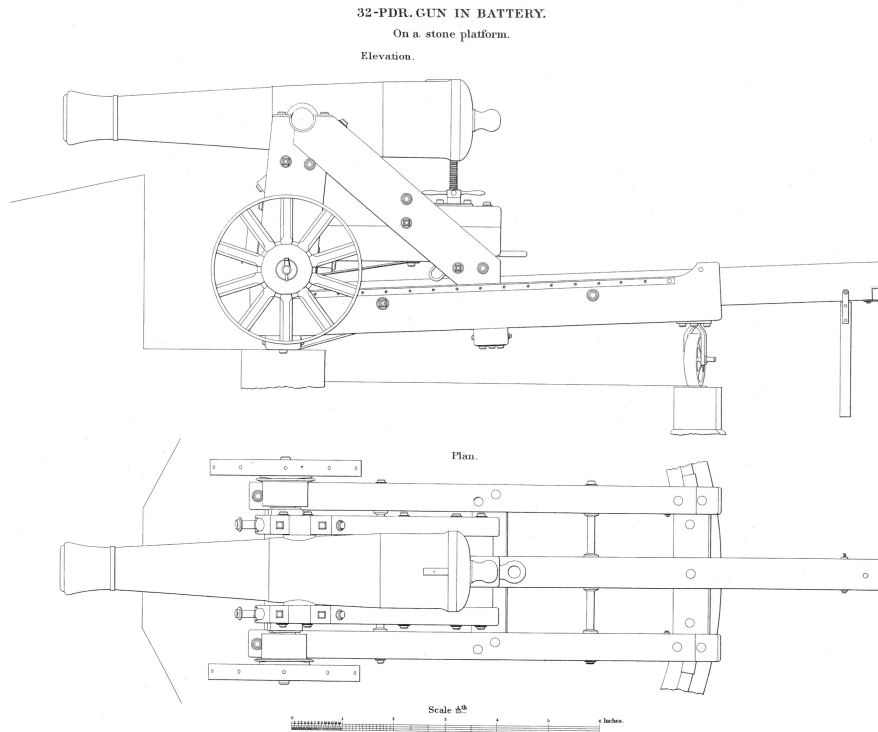


Figure 2.15: Comparison of Blueprint of 32-Pound Cannon on Wooden Carriage (Mordecai, 1849) with Replica

By late 1864, the northern battery only had four mounted 32-pound smoothbore cannons. To mitigate erosion on the earthworks, all of them were sodded with marsh grass. Connecting the south and north batteries was a sand wall, also known as a covered way, which allowed for

safe passage for soldiers moving from one battery to the other and for sharpshooters to be stationed against enemy spotters on gunboats in the event they attempt to pass the southern battery to move upriver (Fonvielle, 2015). Later, two more large earthen mounds were added at the fort, one positioned at the south battery and the other at the lower end of the northern defenses (see Figure 2.6). These were added due to vulnerability from above and behind to provide protection from flanking fire from north of the fort and direct or volley fire from gunboats on the river. There remained the threat of being outflanking from the west via a ten mile round trip march around Orton Pond and the extensive line of fieldworks (Fonvielle, 2015).

On the edge of the graveyard outside of St. Philip's Church there was mounted a 32-pound cannon in an emplacement that may have been known as Battery St. Philip (Fonvielle, 2015). Its duty was to provide flanking fire up and down the line of earthworks in the event of Union soldiers attempted to storm the works. Further strengthening the fort's defenses was a heavy iron chain that blocked the river channel at nighttime to prevent ships from passing the site.

General Whiting placed more importance on the forts blocking New Inlet and Old Inlet, and thus placed larger rifled cannons and more troops in these forts. As of December 1863, Whiting stationed 900 soldiers at Fort Fisher, 500 at Fort Caswell, 1,100 at Fort Holmes, and only 300 at Fort Anderson (Fonvielle, 2015). However, due to an incident In June 1864 where a Federal vessel commanded by Lieutenant William B. Cushing stealthily bypassed Forts Caswell and Holmes and made it upriver to Fort Anderson before retreating out of the Cape Fear, General Whiting recommended Fort Anderson to have its garrison strengthened (Fonvielle, 2015).

In response to a yellow fever epidemic that devastated Wilmington in 1862 and as of the last day of May 1863, General Whiting ordered that Fort St. Philip serve as a quarantine station

for blockade-runners arriving from Nassau, other ports in the Caribbean, Bermuda, and Nova Scotia (Fonvielle, 2015). Ships were to drop anchor in the river between Fort St. Philip and the Drum Shoal until they were cleared by a civilian doctor and an army medical officer. Final permission to proceed was granted by the Confederate headquarters in Wilmington. Soldiers unloaded cargoes from blockade-runners under the supervision of quarantine officials and placed the cargo in warehouses on the wharf. These goods and products underwent fumigation and ventilation for up to fifteen days before being reloaded on the ships to resume their trip to Wilmington (Fonvielle, 2015). The crews of the blockade-runners were also confined to barracks until they were deemed free from any contagious diseases. The fort also served as a mandatory stop for outward-bound blockade-runners to search for possible stowaways, either army shirkers or runaway slaves (Fonvielle, 2015).

The port at Wilmington was a constant concern early in the war for the U.S. Navy. As early as the summer of 1861 the U.S. Navy attempted to get more support to pressure Wilmington; however the War Department and President Abraham Lincoln placed more importance on Richmond and Charleston. Secretary of the Navy Gideon Welles achieved numerous successes in 1862 by capturing the following seaports: New Orleans (Louisiana), Norfolk (Virginia), New Bern, and Beaufort (North Carolina). Welles attempted and failed to persuade the army to place more importance in Wilmington to cut off the supply lines to Virginia. It was not until August 5, 1864 that the government's attitude toward Wilmington changed after Mobile, Alabama was sealed to blockade running and leaving Wilmington as the only major seaport open to trade with the outside world (Fonvielle, 2015). The expeditionary force for Wilmington consisting of naval warships and army transports finally set sail on

December 13, 1864 after months of Welles attempting to convince Lieutenant General Ulysses S. Grant to supply troops away from the front in Virginia (Fonvielle, 2015).

The naval task force, which was the largest fleet assembled during the war consisting of sixty-four warships, including four frigates, was commanded by Rear Admiral David Dixon Porter, who had previously captured New Orleans in 1862 and Vicksburg in 1863 (Fonvielle, 2015). Complementing the naval fleet was a 6,500 man expeditionary force led by Major General Godfrey Weitzel, who was chosen by Grant to assist in the capture of Fort Fisher and New Inlet. However, Weitzel's superior officer, Major General Benjamin F. Butler chose to accompany the army, thus taking over command.

In autumn of 1864, President Jefferson Davis replaced Major General Whiting with General Braxton Bragg as commander of the District of the Cape Fear. General Lee dispatched 6,400 troops under Major General Robert F. Hoke in order to strengthen the defense of Wilmington; who departed from Petersburg by railroad on December 21, 1864 (Fonvielle, 2015). General Bragg made preparations to evacuate the forts at Old Inlet in the event Fort Fisher needed to be evacuated, with troops withdrawing to Fort Anderson. On December 25, 1864, 600 troops from Fort Anderson were positioned to be transported to Fort Fisher if needed. Fort Anderson, as of November 1864, was now under the command of Major James Reilly, who also commanded Fort Pender.

The U.S. Navy arrived at Fort Fisher on December 24, 1864; and proceeded to fire 20,271 shells at the fort over a two-day period, however the fort did not fall (Fonvielle, 2015). Before the initial bombardment, General Butler planned to use the *USS Louisiana* as a powder boat to damage the fort, however, the boat ended up being a dud, wasting the 430,000 pounds of gunpowder packed on board (Fonvielle, 2015). General Butler put ashore one-third of his

infantry to assault Fort Fisher, led by General Weitzel, but after a reconnaissance of the fort following Porter's bombardment there was not enough damage to the earthworks and armament to justify a frontal assault, hence he aborted the mission. Butler withdrew his troops and sailed back to Virginia, where he was dismissed from command.

General Grant then assigned Brigadier General Alfred Howe Terry to assist Admiral Porter in the capture of Fort Fisher with his 9,600 men. Terry and his transports arrived at Fort Fisher on the night of January 12, 1865 and the following morning the navy resumed bombarding the fort. During the bombardment, Terry's infantry landed and positioned themselves on the beach culminating in an attack on January 15. Colonel Lamb and General Whiting were in charge of the Confederate garrison and they were both seriously wounded over the course of the five-hour engagement. The garrison surrendered around 10:00 pm on January 15, 1865, resulting in the capture of the two officers and 2,000 men (Fonvielle, 2015).

General Bragg ordered the forts at the mouth of the Cape Fear to withdraw upriver and burn what they could not bring with them, which included barracks, warehouses, and unused magazines. Bragg also established a defense line at the Sugar Loaf, located on the east side of the Cape Fear and opposite Fort Anderson (Figure 2.16). On January 17, Brigadier General Louis Hebert was assigned to command Fort Anderson. General Hoke, who was not able to support Fort Fisher before its capture, was stationed at Sugar Loaf with 4,500 troops.

Admiral Porter and his gunboats arrived and began testing the defenses of Fort Anderson and Sugar Loaf by shelling them on January 19, while General Terry led a reconnaissance force to test General Hoke's defense lines. The U.S. Army also began sending patrols from Smithville on roads leading to Fort Anderson. On January 22, the *USS Pequot* sailed upriver to test the defenses and, while firing seven shots at the fort, only managed to destroy a warehouse on the

riverfront (Fonvielle, 2015). Fort Anderson had yet to reveal their main battery guns and only used a 12-pound Whitworth rifled-cannon to fire at the *Pequot*. By January 25, the U.S. Navy had thirteen gunboats, its flagship the *Malvern*, three supply schooners, and a single-turreted monitor positioned on the river and with more ships off New Inlet preparing to enter the river (Fonvielle, 2015). During late January and early February, Admiral Porter awaited being resupplied with ammunition, while General Terry worked on restoring Fort Fisher in case of a Confederate counterattack.



Figure 2.16: Map of Fort Anderson and the Sugar Loaf (Fonvielle, 2015)

Due to the increase in Confederate soldiers garrisoned at Fort Anderson, the fort's barracks were too few to support the 2,300 soldiers suddenly stationed there. Confederate soldiers were thus forced to camp in the woods and trenches at Fort Anderson (Fonvielle, 2015). Even for officers, such as Captain William Henry Tripp, who in a letter to his wife discussed how he and four other officers stayed in a hut "being about the size of his wife's garden shed"; and where three of the officers slept on a bunk, while the other two slept on the floor under the bunk (Fonvielle, 2015). Soldiers were forced to construct rudimentary shelters to stay out of the direct elements. Other supplies, such as equipment and rations were in short supply as well due to no longer being supplied by river and being forced to receive supplies by wagon and by means of hunting in the nearby woods. Such conditions lowered morale and resulted in many soldiers falling ill. General Bragg sent an assistant inspector general, Lieutenant Colonel George T. Gordon, to investigate the situation, resulting in General Hebert being transferred out of the district and replaced with Brigadier General Johnson Hagood on January 27, 1865 (Fonvielle, 2015).

The U.S. Navy was delayed in their approach to Fort Anderson, due to obstructions in the river; including spiles (upright pilings driven into the river bottom), a heavy iron chain blocking the channel, and wooden cribs filled with ballast and bricks just below the waterline (Fonvielle, 2015). The Federals were also changing leadership. Admiral Porter believed that 13,000 soldiers would be needed to capture Wilmington and Fort Anderson, but had only 8,500. To aid in this General Grant created the new Department of North Carolina and appointed General John McAllister Schofield to command over the North Carolina theater of the war. While waiting for reinforcements Porter had his gunboats sporadically bombard Fort Anderson. Over this span, the fort saw additions to its construction in the form of three new gun compartments holding a 12-

pound Whitworth rifled cannon just east of the church (Figure 2.17). This 12-pounder was accurate up to 5 miles unlike the smooth bore 32-pounders elsewhere in the earthworks that were only accurate up to a mile. The Whitworth was moved between the three compartments to prevent the enemy from focusing fire on it. Battery B was also reinforced with additional sandbags to better protect from incoming fire (Figure 2.18). Also reinforced was the fort's main gunpowder magazine that was located halfway between the new Whitworth battery and Battery B (Fonvielle, 2015).



Figure 2.17: 12-Pound Whitworth Rifle Cannon (Fonvielle, 2015)



Figure 2.18: Map of Fort Anderson, 1865 (Fonvielle, 2015)

To further strengthen the defenses of Fort Anderson, torpedoes were brought down the river from Wilmington. These floating torpedoes were attached to floats to keep them near the surface and would explode if touched. They were designed by General Gabriel Rains and comprised of a wooden keg filled with between 40 and 100 pounds of gunpowder (Fonvielle, 2015). Also installed were large galvanic torpedoes, each holding around 1,000 pounds of gunpowder and submerged just below the surface. These were connected to a magneto battery, called a Wheatstone Magnetic Exploder, that used a crank to generate a electrical circuit to set off the explosive (Fonvielle, 2015). These were difficult to operate because they required time to generate the circuit and would have to have proper timing to detonate underneath the enemy gunboat.

U.S. Army reinforcements, 4,458 soldiers under General Jacob D. Cox, arrived and set up camp on Federal Point, two miles north of Fort Fisher, on February 10. After initial planning between Schofield, Porter, and Terry, it was decided that they would attack the Sugar Loaf on February 11 to try and overrun General Hoke and his men. The attack consisted of Terry leading his men to attack Hoke, while Porter had gunboats bombard the Sugar Loaf and Fort Anderson. The attack was initially pushed back. However, a Union scout discovered a way to outflank the Confederates by Cox leading his men along the beach, present day Masonboro Island, to attack Hoke's left-flank (Fonvielle, 2015). Poor weather over the following days prevented this from coming to fruition and it was decided to switch focus back to first capturing Fort Anderson. Over the following week, the rest of General Cox's soldiers arrived and on February 16, along with the 4,458 soldiers already on Federal Point, were transported to the west side of the river to a half mile west of Smithville to prepare for their march on Fort Anderson (Fonvielle, 2015).

General Schofield's plan called for Cox to lead his men north and discretionarily choose to assault the fort or entrench half his men near the fort and lead the other half to the headwaters of Orton Pond to join additional reinforcements brought across the river (Fonvielle, 2015). This combined force would then attack the fort from the rear or force the Confederates to abandon it. The plan was initiated on February 17, where Cox led his men along the Wilmington Road and then divided his men when it split north of Governor's Creek (Figure 2.19).

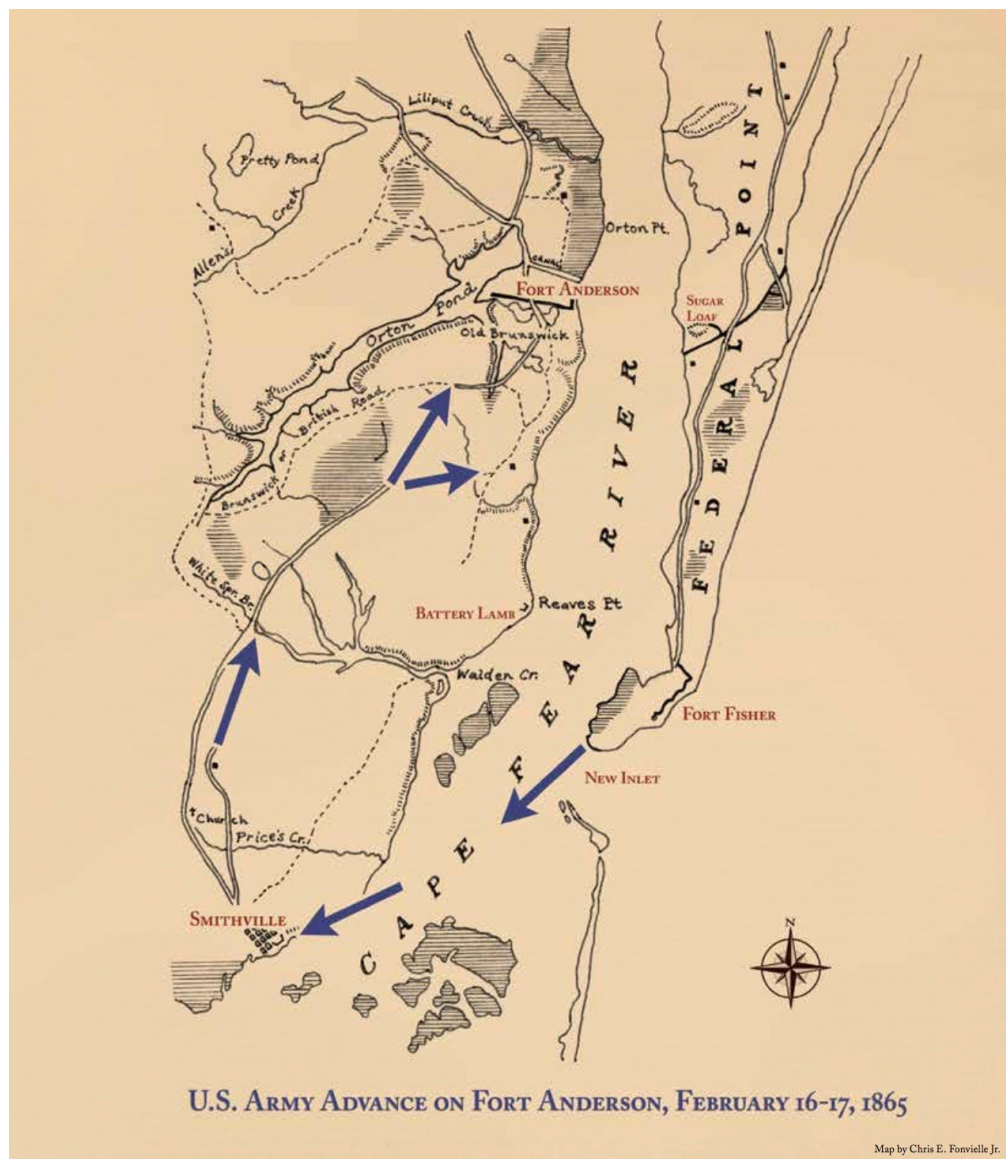


Figure 2.19: General Cox's Route Towards Fort Anderson (Fonvielle, 2015)

At noon, Porter had the *USS Montauk* along with five double-ender gunboats, the *Lenapee*, *Maratanza*, *Pawtuxet*, *Pequot*, and *Unadilla*, bombarded Fort Anderson to draw attention from Cox's approaching men (Fonvielle, 2015). The fort's guns were ineffective against the *Montauk's* iron-plates but were able to damage the other gunboats. The boats withdrew at sunset after firing 170 projectiles and causing little damage to the earthworks. Over the course of the day, the U.S. Army under General Cox joined back up on the Wilmington Road and encountered Confederate cavalry and infantry on their way to the fort. General Schofield ordered the remaining 3,000 soldiers located on Federal Point to cross the river a little before midnight on February 17 to reinforce General Cox. However, they did not all arrive at Smithville before the following morning. On February 18, Cox continued his advance on the fort, while the outnumbered Confederates continued to retreat until around 9:00 am General Hagood ordered them to retreat to the rifle pits about 300 yards south of the earthworks (Fonvielle, 2015). Schofield then ordered Cox to begin the ten-mile trip to circumvent Orton Pond and move behind the vulnerable rear of the fort, meanwhile Porter intensified his bombardment on the fort. Over the course of ten hours, 8:30 a.m. to 6:30 p.m., the U.S. Navy fired a total of 2,723 projectiles, which resulted in considerable damage to the earthworks (Fonvielle, 2015). General Hagood was unaware of General Cox's movements, but had previously stationed 175 cavalymen near Orton Pond to give warning (Fonvielle, 2015). When Hagood received word of the Federals advance he sent an artillery unit as support, but it failed to reach the cavalry in time.

Around 1:00 a.m. on February 19, General Hagood began a series on telegraphs to General Hoke about the problematic position Fort Anderson found itself in (Fonvielle, 2015). This led to Hagood receiving orders to proceed with the evacuation of the fort at 2:48 a.m. and to

establish a new line of defense at Town Creek, seven miles north of the fort (Fonvielle, 2015). Evacuations began soon after, however, the soldiers were forced to rush as dawn approached and thus the fort's heavy artillery, ammunition, and gunpowder were abandoned and the cannons left unspiked. General Hoke had his soldiers abandon the Sugar Loaf lines before dawn as well. The Federals first wave, consisting of the 63rd Indiana Infantry led by Major Frank Wilcox, began their assault on the fort at first light by first firing a volley then rushing to scale the earthworks. The remaining fifty Confederate soldiers who were not able to evacuate in time could not put up a resistance to the Federals assault and were captured (Moore, 1999). Admiral Porter was unaware of the Union troops capture of the fort and had the *USS Mackinaw*, *Montauk*, and *Sassacus* resume their bombardment at 6:00 a.m. (Fonvielle, 2015). Several Federal soldiers ran to the shoreline to signal the navy, which led to Colonel Moore of the 26th Kentucky Infantry to use a white canvas dog tent to wave toward the fleet as a flag of truce leading to a cease fire from the navy (Fonvielle, 2015). This led to the rare incident of the Union sailors claiming that they accepted the surrender of the Confederate fort from the U.S. Army. General Cox and the reinforcements coming from Smithville were unaware of the capture of the fort until later in the afternoon. Generals Cox and Terry proceeded to advance after the retreating Confederates, while the navy began to clear the channel of torpedoes before proceeding along the river to provide covering fire for the army. Wilmington was captured February 22, 1865.

As General Sherman's army was traveling north towards Virginia, they sent the approximately 20,000 refugees, consisting of escaped slaves, free blacks, and disaffected whites, that were accompanying them to Wilmington in March 1865 (Fonvielle, 2015). The burden on resources due to the 40,000 stationed infantry and the addition of 20,000 refugees caused problems for Wilmington. This was mitigated somewhat by enlisting some of the refugees and

hiring skilled and unskilled laborers to help rebuild the city. The 6,000 to 8,000 refugees not able to find employment were to be relocated to captured fortifications along the Cape Fear temporarily, due to the availability of ready housing, such as barracks and storehouses. In March 1865, a large group of refugees arrived at Fort Anderson, along with a garrison consisting of Company C, 27th U.S. Colored Troops to provide security and distribute rations (Fonvielle, 2015). However, by late April 1865, almost all of the refugees had been resettled and the fort mostly abandoned.

After the War to Present Day

The site of Fort Anderson and Brunswick Town was under the tract of land including Orton Plantation. After the death of Orton's owner, Thomas C. Miller Jr., in June 1865 the property was eventually put up for public auction on August 22, 1872 to satisfy creditors' claims against the Miller estate (Fonvielle, 1999). Currer Richardson Roundel purchased the property shortly before his death and it was then sold to Charles M. Stedman and David M. Murchison, two former Confederate officers. The property was then sold to David Murchison's older brother Kenneth, whose daughter Luola Murchison Sprunt was gifted the property by her husband James Sprunt, who bought the property after his father-in-law's death (Fonvielle, 1999).

The Sprunt family sold the 114.5 acre tract containing Fort Anderson and Brunswick on December 22, 1952 to the state of North Carolina for \$1.00 (Fonvielle, 1999). The North Carolina's Division of Historic Sites established the Brunswick Town State Historic Site in 1955. The initial development of the historic site was delayed due to the presence of the Military Ocean Terminal, Sunny Point, which served as an ordinance stores base built after World War II. An agreement was reached in 1957 with Sunny Point allowing for a historic buffer zone to be built,

however, the government still reserved the right to close the park at times of national military emergency. A visitor center was completed on April 23, 1967 and beginning in the 1970s the stabilization of the ruins of St. Philips Church was finished; around the same time, a federal grant provided funds for the stabilization of the Fort Anderson earthworks, fencing of all archaeological ruins, and clearing of several acres between the fort and the Cape Fear River (Pedlow & Fryar, 2005).

There was an incident on March 7, 1866. Two individuals, Thomas Coates and Stephen Bruce, went ashore from the U.S. Revenue Cutter *Northerner* to explore the deserted fort. While exploring one of Battery B's underground shelters, one of the seaman lit a match and discarded it, resulting in the gunpowder littering the floor to explode causing the eventual death of Thomas Coates and severely injuring Stephen Bruce (Fonvielle, 1999).

In preparation for extensive archaeological excavation, the site was initially surveyed in June 1958 by Dr. E. Lawrence Lee. He mapped most of the existing ruins as well as the earthen walls of Fort Anderson after clearing much of the growth from the area (Pedlow & Fryar, 2005). Stanley South cleared the remainder of the vegetation on the site by stacking and attempting to burn the brush in a controlled manner on a damp day, but, the fire became uncontrollable under the intense wind and spread into the woods until firemen contained it. The unintended brush fire turned out to be beneficial and revealed the fort's earthworks, which allowed an unobstructed view of the site for the first time. Excavations were undertaken by South and carried on from 1958 to 1968, focusing primarily on Brunswick Town; however, he did map chimney falls for what he believed was a Civil War barracks.

CHAPTER THREE – PREVIOUS ARCHAEOLOGY

Very little archaeology has been carried out specifically on the Fort Anderson portion of the state historic site. Stanley South excavated a barracks chimney base close to the visitor center and excavated a portion of the Battery B over the course of his excavation of the Newman-Taylor House (Beaman & Melomo, 2016).

In 2009, Tom Beaman with William Peace University field school excavated chimney bases that were located west of Battery A, which were believed to denote the barracks (Beaman & Melomo, 2016). Their fieldwork attempted to look into the material life of soldiers who occupied the barracks area and determine if the soldiers who occupied it were from before or after the fort's fall. In the subsequent 2011 field school, they continued with the goals from 2009 and also performed a metal detector survey of a suspected barracks area west of Battery B, but no evidence of the barracks were found.

Over the course of the 2009 field school, they followed recommendations from previous studies of encampments (Grier, Orr, & Reeves, 2006), where the strategy was to open up larger areas to study individual barracks structures, which resulted in the excavation of 22 test units, each 10 ft. by 10 ft. (Beaman & Melomo, 2016). The 2011 field school investigated an additional 28 test units. The only artifacts recovered that could be used to corroborate that troops occupied the area were six buttons from uniform coats found in the 2009 and 2011 field seasons; two from Confederate uniforms and four from Union uniforms, which suggests that both Confederate and Union soldiers either occupied the barracks or performed some activity in the area (Beaman & Melomo, 2016).

To examine the material life of soldiers who occupied the fort, Beaman analyzed the kitchen group artifacts, such as Civil War era ceramics and bottles. The recovered artifacts suggested that the residents of Fort Anderson engaged in numerous everyday activities outside of military affairs; including gathering and preparing food, mending clothing, and enjoying simple pleasures, based on the presence of ginger beer bottles and tobacco pipes (Beaman & Melomo, 2016). The suspected barracks area west of Battery B was based on the 1865 Twining map (Figure 3.1). This area is partially covered by the road and parking lot of the site's visitor center. The systematic metal detection survey held no conclusive evidence of artifact concentrations that could relate to the Twining map. The majority of the artifacts recovered were related to the use of the area as a public historic site; 355 artifacts recovered were from the Civil War era, roughly 11% of the total artifact count (Beaman & Melomo, 2016).

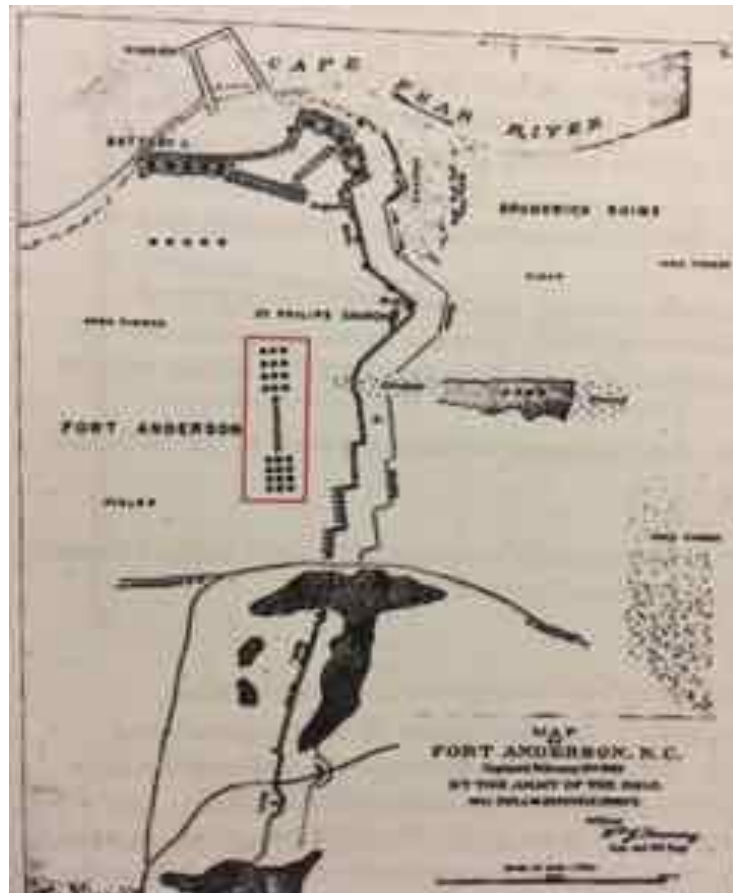


Figure 3.1: 1865 Twining Map Indicating The Suspected Barracks West of Battery B (Beaman & Melomo, 2016)

John Mintz supervised excavations of Gun Emplacement #3 in Battery B that were carried out by site staff and volunteers from the Friends of Brunswick Town support group in 2009 (Figure 3.2). They recovered charred wooden planks and support beams, rusted iron artifacts, and chunks of bricks (Beaman & Melomo, 2016). In 2015, Dr. Charles Ewen directed the East Carolina University field school part of which, where they returned to the previously tested Gun Emplacement #3. The excavation of Gun Emplacement 3, in both the 2009 and 2015 excavations, was carried out to find whether the remains of the gun platform was present and determine if a recreation of the gun platform could be placed on the remains without having an adverse impact on the site. Instead, the remains of a colonial structure were uncovered so that

location was not chosen for the placement of the reconstructed cannon. From the excavation of Gun Emplacement #3, the four platform bolts and the pintle rod were recovered.

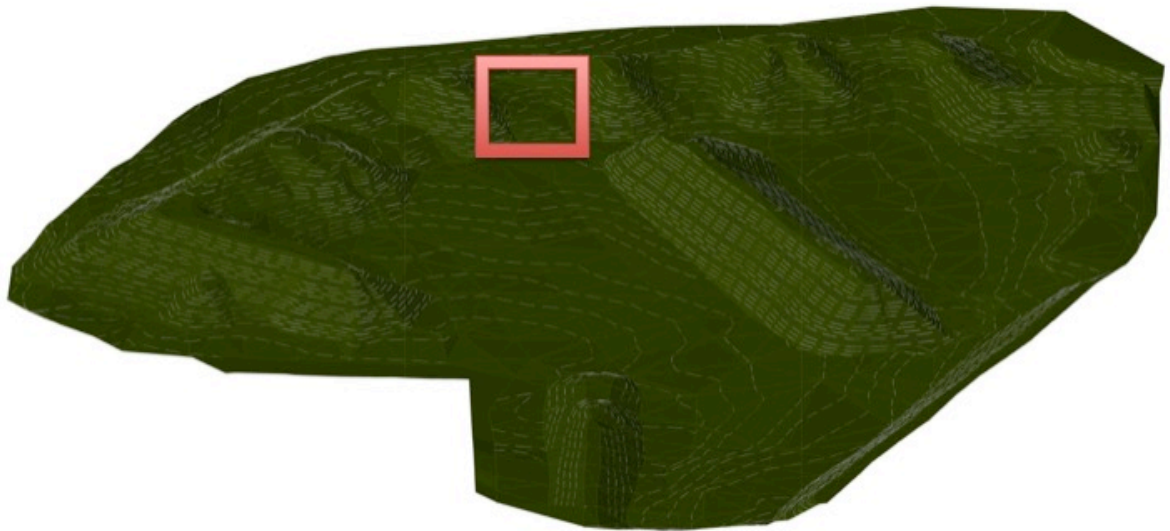


Figure 3.2: Gun Emplacement #3 in Battery B (Credit to Paul Shivers)

The author, along with a crew of graduate and undergraduate students from East Carolina University under the direction of Dr. Charles Ewen, carried out excavations on Gun Emplacement #2 in the southern battery, Battery B. The goal of this project was to determine what remained of the original gun platform, because the state historic site planned to place a replica 32-lb cannon in the earthwork.

In the field, the crew established a local fixed-point datum because the position did not allow for the connection to the Brunswick Town Lot 35 datum due to the elevation of the earthworks interfering with the line of site with the total station (Figure 3.3). Two 10'x10' units were excavated, mapped, and photographed, as seen in Figure 3.4. The location of the two units was based on the previously excavated gun emplacement #3 and where the platform and platform bolts were located within the embankment. The southern unit was given the arbitrary

coordinate of 0N 10E and the northern unit given the arbitrary coordinate of 10N 10E. The units were excavated in half-foot arbitrary levels down to three feet below ground surface where there was a soil color change.

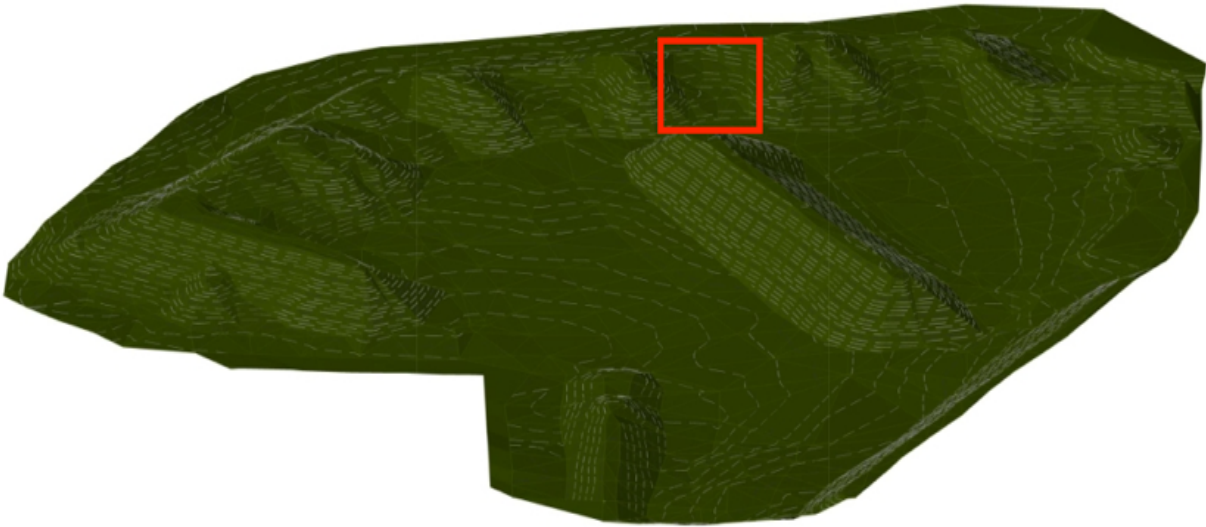


Figure 3.3: Gun Emplacement #2 in Battery B (Credit to Paul Shivers)



Figure 3.4: Area Excavated in Gun Emplacement #2, Facing South

Before excavating, we expected to find an indication of where the original gun platform had been located as well as the pintle rod and four bolts from where the cannon was connected to the platform (Figure 3.5). These rods were hypothesized to have been left after the Union army decommissioned the cannons at the fort. The gun platform appeared to have completely deteriorated. There were timber remnants on the eastern edge of the units that may have been a part of the support for the platform (see Figure 3.4). We also found one of the five securing bolts

that were used to mount the cannon to the platform (Figure 3.6). The majority of the artifacts recovered were colonial, with few civil war artifacts found; however, there appears to be a disturbance due to the presence of a nearly intact light bulb in the southern unit, nearly a foot and a half down (Figure 3.7). The presence of the colonial artifacts relates to the forts initial construction, where then earthworks were built up using soil consisting to the Brunswick Town remains.

The lack of remains for the wooden gun platform and general absence of associated hardware suggests that it had completely deteriorated. The absence of four of the five-securing bolts suggests that there may have been a modern disturbance in the immediate area based on the recovery of a light bulb in the southern unit. It does not appear that reconstructing a cannon platform on the site will have an adverse affect on the original remains at the site.

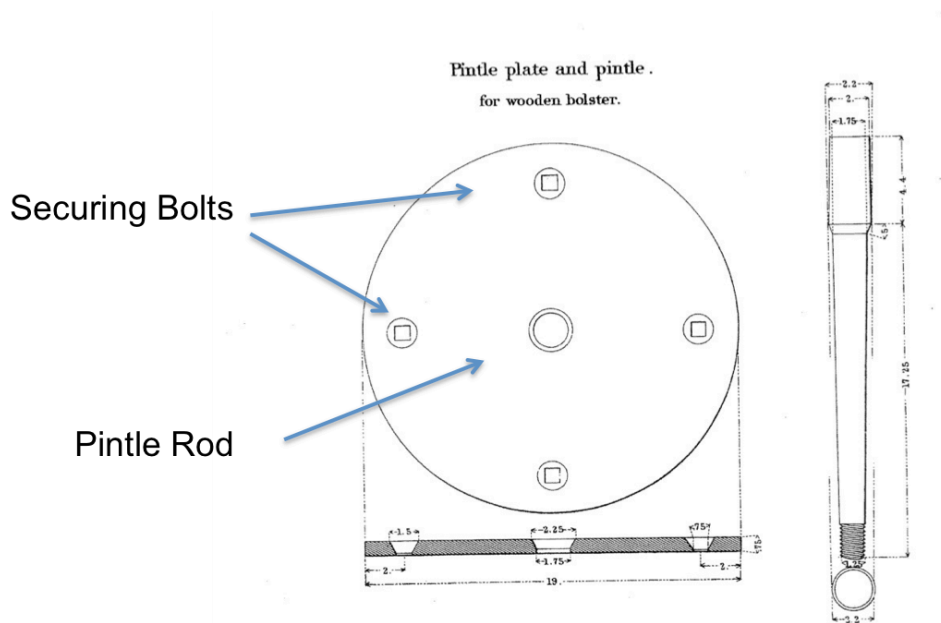


Figure 3.5: Pintle Plate and Central Pintle (Mordecai, 1849)



Figure 3.6: Platform Bolt



Figure 3.7: Light Bulb Found in Southern Unit

This review serves two purposes. First it provides future researchers with a synthesis of the available history and all previous archaeology at the site. Second it provides future

archaeologists with context for asking site-specific questions. The following chapter discusses the importance of research design and examines different aspects of Civil War for archaeology. Throughout the chapter, research questions are framed in the context of general Civil War archaeology, where they have been used previously.

CHAPTER FOUR – RESEARCH DESIGN

The purpose of this chapter is to synthesize a research plan that can answer site-specific questions and guide future excavations at the site so that they are integrated into current Civil War archaeological research. An important goal of this research design is to demonstrate how archaeology can complement and enhance the historical record. Two sources are used to achieve this research plan: the available history of Fort Anderson and case studies of archaeological research on Civil War sites.

The Archaeology of Fort Construction

Previous archaeology at Fort Anderson has been conducted primarily on gun emplacements in the earthworks, so the first fruitful area of research under discussion is the archaeology of fort construction. “Any investigation of earthen fortifications should start with the technical manuals of the day. Understanding what was intended and comparing the ideal to actual fieldworks allows better interpretation on the often complex structures (Geier et al, 2010, p. 113).” Probably the most widely studied fortification manual of the time was Dennis Hart Mahan’s *A Treatise on Field Fortification, Containing Instructions on the Methods of Laying Out, Constructing, Defending, and Attacking Intrenchments, with the General Outlines Also of the Arrangement, the Attack and Defence of Permanent Fortifications* (1856) (Babits, 1989).

Mahan (1856) advises how to strengthen a position by natural or man-made means in order to protect the soldiers and enable them to most effectively fire as well as how guns should be placed in a field fortification. Concerning fortification construction, Mahan (1856) discusses the thickness of parapets, the best angles to use, and the size of a fort. He even estimates the

amount of time and people needed to construct a field fortification, such as describing how far apart each laborer should be from each other and their previous experience in digging (Mahan, 1856, p. 33-35). Applying some of his points to the archaeology of Civil War forts includes that the exterior slope of a fort assumes the shape the dirt naturally takes when it is thrown up, and that the ditch around a fort should provide the material for the parapet (Mahan, 1856). At Fort Anderson, archaeologists should examine two aspects of Fort Anderson: its profile and placement on the landscape; to determine to what extent Mahan's manual was adhered to during the fort's construction.

An example of the information a fort's profile can contain comes from Lawrence Babits' (1987) excavation at Fort Bartow near Savannah, Georgia. Babits project, which was undertaken due to cultural resource management requirements, examined the fort wall profiles to obtain information on fort construction during the Civil War. He produced four profiles from the earthworks' walls to examine construction sequences. In the north profile he found the clearest indication of construction sequences; by finding evidence of the principal of reversal, where topsoil was found in a low mound at the bottom of the profile, with subsoil on top of and in front of the topsoil; this represented the original construction sequence at the fort (Babits, 1987). This sequence was covered by the next episode of construction with mixed subsoil and topsoil, covered with sod, and then topsoil (Babits, 1987).

At Fort Anderson, using the same methodology, archaeologists should examine the profiles to see the degree in which they agree with Mahan's specifications. If the profile shows that builders followed Mahan's manual then the profile presents an inverted stratigraphy created by dirt being thrown up from the ditch as it was excavated, while Mahan may not have been the first to suggest this strategy, engineers still relied on his advice (Mahan, 1856). Fort Anderson

offers a unique opportunity because of its placement on top of the Brunswick ruins, so the bottom of the earthworks profile should contain artifacts relating to the late occupation of the town, with older artifacts in strata above it.

Another focus should be placed on how closely Fort Anderson's placement on the landscape follows Mahan's guidelines, in other words, landscape archaeology, which looks at the manner in which humans exploited, modified and adapted the natural environment for their use by providing the greatest amount of protection and maximizing the soldiers' ability to defend their theater (Geier et al, 2010; Smith, Clement, & Wise, 2003).

Smith, Clement, and Wise (2003) focused on seventeen confederate defensive sites in Beaufort and Jasper counties, South Carolina that were used to protect the Charleston to Savannah railroad. They relied on historical data to pinpoint site location, due to environmental and cultural disturbances, and mapped the sites to show how they were used to defend the railroad. The goals of the project were to create GIS maps of the batteries using GPS data and then overlay these on historical topographic maps to allow for a better interpretation of the strategic and tactical defensive positioning, archaeologists should use landscape studies to gain insight into on integration of forts into the river landscape (Smith et al, 2003).

Fort Anderson relied on natural features including the Cape Fear River, Orton Pond, and Sampson Pond to increase the effectiveness of its defense. As discussed in the history of the fort, Orton Pond and Sampson Pond (the pond between Cape Fear River and Orton Pond) created an obstacle of forcing Union troops to travel ten miles to bypass the ponds due to the Confederates augmenting the area by building a line of earthworks. Questions pertinent to this section include: How do the earthwork's profiles compare with Mahan's manual? What parts of the earthworks were reinforced after the fall of Fort Fisher?

Survey of Fort Anderson

In 2011, an extensive topographic survey was undertaken by Paul R. Shivers, project manager at Highfill Infrastructure Engineering, P.C. in Wilmington, NC, as part of the preliminary research before placing the reconstructed gun platform; however this survey focused on the approximately 2.5 acre site encompassed by Battery B (Figures 4.1 and 4.2) (Shiver, 2011). This survey allowed for a detailed outline of the design of Battery B (Figure 4.3) and, due to the project's initial plan, a detailed outline of a gun emplacement (Figure 4.4). By topographically surveying the remaining earthworks, a more accurate interpretation on the effectiveness of the fort can be concluded.

Additionally the earthworks can be mapped through structure from motion. While it is currently illegal to use drones to take aerial photography on state historic sites, there has been success in using balloons (Johnson et al, 2014) to capture images and processing them into a 3D image that can be manipulated as in a virtual in a fly-through, which could enhance interpretation to the public.

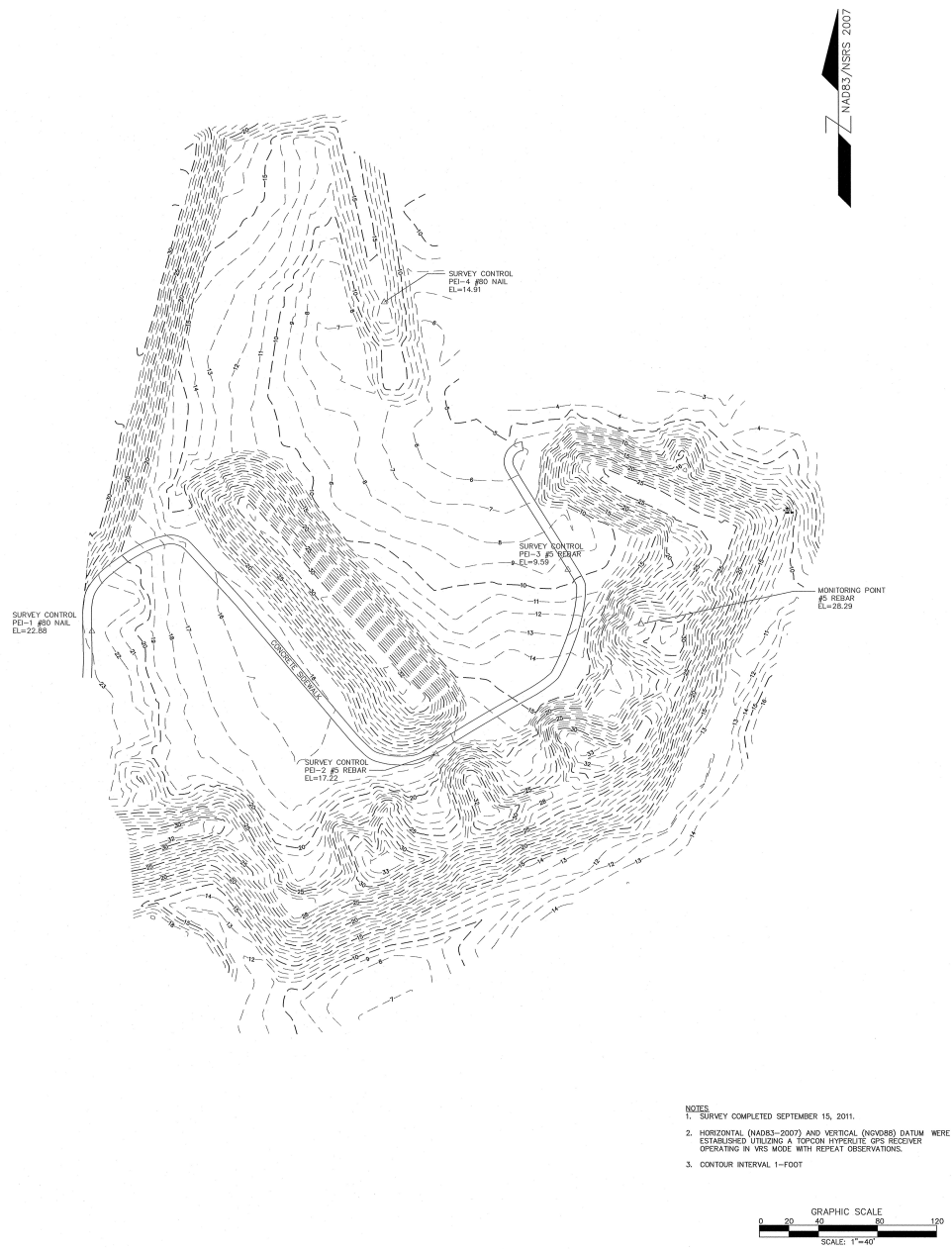


Figure 4.1: Topographic Survey of Battery B (Credit to Paul Shivers)

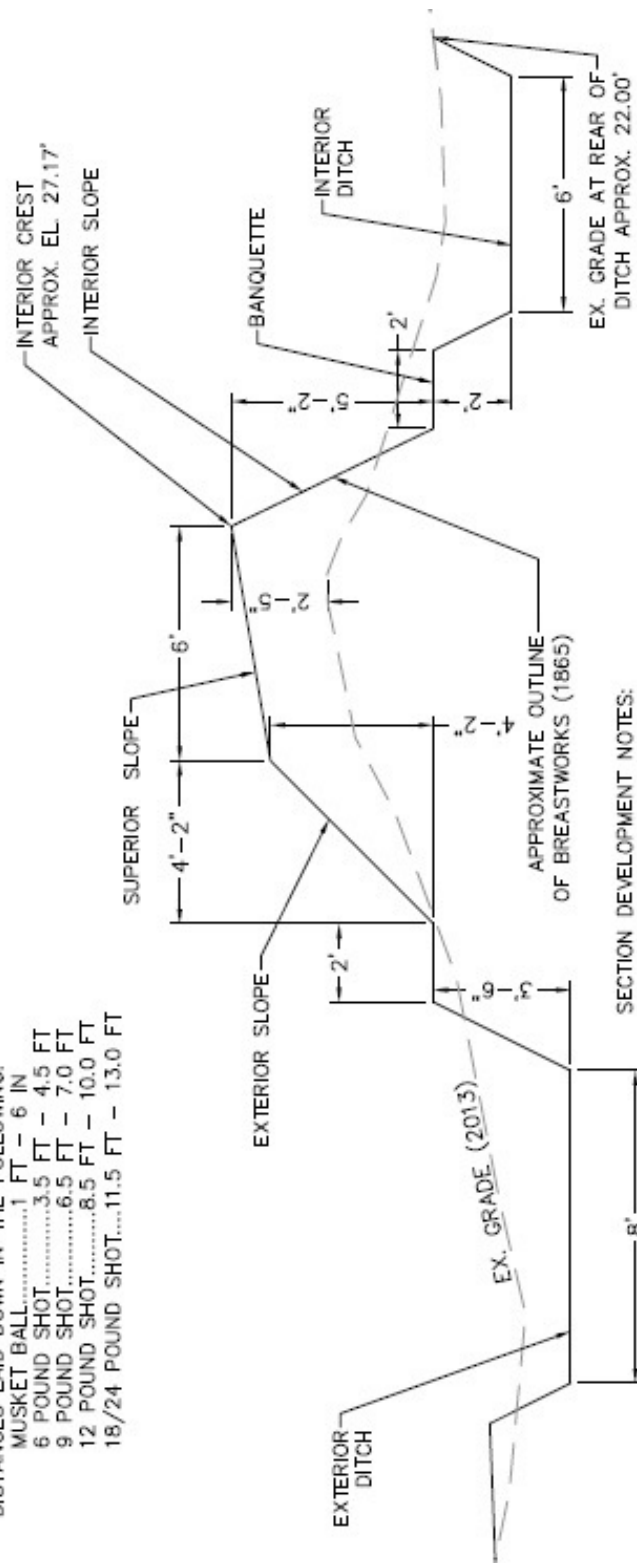


Figure 4.2: Topographic Survey of Battery B (Credit to Paul Shivers)

A COMPLETE TREATISE ON FIELD FORTIFICATION RELEVANT DESIGN NOTES:

1. "THE COMMAND OF A FIELD WORK OVER THE GROUND OCCUPIED BY THE ENEMY MUST NEVER BE LESS THAN FIVE FEET; NOR LESS THAN SIX FEET SIX INCHES OVER THAT OCCUPIED BY THE ASSAILED."
2. "THE TREAD OF THE BANQUETTE IS PLACED FOUR FEET THREE INCHES BELOW THE INTERIOR CREST; THIS WILL ADMIT MEN OF THE LOWEST ORDINARY STATURE TO FIRE CONVENIENTLY OVER THE PARAPET."
3. "SHOT WILL PENETRATE ORDINARY EARTH, WHEN WELL RAMMED, THE DISTANCES LAID DOWN IN THE FOLLOWING:

MUSKET BALL.....	1 FT - 6 IN
6 POUND SHOT.....	3.5 FT - 4.5 FT
9 POUND SHOT.....	6.5 FT - 7.0 FT
12 POUND SHOT.....	8.5 FT - 10.0 FT
18/24 POUND SHOT.....	11.5 FT - 13.0 FT



SECTION DEVELOPMENT NOTES:

1. APPROXIMATE OUTLINE OF BREASTWORKS DETERMINED BY COMPARING SECTION C OF 1865 TWINING SURVEY DRAWING, EXISTING SURVEYED FEATURES AND STANDARD FIELD FORTIFICATION DESIGN PER D.H. MAHAN'S A COMPLETE TREATISE ON FIELD FORTIFICATIONS (1836).
2. SEE SHEET 1 OF 2 FOR LOCATION OF SECTION (APPROXIMATELY 200 LF EAST OF SAMPSON POND AND WEST OF PLANTATION RD.).

NOT TO SCALE

Figure 4.3: Detailed Measurements of Earthworks with Notes Based on Mahan's Manual
(Credit to Paul Shivers)

Figure 4.4: Detailed Measurements of Gun Emplacement (Credit to Paul Shivers)

In May 2012, a magnetometer survey, coverage approximately 0.2 acre, was conducted under the direction of Sarah Lowry, an archaeologist at New South Associates in Greensboro, NC, in two locations on top of Fort Anderson's collapsed magazines to test for the presence of historic ordnance (0.04 acre total) (Figure 4.5).



Figure 4.5: Two Magnetometer Grids Over Fort Anderson's Magazines (Patch & Lowry, 2012)

In each magazine, three metallic anomalies were identified, possibly indicating the presence of ordnance (Figure 4.6). The size of the anomalies depends on the artifacts physical

size and depth. Based on her findings, Sarah Lowry concluded that “due to the size of these batteries and the size of the collapsed magazines, it is likely that the ordnance may be located at a depth of greater than 3 meters (approximately 10 feet) (Patch & Lowry, 2012, p. 19).”

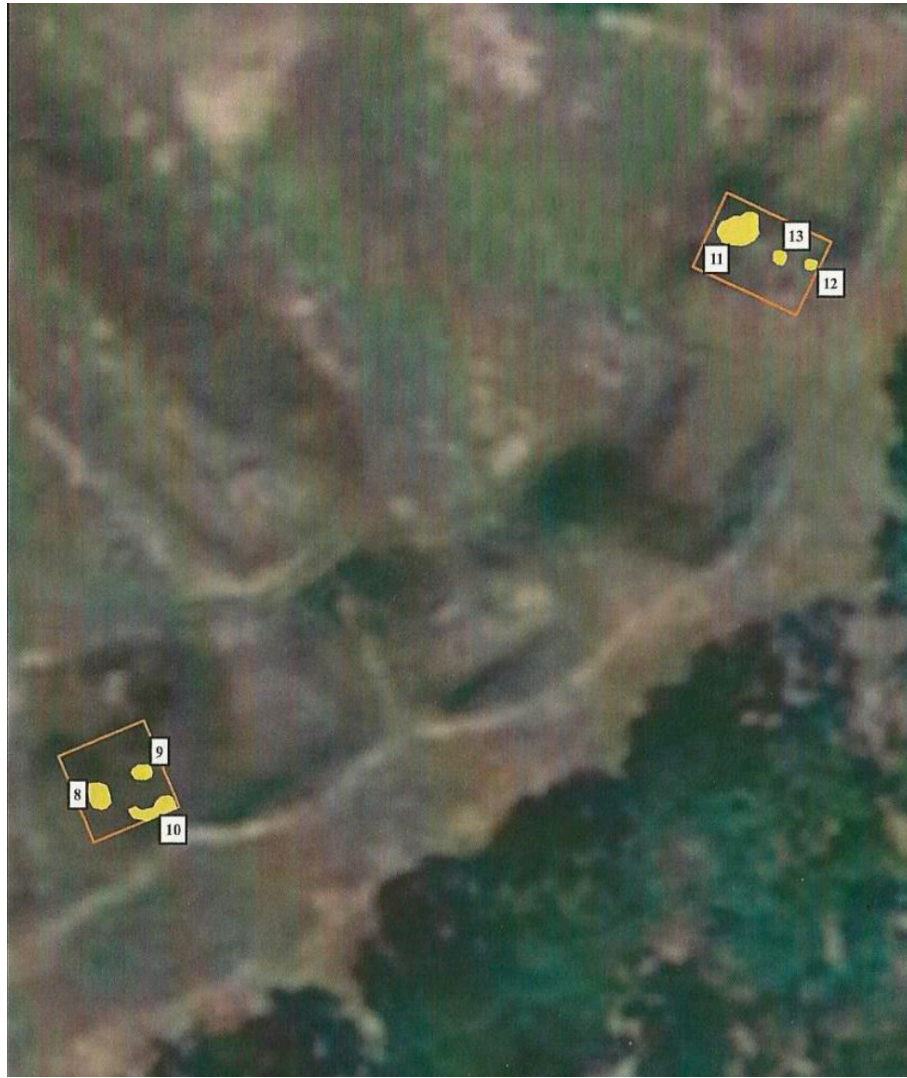


Figure 4.6: Anomalies Found From Magnetometer (Patch & Lowry, 2012)

Through the careful excavation of these magazines, archaeologists can gather a more detailed account of the defense of the fort, such as comparing the artifacts recovered with the last inventory collected on December 20, 1864 by Major James Reilly (Figure 4.7). This could suggest the ordnance used during the defense of the fort. It has been previously mentioned in the

background history that the Confederates did not attempt to take the ordnance with them when they abandoned the fort and it is unknown what Union soldiers then took of the remaining ordnance.

RECEIVED at <i>Fort Anderson</i> , this <i>20</i>		Day of <i>Dec</i> , 1864 from <i>Maj. James Reilly Comdr</i>		Ordnance Officer, Smithville, N.C., the following Ordnance and Ordnance Stores, viz:	
2	32 Pr. Rifle Guns	3	Lim Stocks	11	Vent Covers
9	32 " Smooth-	1	set implements for shot	13-32	Pr. Sponge Covers
11	32 " Cartridges	13-32	Pr. Sponges	1	Elevating Screw
11	32 " Chassis	13-32	Pr. Rammers	1	Pr. Mangle Wheel
50	32 " Rifle Shot	14	Tide Pouches	2 "	Tinware Wheels
838	32 " Round Shot	9	Havenlocks	2	Beds for Elevating 1 Rod
233	32 " Rifle Shot	5	Budge Burels	1	Fuze Mallet
484	32 " Round Shot	2	Pine Boxes	1	Gunner Fuses
14757	Canon Powder	2	Breed Sights	2	Lattens
125	Rifle Powder	8	Chalk Lines	1	Monkey Wrench
3654	Cartridges Cal. 54	7	Gunner Gunlets	1	Matlin Spike
8132	Musket Cartridges	13	Primer Wires	1	S Wrench
4581	Percussion Caps	6	Thumb Stalls	1	Plummet
3828	Friction Primers	8	Canon Spikes	1	Powder funnel
552	Fuzes	19	Layrads	1	Powder Measure
2	Canon Socks	2	Gunner Quadrants	1	Screw Driver
70	Sands of Grape	11-32	Pr. Tompions	1	Hammer

Figure 4.7: Inventory Collected on December 20, 1964 by Major James Reilly (Fonvielle, 2015)

For military sites, the most efficient method of survey is a metal detector survey. They are useful for locating trash deposits and structural remains, as well as delineating the boundaries of a site. Metal detector surveys can also recover artifacts that traditional shovel testing would miss (Scott & McFeaters, 2011). For example, metal detectors at the site of the Little Bighorn

battlefield allowed archaeologists to find and map the precise locations of individual bullets and cartridge cases (Scott & McFeaters, 2011). This led to a more detailed analysis of the events that occurred on the battlefield. Another example comes from Antietam Battlefield, where during a shovel testing survey, the recovery rate was less than 1%, based on the number of artifacts divided by the number of shovel tests (Geier & Potter, 2000). While using a metal detector, the recovery rate jumped to 37% (Geier & Potter, 2000). Tom Beaman's metal detector survey at Fort Anderson was heavily influenced by present day road and parking lot construction, however they still recovered 355 Civil War era artifacts, which was 11% of the total artifact count (Beaman & Melomo, 2016). Questions pertinent to this section include: What structures are pictured in the Twining Map? What is the long narrow structure on the Twining Map (see Figure 3.1)? What remains of the ordnance after it was abandoned by the Confederates and later captured by the Union? What is the condition of the structural remains of the magazines?

Fort Anderson's Hospital

Details concerning the hospital located at Fort Anderson are supplied through a letter from the Surgeon and Hospital Inspector A. I. Senima to the Medical Director at Richmond, Surgeon John Syng Dorsey on March 14, 1863. The letter discusses the dimensions of the building, how the building was divided, and if it was in conformity with medical regulations.

“The hospital is a plain structure of two stories recently built of unseasoned pine, 40 x 24 feet; on the lower floor there are three rooms, the largest (24 x 30 feet) is occupied and is known as Ward No. 1., adjoining which are two rooms one (10 x 18) is used as an office and sleeping apartment by the steward and nurses, the other (8 x 8) is occupied as a dispensary. Ward No. 1 contains 11 beds and Ward No 2, the large room upstairs on the 2nd floor contains 15 beds. The building, in its present unfinished state, is not adapted for the accommodation of the sick, it is unceiled, open, & uncomfortably dark, there are no sashes or

glass window lights, but are sufficiently ventilated, except during inclement weather, which necessitates the closing of the solid window shutters.”

“From an examination made, I am satisfied that the hospital records are kept neatly and in conformity with the Medical Regulations, with the exception of the Hospital fund account Current and Monthly Abstracts, as there are no cooking conveniences, no commutations are drawn, and consequently no fund is on hand.

The Capacity of this Hospital is 32, there are 26 beds, of which 13 are occupied on the day of my visit, and there was 4 reported sick in the Company quarter.

As far as I could ascertain, Paragraphs 18 and 19, Med. Reg. are strictly complied with, but in one or two instances, invoices of medical supplies not having been received, receipts were not, in consequence, transmitted to the Surgeon General.

The patients (and the soldiers generally) appear to be comfortably and neatly clad, and there is no deficiency of hospital clothing, which appear to be in good condition. In reference to the condition of the floor, stairway, spittoons, in general terms, they are in good order and neat, and are regularly cleaned (Senima, 1863, p. 2-4).”

During the war, good surgical instruments were not easy to obtain and in many cases surgeons had to just make use of common items to compensate. Medical devices and pharmaceuticals were being developed throughout the war and thus it is difficult to look for specific medical artifacts to contribute to being from a hospital (Freemon, 1998). Artifacts expected to be found within Confederate hospitals other than obvious medical implements are alcohol bottles, patent medicine. Alcohol was considered a stimulant and was often given to those about to undergo surgery or who appeared exhausted (Freemon, 1998). The medical department constructed its own distilleries, such as the one in Salisbury, North Carolina for the purpose of being self sufficient in one of its major needs.

There is an inadequate amount of information regarding archaeology performed specifically on American Civil War hospitals, so the main source of information regarding what is expected to be found is supplied from historical texts. With little known of antibiotics at the

time, the rampant amount of disease circulating, and the common use of hacksaw surgery (most common surgery during war was amputation), archaeology performed to grasp an understanding of the behavioral environment at hospitals, as well as indicating how well they were supplied in regards to surgical implements represents a route to enhancing our knowledge of the war (Freemon, 1998). Since Fort Anderson served as a quarantine zone beginning in 1863 for incoming and outgoing vessels, information regarding the health of blockade-runners may also be gleaned from this. The position of the hospital is currently unknown, with its exact location not mentioned in historical literature, however locating its footprint should be considered a priority. Questions pertinent to this section include: Where is the hospital located? Which artifacts would need to be found to conclude that a structure found is the hospital? How does the hospital at Fort Anderson compare with hospitals in cities during the time period? How healthy were the soldiers garrisoned at Fort Anderson? How healthy were the sailors on board the blockade-runners?

The Archaeology of Camp Life

Aside from the earthworks, archaeologists should examine the encampments. Previous archaeology at Fort Anderson has revealed little regarding the past lifeways of individual soldiers. Tom Beaman examined a possible barracks located west of Battery A, recovering Civil War era ceramics, glass bottles, and tobacco pipes (Beaman & Melomo, 2016). Typically the occupation of soldiers' encampments is temporary, such as after the fall of Fort Fisher, Fort Anderson was reinforced and those soldiers had to make do with temporary shelter. Specific comparisons from sites in North Carolina regarding encampments have thus far not been published.

The most thorough of available archaeological literature regarding encampments is Geier et al's (2006) *Huts and History: The Historical Archaeology of Military Encampment during the American Civil War*. One common factor with the case studies presented is that large areas must be opened to provide an overview of the entire camp (Geier et al, 2006).

Based on the number of troops at Fort Anderson, the soldiers' camp and hospital should be visible in the archaeological record and discoverable through a survey of the entire property. Maps from during the war indicate the location of some structures and limited excavation has previously occurred; however, the location of the hospital as well as the location of all the barracks has thus far not been located.

With one of the possible barracks area already located and once the remaining barracks are located, archaeologist can address several research questions. A previous example comes from excavations at Camp Nelson, a Union quartermaster's depot that provided insights on the lives of Union soldiers (McBride, 1994). Camp Nelson was a permanent Union installation and can serve as a comparison between Union and Confederate camps (McBride, 1994). The project focused on areas around the post office complex and headquarters complex. Excavations highlighted that the most informative artifacts for the study of Civil War camp life are ceramics, faunal remains, glass, arms, clothing, and personal items (McBride, 1994). Because of where and how Fort Anderson was constructed, caution must be placed on artifacts recovered, due to possible reuse of colonial material on site. Military assemblages can indicate the degree to which military life differed from civilian life, when compared to domestic sites; and thus the degree of adjustments soldiers had to make when they joined the military can be seen (Geier and Potter, 2000; McBride, 1994).

The faunal assemblage can also be enlightening about soldier's lives at a fort, such as different species represent availability and preference, as well as the importance of forage and hunting in soldier's diets (McBride, 1994). Historical documents regarding Fort Anderson indicate that soldiers hunted to supplement military provisions, so it would be interesting to see if they showed a preference for a certain species in the surrounding area as well as calculate the percentage of wild vs. domesticated animals.

Aside from ceramics and the faunal assemblage, glass bottles can provide information about camp life. Army regulations prohibited alcohol at Civil War camps, however, this contradicts historical documents regarding alcohol use in Civil War hospitals; so its presence other than near the suspected hospital can point out the degree of illicit activity, as well as the degree of army regulation enforcement (McBride, 1994; Freemon, 1998; Geier & Potter, 2000).

One final example of an area of camp life that can be addressed archaeology is status difference. Archaeologists at Camp Nelson previously attempted to discover status differences between enlisted men and officers (McBride, 1994). The examination looked at two buildings, one known to be used by officers and the other by enlisted men, and then they compared their assemblages of faunal remains, glassware, and ceramics (McBride, 1994). For faunal assemblage, archaeologists hypothesized that officers with a higher status would be given better cuts of meat and more variety in terms of military provisions (McBride, 1994). McBride (1994) theorized that for both glass and ceramics, higher status individuals, officers, would have access to a more diverse number of vessel forms and more expensive ceramics. At Fort Anderson, historical accounts scarcely mention the differing locations of officers and enlisted men, with the exception of Lieutenant Thomas Rowland, who is reportedly to have stayed at Orton Plantation when he was assigned to the fort (Fonvielle, 2015). Temporary encampments constructed by

soldiers after the fall of Fort Fisher will be difficult to locate and could possibly be located from one end of the earthworks, now within Sunny Point's perimeter, to the other end, however, not much is known about either location making their investigation imperative. Questions pertinent to this section include: Are the structures marked on the Twining Map the barracks as it has been presumed? Where were the slaves housed while at the fort during construction? Was Orton Plantation used as housing for officers throughout the war? Are other structures related to the Civil War located at Orton Plantation? What were the differences in treatment for officers and enlisted men? Were wild animals a major staple in the diets of soldiers at Fort Anderson?

Conclusion

The above information points out several questions that should be addressed by future excavations at Fort Anderson. As part of the archaeology of fort construction, archaeologists should examine how well the fort adheres to Mahan's manual. Landscape studies should be used to gain insights into the effectiveness of modifying the natural environment of the fort and these insights should then be tested against data from other landscape studies. Through the excavation of the ordnance magazines at Fort Anderson, a more accurate interpretation of the defensive effectiveness can be articulated based on what remains when compared to the last inventory reported. The use of a large-scale metal detecting survey should provide insights into the location of unknown structures, such as the hospital and additional encampments. Structure from motion techniques could also provide a 3D image that would indicate the presence of slight alterations on the grounds surface, revealing possible structures. I do not believe ground-penetrating radar will be reliable concerning the earthworks due to how the soil was distributed during construction; however, it could be used on the parade grounds to locate possible

structures, such as the hospital, stables, privies, and barracks. Further examination of the camp should address the presence or absence of identifiable status difference indicators between officers and enlisted men, the use of alcohol within and outside of the hospital, and the difference between Fort Anderson and other camps, such as Camp Nelson. Additionally, the exact location of the Civil War era wharf has not been identified. It appears in maps between Batteries A and B on the waterfront, but has thus far not been examined. The wharf would have been in steady use throughout the war due to the quarantine forcing ships going to and leaving Wilmington to be stopped and examined. In the background history, it is noted that a warehouse was destroyed during the first bombardment of Fort Anderson and during the period the fort served as a quarantine port a structure would have been needed to store cargo and ship crews while they were examined, therefore it is likely that this structure would be nearby the wharf and in an area prone to cannon fire from the river.

The first priority of this research plan is to survey the area within the boundaries of the earthworks to locate structural remains, such as the hospital, barracks, stables, privies and warehouses. After this initial priority is accomplished the remaining questions can be addressed in any order.

CHAPTER FIVE – SITE PRESERVATION

In this chapter, I make recommendations in order to protect the physical site. One of the biggest threats regarding earthworks is erosion. Aust, Azola, and Johnson (2003) examined the effects of soil erosion on civil war military earthworks in Virginia. The purpose of their project was to evaluate soil erosion that occurs under the five management treatments used by the National Park Service (prescribed burning (Figure 5.1), mowing (Figure 5.2), herbaceous-trimming (Figure 5.3), woody-trimming (Figure 5.4), and forested (Figure 5.5)) so that the site managers could make more informed decisions regarding earthwork preservation (Aust et al, 2003). They estimated soil erosion with a variation of the Universal Soil Loss Equation (USLE) developed by Dissmeyer and Foster and through erosion pins, reference markers placed in the ground, on three Virginia battlefield sites (Fort Harrison, Fort Gilmer, and Colonial Battlefield).

The management treatments were evaluated on sites where they were operationally applied; and the factors examined for soil erosion were runoff, soil erodibility, slope length and steepness, and cover management and support practices. Erosion-related factors, such as groundcover, canopy cover, and rainfall, were also examined. They found that burned treatment had significantly more soil erosion than the other four treatments based on the erosion pins and on the USLE variation; this was followed by woody-trimming treatment, where based on the erosion pins, had a significantly greater soil loss than the forested, mowed, and trimmed treatments (Figure 5.6) (Aust et al, 2003).



Figure 5.1: Prescribed Burning on Military Earthworks at Fort Harrison (Aust et al, 2003)



Figure 5.2: Mowing of Military Earthworks at the Colonial National Historical Park (Aust et al, 2003)



Figure 5.3: Herbaceous Trimming the Military Earthworks at Fort Harrison (Aust et al, 2003)



Figure 5.4: Woody Trimming Treatment of Military Earthworks at Fort Gilmer (Aust et al, 2003)



Figure 5.5: Forested Military Earthworks at Fort Harrison (Aust et al, 2003)

Treatments	Average soil erosion based on the USLE version by Dissmeyer and Foster (1984)	Average soil erosion based on erosion pins	Average ground cover
	(Mg ha ⁻¹ y ⁻¹)		(%)
Burn	16.5 c	12.6 c	55 a
Herbaceous-Trim	4.1 b	2.9 a	87 b
Mowed	3.6 b	4.0 a	81 b
Woody-Trim	3.7 b	6.4 b	83 b
Forest	2.6 a	2.8 a	86 b

* Different lowercase letters, within a row, indicate a significant difference at the 0.01 level.

Figure 5.6: Estimated for Five Treatments Over The Time Period of March 2000 through February 2001 (Aust et al, 2003)

Aust et al recommend full forest cover for military earthworks that are not being managed for public viewing, that mowing should be used when the earthwork is equipment-accessible in order to limit labor traffic, and that the burning treatment should be avoided (Aust et al, 2003). The difficulty in judging the treatment methods is in replicating the study. The Fort Anderson site presents an opportunity to test the different methods to determine if the Aust, Asola, and Johnson (2003) findings are applicable to sites outside of Virginia. This primarily applies to Battery B and the line of earthworks leading towards Sunny Point. Battery A and the Brunswick Battery should remain with forest cover for the time being.

Additionally, due to dredging in the Cape Fear River, information regarding the Civil War era wharf may be potentially lost. Therefore, once identified the wharf should be excavated as soon as possible to mitigate possible loss. Previously at the site, a Colonial era wharf was in danger of being lost and an emergency excavation was necessary.

Currently, the artifacts and field material from previous excavations at Fort Anderson are spread to several locations, including the visitor center at Fort Anderson, the underwater archaeology branch at Kure Beach, the Phelps Archaeology Laboratory at East Carolina University, and at the laboratory at Tar River Archaeological Research. To aid future

archaeologists these artifacts, field notes, photographs, and any additional associated records should be gathered and housed at a common location to ensure they are available and easy to access for further study.

CHAPTER SIX – CONCLUSION

Although Fort Anderson is not a nationally significant earthwork, its role in North Carolina during the Civil War in North Carolina makes it an important site for further study. Archaeology presents an opportunity to understand more about a significant moment in the United States history during the Civil War and add a new perspective to researchers' understanding of the time period. The purpose of this thesis, therefore, is to develop an archaeological research design to guide future research at the site.

In terms of research design, there are several areas that should be investigated archaeologically. At Fort Anderson, archaeologists should examine two aspects of Fort Anderson: its profile and placement on the landscape; to determine to what extent Mahan's manual was adhered to during the fort's construction. Archaeologists should examine the profile of the earthworks to see if the episodes of construction are visible and if these episodes can reinforce the historic record, as well as, possibly giving insights into the Colonial town it covers. In terms of its placement on the landscape, archaeologists at Fort Anderson should examine how soldiers modified and adapted the natural environment for their use to provide the greatest amount of protection for the defending soldiers.

Besides fort construction, archaeologists should continue the work of previous surveys at Fort Anderson to discover the location of missing structures, such as the hospital, barracks, privies, stables, and warehouses. Possible avenues of approach regarding surveys that have been successful previously are using structure from motion, a metal detector survey, and ground penetrating radar. The current whereabouts of the fort's hospital is a fruitful approach to learning about alcohol usage, availability of surgical instruments, and to add to the scant archaeological record on Civil War fort hospitals. Additionally, locating the encampments

allows archaeologists to look into the past lifeways of Confederate soldiers, including examining what the soldiers were eating, if they followed or violated army regulations, and if there is evidence of status differences between officers and enlisted men. The first priority of this research plan is to survey the area within the boundaries of the earthworks to locate structural remains, such as the hospital, barracks, stables, privies and warehouses. After this initial priority is accomplished the remaining questions can be addressed in any order.

Concerning site preservation, Fort Anderson should follow advice from previous research in protecting the earthworks against erosion. The location, preservation, and possible excavation of the Civil War wharf should be identified as soon as possible to prevent loss of data concerning an important aspect of Fort Anderson's role during the war. Lastly, artifacts and associated records should be gathered and housed at a common location to aid in the timely reporting for excavations in the future.

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