THE REINVENTED NAVAL TRAINING LANDSCAPE: OCOTILLO WELLS STATE
VEHICULAR RECREATION AREA AND ITS WWII NAVAL LAND USE HISTORY

by

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in

Cultural Resources Management

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June 2, 2009
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ABSTRACT

Purpose of the Study:

Winona Bombing Target #2 (WBT#2) is a target training area located in Ocotillo Wells State Vehicular Recreation Area in Imperial County, California. From 1944 to 1945, WBT#2 was accessed by the Navy to train Eleventh Naval District fighter pilots in high altitude, low level, and dive bombing, as well as strafing training objectives, for combat in the Pacific theater during World War II (WWII). WBT#2 is located in an isolated and undeveloped area, lacks buildings and structures, and consists solely of targets embodying a utilitarian architectural style made from sandstone slabs from the surrounding area. The target area also includes bomb and rocket fragments, along with hundreds of ammunition shells, cartridges, and clips.

The target area’s location, design, and military training mission are associated with the development of a reinvented naval training area resulting from changes in national naval policy during WWII. Changes in national naval policy resulted in the expansion of the naval shore establishment, a component of the Navy that includes a variety of facilities such as; navy yards, supply depots, manufacturing facilities, naval air training stations, radio stations, among others, located along the US’ continental shores. The expansion of the naval shore establishment in wartime included establishing inland training areas throughout the western US, an increase in enlistees, aircraft, ships, and equipment, as well as advancements in weaponry and training objectives. Although temporary, the expansion of the shore establishment, because of wartime contingencies, reinvented the naval training landscape, making it distinguishable from its interwar counterpart in location, design, and training mission.

The purpose of this thesis is to place WBT#2 in an historic context to identify and evaluate its association to this important event in military history, and to assess its integrity with respect to the National Register of Historic Places (NRHP). This historic context will benefit the evaluation of additional WWII-era naval training areas similar in location, design, and mission located in southern California.

Procedure:

To evaluate WBT#2 according to NRHP criteria, this study presents a review of primary and secondary archival sources from local and national repositories. This study employs two theoretical frameworks, a war boomtown framework and a military landscape framework, to identify the important national historical patterns resulting from changes to national naval policy in light of WWII.
These patterns both reinvented the naval training landscape in wartime, and altered the economic and social-cultural environment of small communities in areas of the rural western US.

Building upon these frameworks, WBT#2 was placed within these two contexts to determine its level of significance according to NRHP criteria at the local and national level.

Findings:

The establishment of WBT#2 did not significantly impact the demography, economic vitality, and postwar aviation potential, as typically found in a war boomtown community, of the nearby desert community, Borrego Springs. However, WBT#2 embodies a great level of integrity that illustrates its level of significance as an example of the reinvented naval training landscape of WWII. The target’s isolated location is associated to the expansion of the naval shore establishment that resulted in hundreds of new offshore training areas in locales that could provide relief to expanding Eleventh Naval District shore establishments, and that could logistically support destructive wartime training objectives. Additionally, WBT#2’s utilitarian architectural design is reflective of nation-wide changes to the Navy’s construction and design policies because of wartime contingencies that limited construction material and labor, and enforced time constraints.

Conclusions:

WBT#2 represents a unique type of WWII-era naval training area that is rarely, if ever, studied. This study’s evaluation of WBT#2 for listing in the NRHP addresses an important issue many historians, researchers, and preservationists, among others, struggle with when arguing the historical significance of WWII-era military properties that lack buildings and structures. WWII-era military properties’ level of integrity are commonly evaluated based on the presence, or lack, of buildings and structures similar in design and permanence of much larger and permanently built interwar military properties, thus making it difficult to argue the significance of WWII-era training area properties. The evaluation of WBT#2’s level of integrity emphasized a holistic approach that is present in a large majority of current studies in preservation theory. These authors encourage a new way of thinking that considers the ramifications of using an outdated, so to speak, architecturally, and aesthetically biased definition of integrity. This approach was applied in all phases of WBT#2’s evaluation according to NRHP criteria, and is the recommended approach for future evaluations of WWII-era training properties.

Chair: ______________________
Signature

MA Program. Cultural Resources Management  Date: 05/22/09
Sonoma State University
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I am appreciative for the humbling experience writing this thesis has given to me. During a frightful fit of writer's block, a good friend said it best when she uttered the words "measurable progress." At this time I could not grasp the full extent of what she was telling me, but as I overcame my writer's block, and continued writing into the wee hours of night I began to understand more clearly these words of wisdom. I gradually noticed that although at times it took a day to write a sentence, it was the compilation of these words that eventually evolved into this thesis' entirety. It is said that it takes a village to raise a child, but I would also argue that it takes a village to write a thesis. Many individuals played a crucial role in helping me complete this project, all of which I acknowledge in the following paragraphs.

A special thanks must first be extended to my committee, who together created an eclectic team of experts who brought depth to this study. Dr. Margie Purser dedicated weekly office hours and provided a combination of well needed mentorship, and expertise, along with patience, to help reprogram this field archaeologist into thinking beyond site records and CRM reports. Dr. Purser helped breath life into what started out as a site recorded on DPR 523 forms, and later turned into an in-depth evaluation and study. Dr. Laura Watt contributed greatly to a better understanding of how this thesis extends well beyond its intended argument and can be applied to a greater comprehension of how we as archaeologists, historians, historical architects, and preservationists, among others, can learn to change the way we view the physical world. Matt Bischoff provided an endless amount of encouragement, mentorship, and thorough editing. It was both helpful and comforting to have a shared interest in studying facets of history and archaeology that at times go unrecognized.

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CHAPTER I. THE REINVENTED NAVAL TRAINING LANDSCAPE: AN INTRODUCTION

The US' participation in WWII created a crucial need for a wartime military defense not required during times of peace, because during this period of war, allied success was contingent upon a large, well equipped, and well trained military presence. The mobilization and expansion of the US military included maximizing military forces with personnel, equipment, and land for training purposes. During WWII, portions of the once quiet and isolated desert regions of San Diego and Imperial Counties became alive with Army, Navy, and Marine Corps personnel, along with scientists from the California Institute of Technology (CalTech) in Pasadena, California, during their training of military personnel and evaluation of equipment for combat in either North Africa or the Pacific. Currently, Ocotillo Wells State Vehicular Recreation Area (OWSVRA), areas of Anza-Borrego Desert State Park (ABDSP), and adjacent federal and private lands, contain bombing targets, runways, structures, roads, and additional remains related to San Diego and Imperial Counties' rich military history (Figure 1).

The Commandant Eleventh Naval District of the Southern California Sector of the Western Sea Frontier (Eleventh Naval District) acquired a number of properties to train naval fighter pilots for combat in the Pacific, while the US Marine Corps used the desert terrain to train truck drivers. The Army used approximately 256,000 acres for the Army Borrego Maneuver Area to train anti-aircraft units for combat in North Africa, and researchers from CalTech conducted experiments for advancing military weaponry, specifically rocketry, for WWII combat (United States Army Corps of Engineers 1997b).
The purpose of this thesis is to evaluate Winona Bombing Target #2 (WBT#2), a WWII-era naval training area located in OWSVRA, Imperial County, for listing in the National Register of Historic Places (NRHP) (Figure 2). The evaluation of this unique property type applies approaches new to preservation theory and beneficial to examining the integrity of properties according to NRHP criteria that are historically significant but lack buildings, structures, and architectural permanence.

The NRHP is a list composed of the nation’s historic properties, and is used to help inventory, while enforcing national policy, to protect these properties for future generations. Historic properties include, districts, sites, buildings, structures, and objects, The National Park System manages the list and determines which resources are eligible for listing in the NRHP based on historic, cultural, architectural, archaeological, or engineering significance at the national, state, or local level (King 2004: 362). The NRHP is important because it is the nation’s inventory of historically significant properties according to one or more of the following four criteria:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history (National Park System [NPS] 1995: 2).

From 1944 to 1945, WBT#2 was used by the Eleventh Naval District as a temporary target training area for high altitude, low level, and dive bombing, as well as strafing training objectives.
The target area’s location, design, and military training mission are associated with the development of a reinvented naval training landscape resulting from changes in national naval policy during WWII. WBT#2 is located in an isolated and undeveloped area, lacks buildings and structures, and consists solely of a bombing target built in a utilitarian architectural style, using sandstone slabs from the surrounding area. The target area also includes bomb and rocket fragments, along with hundreds of ammunition shells, cartridges, and clips. The military mission of the bombing target was to temporarily train Eleventh Naval District fighter pilots for combat in the Pacific only for the duration of the war, and its location and design reflect this temporary, nevertheless important, military mission.

This study’s evaluation of WBT#2 for listing in the NRHP will address an important issue many historians, researchers, and preservationists, among others, struggle with when arguing the historical significance of WWII-era military properties that lack buildings and structures. For instance, the evaluation of Sonoma County’s Santa Rosa Naval Auxiliary Air Station for its listing in the NRHP concluded the lack of representative WWII-era buildings and structures impaired the historic integrity of the base (Psota: 1996 cited in Pulcheon 2000: 193). A property’s historic integrity is its ability to convey its significance through seven aspects of integrity and include, location, design, setting, material, workmanship, feeling, and association (NPS 1995: 44). Determining which of these aspects are most important to a particular property requires knowing the theme, place, and period in which to evaluate the property, also known as the property’s historic context (NPS 1995: 7, 44). “Historic contexts are those patterns, themes, or trends in history by which a specific occurrence, property, or site is
understood and its meaning (and ultimately its significance) within prehistory or history is made clear” (NPS 1995: 7).

In his Master’s thesis, Andrew Pulcheon argues someone has yet to develop a historic context statement for WWII auxiliary airfields, therefore “there is a lack of representative properties from this important period of national and community aviation history” (Pulcheon 2000: 194). Pulcheon goes on to assert the older, larger, and more elaborate and permanently designed aviation properties listed in the NRHP are used to evaluate the significance of all WWII-era naval training resources. There are distinguishable differences between these two types of airfields, the larger typically embody design characteristics associated with the interwar period and include paternalistic and permanent architectural design. These attributes greatly contrast with design characteristics associated with a large majority of WWII training areas that differ from interwar facilities in architectural design, training mission objectives and operations, and physical surroundings (Pulcheon 2000: 195). Inconsistencies will emerge when the design characteristics associated with the larger airfields of the interwar period are used to evaluate the significance of a uniquely different wartime training property, as in the case with the evaluation of Santa Rosa Naval Auxiliary Air Station.

A property evaluated against NRHP criteria is judged on its ability to convey significance through an assessment of its physical remains, specifically their ability to argue the property’s period of significance or historic context (Hardesty and Little 2000: 33, 45). Integrity, as defined in Bulletin 15, is the property’s ability to convey its significance, most importantly, as verified by the endurance of the physical attributes that
existed at the time of the property’s use in either prehistory or history (NPS 1995: 44). Unfortunately, the NRHP’s seven aspects of integrity are written with an architectural bias that have remained since the original 1966 National Historic Preservation Act’s individual building-based list. There are dangers in incorporating a narrow building-based list approach in the evaluation of a historic or cultural landscape, as in the case with WWII-era training landscapes, because these properties include multiple properties and expansive areas such as, districts and contiguous districts (Watt, Raymond, and Eschen 2004: 624, 627, 635).

In *Reflections on Preserving Ecological and Cultural Landscapes*, authors, Laura A. Watt, Leigh Raymond, and Meryl L. Eschen, provide an historical overview of the NRHP in their analysis of conflicts in preserving resources at the landscape level. These authors attempt to understand how conflicts between the broad, systems-based level cultural landscape approach and the narrow list-based evaluation guidelines evolved from early historic preservation laws, and provide solutions to mending the conflict (Watt, Raymond, and Eschen 2004: 622).

Watt, Raymond, and Eschen determined that the application of a building-by-building approach, and the dominant influence of architectural historians and landscape architects, significantly influenced early historic preservation efforts and laws. Additionally, early historic site surveys aimed at preserving physical structures and sites determined eligible under formal criteria, and sites eligible under the criteria included only those associated to events, themes or persons at the national level, and culturally controversial or contested sites were automatically avoided (Watt, Raymond, and Eschen 2004: 622).
These authors also encourage thinking about and evaluating properties beyond single historic buildings, structures, and conventional districts. For instance, a more holistic approach will create an all-inclusive forum capable of including historic neighborhoods, communities, surrounding landscapes, and heritage corridors (Watt, Raymond, and Eschen 2004: 635). The authors go on to argue the old criteria for historic significance and integrity, the early building-based list approach, limits the application of a more holistic approach in landscape evaluation. Most importantly, until this changes, we have to be aware of the limitations previously set by and for ourselves (Watt, Raymond, and Eschen 2004: 636).

It is also argued, that the NRHP’s seven aspects of integrity place a significant amount of importance on aesthetics, both what is visually evident in the landscape, and the history interpreted from the landscape (Hardesty and Little 2000: 47). Author Catherine M. Howett, acknowledges that it is inevitable every examination of the physical world is “inescapably” based on predisposed subjective and value-laden aesthetic biases (Groth and Bressi (eds) Howett 1997: 86).

Howett goes on to acknowledge that the predominant theme is to ignore why prejudices, with respect to the physical environment, exist in the first place and argues for “an understanding of why we are inclined to make a specific set of values the basis of environmental assessment and decision making, may liberate us from the false conviction that our judgments and actions are based on rigorously objective and inviolate standards” (Groth and Bressi (eds) Howett 1997: 86).

Judgments and biases based on aesthetic values will inevitably arise during the examination of the physical world. Author, Diane Barthel, argues aspects considered
displeasing provides opportunistic strategies for varying forms of preservation (Barthel 1996: 57). Barthel asserts the displeasing components of the industrial landscape go “beyond the aesthetic effect, the identification of industrial ruins as sites of reflection, not just for artists, but also for tourists, lead to opportunities for philosophizing about the power of humanity against nature and the process of industrial decline” (Barthel 1996: 58).

Unfortunately, architectural and aesthetic biases, among several others, have created obstacles for many historians, researchers, and preservationists alike during the evaluation of a property’s significance. Pulcheon discovered this very same obstacle in his evaluation of Sonoma County’s Santa Rosa Naval Auxiliary Air Station because it lacked large and permanently designed buildings (Pulcheon 2000: 195). Understanding how such discriminations historically evolved in making current evaluation guidelines, and how individual judgments limit a more inclusive evaluation, represent initial steps in bridging the gap between historical importance and integrity.

In evaluating WBT#2, this study will develop a historic context appropriate in asserting the significance of this temporary target training area for Eleventh Naval District fighter pilots in Imperial County from 1944 to 1945. This historic context will be beneficial in evaluating several additional WWII-era Eleventh Naval District training areas located in several counties in southern California, and perhaps additional WWII naval training areas similar in location, design, and mission. The significant role these temporary training areas played in effectively training naval fighter pilots for combat in the Pacific during WWII unfortunately remains a rarely examined, yet significant event in military history.
The majority of researchers studying WWII military landscapes use one of two frameworks, a war boomtown framework, and a military landscape framework, and few authors incorporate both. In his Master’s thesis, Robert D. Kreger, asserts most military studies lack concepts of landscape evolution, and focus on the economic and/or social issues resulting from changes in national defense (Kreger 1988: 9). To incorporate a more holistic approach in evaluating WBT#2, this study uses a blended framework to evaluate the WBT#2’s level of significance at the local and national level according to the NRHP criteria.

A war boomtown is a community that experiences an abrupt and dramatic change, also identified as a boom, which is directly attributable to the establishment of a military facility during wartime (Havighurst and Morgan 1951: xii). This change can include physical alterations to the surrounding landscape such as, the construction of new roads and military buildings, structures and housing. During the construction of the new military base migrant laborers will often engulf the community with themselves and their families, thereby increasing the community’s population and introducing new socio-cultural patterns and belief systems. Military personnel will also inhabit the community during the operation of the base, bringing their families and new socio-cultural beliefs.

An additional war boomtown characteristic includes changes to the community’s economy. The construction and operation of a military base is likely to provide new employment opportunities for residents who in turn will invest their paychecks into the local economy. However, not all community members respond positively to these changes, and in most cases, the older generation will resist alterations to socio-cultural norms for instance, women in the work force.
Forms of resistance can include letters-to-the-editor or community meetings. Additionally, the expediency with which these new developments occur can also negatively affect a community. In many cases, a dramatic population increase will greatly strain the community's available housing and result in overcrowding and unsanitary living conditions.

Although a war is not necessary for community development and change, in war boomtowns development and change is sudden and dramatic, yet temporary, and generally limited to the duration of the war. After the war is over, it is common the military facility is no longer required in peacetime and its closure ends the economic and additional stimulus once provided to the nearby community.

The majority of researchers in the various disciplines of social, economic, and military history agree boomtowns were a characteristic development of the US' involvement in WWII (Breese et al 1965; Gleason 1981; Havighurst and Morgan 1951; Johnson 1994; Launius: 1995; Nash 1985; Pulcheon 2000; White 1991). A review of war boomtown literature has shown there are two applications of a war boomtown framework, a regional and microcosm approach. Gerald D. Nash and Richard White are two of the most widely cited authors that have examined the economic and socio-cultural developments and change to the entire western region of the US because of the event of WWII (Nash 1985; White 1991). Historian, Marilyn Johnson, on the other hand, favors a microcosm war boomtown approach in her analysis of economic and socio-cultural change related to the event of WWII (Johnson 1990 as cited in Pulcheon 2000).

A microcosm approach includes a small-scale study in which a community's economic and socio-cultural change during wartime is examined.
This method is applicable in researching the human element in WWII boomtown case studies (Johnson 1990: 2 as cited in Pulcheon 2000: 81). Focusing on a single urban area allows the researcher to isolate the specific transformations in the social relations of the family, neighborhood, and overall city due to the establishment of a new military installation in wartime (Johnson 1990 as cited in Pulcheon 2000: 81, 82).

This thesis uses a microcosm approach to determine the degree in which the rural desert community of Borrego Springs, California evolved into a war boomtown community due to the establishment of WBT#2. Borrego Springs is a small desert community located in San Diego County in the Colorado Desert of southern California, approximately 90 miles west of San Diego (Figure 3). The target is located in an isolated area, and its distance from Borrego Springs, and additional desert communities such as Salton Sea, Julian, and Ramona, made it difficult to select a community to apply a war boomtown framework. An examination of archival material revealed, comparatively speaking, that Borrego Springs’ history includes significantly more detail covering the Army, and Marine Corps presence in the area during WWII. The application of a war boomtown framework is of value to the current study because it answers a significant question, “Did Winona Bombing Target #2 create an influential presence, thereby altering the economic, and socio-cultural environment of Borrego Springs as typically found in a war boomtown community?”

Period newspapers, autobiographies of long-time community residents, and oral interviews provided historical background of Borrego Springs before, during, and after WWII. Originally, the primary objective of this analysis intended to identify the type and level of relationship between the target area and Borrego Springs.
However, no documentation exists detailing an economic and/or socio-cultural influence experienced by the community because of WBT#2. Furthermore, there exists limited documentation highlighting interaction between Borrego Springs’ residents and military personnel, and the majority of the military personnel and community interaction occurred between the nearby Army and US Marine Corps training areas.

Additional research obstacles included the lack of a community newspaper until 1953, and the fact that a large majority of those who resided in the area during WWII have since deceased. Initially, the deficiency of archival material created a daunting block in this thesis’ argument, however, further examination revealed that the lack of Borrego Springs’ economic and/or socio-cultural transformation actually resulted from the target area’s unique wartime military landscape characteristics, most notably its location, design, and training mission.

Researchers in the field of war boomtown studies agree that the type and character of a military installation will have differing transformative affects on the host community (Nash 1985: 26; Breese et al. 1965: 590). For example, the establishment of a military industrial facility predominantly has influential affects on the market component of the community because it provides employment opportunities to civilians. However, a large military training base is not likely to affect the community’s economic or employment spheres as exponentially as an industrial facility because it does not provide as many civilian employment opportunities (Breese et al 1965: 591).

The impetus for using both frameworks resulted from the unsuccessful application of a war boomtown framework during the early analysis of the target area.
At this point, it was unclear why this framework did not apply to WBT#2 until the application of a military landscape framework revealed the target area’s unique location, design, and training mission deterred its ability to cause a war boomtown affect.

The sole application of a war boomtown framework in a WWII military case study assumes this framework applies to all types of military landscapes. Research limitations are unavoidable without a complete understanding of a military landscape’s location, design, and military training mission and how these three characteristics will affect, or not affect, a local host community. Using a blended framework model in a WWII military study can assess the degree in which either or both frameworks apply.

A military landscape framework is useful in examining all types of military properties, such as training or industrial facilities, to identify and understand the underlying process or processes that influence change in a military landscape. Kreger provides an extensive description of the methods applied in a military landscape framework (Kreger 1988). The primary purpose of Kreger’s research is to illustrate how a built environment for an institutional place, in this case a military base, will undergo change because of either “evolutionary or revolutionary landscape change events” or sequences of related influences that create change to a military base (Kreger 1988: 12, 15). These influential happenings can include technological advances in systems of weaponry, communications, transportation, or a concern for a service member’s quality of life. Additional circumstances including, the availability of suitable military land and money, and the popularity of current military landscape design can influence changes to military design and planning objectives. The type of influential circumstance will result
in varying military landscape change for instance, in the case of weaponry and communications. Kreger noted the increasing sophistication needs of both developments resulted in the acquisition of large open space to support new objectives in weaponry training (Kreger 1988: 15).

Kreger explains evolutionary change to a military base will generally occur during peacetime and includes the following characteristics, incremental amounts of change indicative of ongoing land use and permanence, a minimal presence of utilitarian architectural style, and a paternalistic layout and design or one that emphasizes a "concern for its members’ quality of life" (Kreger 1988: 13, 15, 176). Offutt Air Force Base located in Sarpy County, Nebraska historically underwent a series of gradual and abrupt landscape growth because of circumstances related to “the successful accomplishment of the military mission, and the health and welfare of the troops” (Kreger 1988: 52). Kreger observed that the gradual development of paternalistic landscape change at Offutt Air Force Base was associated with periods of peace, and predominately aimed at improving the quality of its inhabitants’ life with projects that supported housing, recreation, and additional community services (Kreger 1988: 53). The look and layout of a military landscape that develops because of evolutionary change will be drastically different compared to a military landscape established because of revolutionary change.

Revolutionary landscape change is associated with a dramatic event that immediately influences change to a military landscape, as in the case of the bombing of Pearl Harbor that immediately resulted in the US’ involvement in WWII.
The US’ entrance into WWII required the military to expand its forces, thereby resulting in hundreds of new naval facilities that were designed to accomplish military objectives in wartime. It is the magnitude and abruptness with which the event occurs that alters the military landscape as if “overnight” (Kreger 1988: 15). The transformations that follow generally include an architectural style that is strictly utilitarian, that emphasizes impermanence, and is strictly constrained to specific wartime design objectives. During WWII, the military directed that all new projects for the war effort were to be constructed using utilitarian design methods that emphasized their use only for the duration of the war (United States Department of the Navy 1947: 16). Kreger concluded during WWII the landscape transformations at Offutt Air Force Base were strictly utilitarian, void of aesthetics and permanence, and solely focused on attaining military directives (Kreger 1988: 53).

A military facility is highly susceptible to change because societal circumstances are paramount in influencing the transformation of its planned purpose. The primary purpose of a US military property is to serve the needs of the US Department of Defense therefore, its design, location, and objective will evolve according to agency directives and various external societal pressures. The study of this relationship is significant to understanding military landscape change.

In a military landscape study, the first step in understanding landscape change is to identify whether the change is evolutionary or revolutionary, and second, to identify the specific event or events that influenced the change. A military landscape study can involve a complicated analysis because the change can stem from a variety of circumstances, and therefore result in varying degrees and types of influence.
Furthermore, it is essential to include an analysis of the military landscape prior to the evolutionary or revolutionary event to better identify the relationship between the circumstance and changes to the military landscape (Kreger 1988: 15, 175). Although Kreger’s research does not solely focus on a WWII military analysis, it provides a thorough research foundation for WWII military case studies.

This thesis uses Kreger’s landscape model to demonstrate how changes in national naval policy during WWII created a new type of naval training landscape notably different from its interwar counterpart. This analysis highlights how the WWII naval training landscape included an isolated and undeveloped location, encompassed a strict utilitarian architectural style, and strictly adhered to a locational and design doctrine that “oriented exclusively to the successful accomplishment of an immediate mission as opposed to long-term preparatory objectives” (Kreger 1988: 176). The purpose of this analysis is to assert WBT#2’s location, design, and military training mission as examples of this temporarily reinvented naval training landscape of WWII, and to illustrate how its unique characteristics prevented a war boomtown influence in Borrego Springs.

The subsequent chapters are organized in following manner; Chapter II examines how changes in national naval policy in light of WWII reinvented the naval training landscape, thus creating WBT#2 in Imperial County. Chapter III includes a literature review of the two frameworks used in this analysis of the target area, a war boomtown, and a military landscape framework. Chapter IV applies a microcosm war boomtown approach in the examination of WBT#2’s impact on the economic and socio-cultural environment of Borrego Springs. Chapter V uses Kreger’s revolutionary military landscape change model to demonstrate how WBT#2’s location, design, and mission is
an example of a temporarily reinvented naval training landscape resulting from changes to national naval policy during WWII. This chapter also emphasizes how these unique characteristics prevented a war boomtown influence in Borrego Springs. Chapter VI evaluates the target area for inclusion in the NRHP, and Chapter VII provides concluding remarks and recommendations for future work.
CHAPTER II. WWII NATIONAL NAVAL POLICIES AFFECTING THE NAVAL TRAINING LANDSCAPE

The Navy was a disorganized agency at the time it entered the war because of "the military’s stubborn adherence to its prewar planning, which did not consider the massive effort eventually required" for the war effort, thereby necessitating its reorganization for war combat (Fesler 1945 cited in Waddell 1995: 86). In 1938, the Navy’s shore establishment only included eleven naval air stations that accommodated 1,000 airplanes and 110,000 personnel (United States Department of the Navy [USDN] 1947: 229, 261). The naval shore establishment comprises a variety of facilities including, navy yards, supply depots, manufacturing facilities, naval air training stations, and radio stations located along the US’ continental shores (USDN 1947: 1-3). At the eve of WWII, the location, design, and mission of interwar naval air stations, and additional training facilities, merely suited a handful of aircraft, equipment, and personnel, and were notably reflective of peacetime. Also at this time, Hitler’s Axis armed forces accomplished a successful takeover of Austria, and the condition of the shore establishment paled in comparison to the predicted military requirements for the US’ successful entrance into WWII (USDN 1947: 3-4). Although the US was not yet involved in the war, the immediate mobilization and reorganization of the US Navy began in anticipation of possible combat engagement.

In 1938, Congress passed the Vinson Bill resulting in a twenty percent increase of naval ships and aircraft, marking the first of many future congressional actions parallel to US naval defense needs for the remainder of WWII (USDN 1947: 4). The passage of the Vinson Bill was the significant point at which Congress acknowledged the US Navy was
unprepared for war, and consisted of an inadequate source of trained naval personnel, and aircraft, ships, and facilities, among additional resources (USDN 1947).

Further developments in the naval shore expansion program prior to the US' involvement in the war included the Hepburn Board of 1938, an extensive appointed committee whose mission was to assess the current state of the naval defense organization for possible war involvement. To accomplish their objective, the committee began with an assessment of the current war needs vs. the current state of the naval shore establishment. The study resulted in a report recommending the expansion of existing bases, and the development of new bases (USDN 1947: 4). Further war developments, such as the outbreak of war in Europe, significantly influenced more changes to the naval shore establishment, specifically an increase in aircraft production.

Congress' immediate response to the outbreak of war in Europe included increasing naval aircraft to 10,000 in June of 1940, and a month later enacting a bill establishing a ‘two-ocean’ Navy. The ‘two-ocean’ Navy consisted of war campaigns, or fleets that include an organization of vessels, aircraft, and ground forces necessary for major operations in a theater of war. The ‘two-ocean’ Navy included theaters of war in the Atlantic and Pacific oceans, a seventy percent increase in forces afloat, and an increase in aircraft to 15,000 (USDN 1947: 8, 229; Shettle Jr. 1997: 9). Both campaigns required varying war methods and tactics, and the current US Navy was unprepared for either campaign. The Atlantic fleet was composed of three amphibious operations; a line of defense, a campaign protecting ships delivering raw materials to factories, and the transportation of war munitions and reinforcements to Allied forces (Grossnick 1997: 101).
The Pacific fleet required strategies to stop an enemy advancement that had successfully progressed in the western, southern, and central regions of the Pacific (Grossnick 1997: 101).

Quickly following the bombing of Pearl Harbor in December of 1941, it was inevitable the US would enter the war. President Roosevelt immediately approved an increase of naval aircraft production to 27,500 airplanes, thus marking the beginning in a series of additional naval expansion practices in wartime. Further naval mobilization procedures included an increase of recruits, equipment, along with advancements in technology and combat training, and the deployment of naval defense throughout the world (USDN 1947: 229).

The main objective of expanding the naval shore establishment was to maintain the Navy’s combat readiness throughout the US’ involvement during WWII. This included the expedient expansion and construction of a variety of naval facilities inland, mainly in rural regions of the western US, to support the influx of military enlistees and equipment. Further wartime contingencies included advancements in military training objectives and missions, time constraints, and the depletion of resources, thereby requiring the shore establishment to overhaul interwar planning and construction practices. Additionally, the protection and defense of US coastal boundaries and naval facilities, and the over saturation of coastal training areas played influential roles in the acquisition of inland properties throughout the rural west.

“The expansion of the naval shore establishment in the United States and the building of advance bases overseas which enabled our armed forces to carry the war to
the enemy's home waters, by sea and air, and to conquer him on his own soil, is one of which your organization can well be proud" (USDN 1947: iii).

This is quoted from a memorandum by James Forrestal, Secretary of the Navy, to Admiral John J. Manning of the US Navy, providing his opinion about military achievements resulting from the naval shore expansion program during WWII. Many historians, and scholars alike, agree with Forrestal, in that the Navy's immediate reorganization of its interwar national policy, mobilization, and expansion, resulted in allied victory during WWII (Bilstein 1991; Launius 1996; Lawson 1985; Lee 1947; Pearson 1995; Waddell 1995).

The story behind the Navy's transition from an interwar period into wartime preparedness is notably a significant component in military history. Wartime contingencies continued to emerge throughout the duration of the war, thereby putting an end to naval interwar managerial practices, and influencing the transformation of many facets in the shore establishment, most notably the naval training landscape. War is not static, it is a flexible process where the odds of victory are in a constant state of change. In the wake of this transitory period, dramatic changes occurred to the location, design, and mission of existing training facilities, and during the creation of new ones. The evolution of a new naval training landscape in wartime is a rarely studied, but a significant event, that contributed to the success of the Navy's war preparedness and later Allied victory during WWII. The development of WBT#2 resulted from the reorganization of national naval policy in light of WWII.
Policy Changes Affecting Military Funding

The necessity to better equip the US naval defense for victory required Congress to support presidential executive decisions and provide a flexible funding source for defense needs. Congress’ extensive allocation of funding for naval defense development was significantly different from its interwar military funding doctrine (USDN 1947: 30). Prior to WWII, the Bureau of the Budget allocated defense budgets complimentary to the general national budget thereby restricting the expansion of the naval shore establishment, and resulted in a backlog of projects that overlapped into consecutive years. To manage the backlog, a series of personnel boards, along with additional involved parties, examined project proposals in a selective and time-consuming process of priority lists, and a large majority of the projects never reached maturity. In essence, project approval occurred through a need-only process. The Chief of Naval Operations, the supervising authority of the naval public works program, formulated yearly general plans from the priority list making the final decisions as to which projects would receive the necessary resources for completion (USDN 1947: 3). However, given the urgency of wartime, there was little room for stagnant military budget proposals, thereby Congress’ interwar budgetary practices became void (USDN 1947: 20-23).

During wartime, interwar defense budgetary practices changed due to the President’s Emergency National Defense Program, resulting in the First Supplemental National Defense Appropriation Act, 1941. The Act provided the Army and the Navy $1,218,000,000 for expenditures, and a succession of additional Appropriation Acts occurred annually throughout the US’ involvement in WWII (USDN 1947: 30).
The annual Appropriation Acts supported a number of naval expansion review boards, and their project proposals. The allocation of government monies made each proposal a reality, essentially making it possible to expand and construct new naval shore facilities under strenuous circumstances.

This type of flexible, and Congressional sponsored, funding program helped to support the 1939 Shore Station Development Board, a board that transitioned interwar planning practice and design to better suit the strategic naval needs in wartime. Their main objective was “to plan for maintaining our shore stations in number, location, and equipment, adequate to support the fleet in a constant state of readiness for war, and for the service of the fleet should war come” (USDN 1947: 7, author’s emphasis). The Shore Station Development Board required modified and new naval establishments to possess strategic, utilitarian, and engineering properties, thereby eradicating the prewar priority project list (USDN 1947: 6). In wartime, the interwar priority project list greatly conflicted with the strategic productive goal of the Navy and its anticipated increase of personnel and equipment, and advancements in training. The new strategic, utilitarian, and engineering design properties supported new wartime contingencies, therefore accomplishing the immediate objectives of the Navy. Throughout WWII, military pressures continued to evolve, thereby increasing military personnel, equipment, material, training requirements, and most significantly, the urgency of efficient planning methods (USND 1947: 12).
Policy Changes Affecting Military Land Acquisition Practices

Two significant characteristics distinguishing the military acquisition practices between peacetime and war included the amount and type of land required to meet an excessive amount of immediate wartime military training objectives. Prior to WWII, the Federal Government did not have to accrue an extensive amount of the US geography, because an expansive naval defense was unnecessary during peacetime. However, extreme alterations to interwar land acquisition processes quickly followed the outbreak of war in Europe, and “demanded large acreages of land within the US for the expansion and training of the Nation’s military and naval forces” (Lee 1947: 889). Characteristics of this new wartime acquisition process included an extreme level of ‘hurriedness’, and the application of ‘more positive powers’ to acquire public and private lands, and properties owned by federal agencies other than the Navy or War Department (Lee 1947: 889). The military’s acquisition of both federal and private properties occurred rapidly, approximately expanding over a two and one half year period, and unfortunately, the urgency limited acquisition alternatives thereby creating hardships for many landowners. The purchase of privately owned land rarely occurred during periods of interwar however, during WWII, the acquisition of agricultural land dismantled communities, forcing a large amount of people to leave their places of business and residence (Lee 1947).

During WWII, rural farm communities were the preferred location to serve the military training mission of the many new air and training stations, and as if overnight, these properties were instantly flooded with military personnel, their equipment, animals, and buildings (Lee 1947).
In many cases, landowners and community residents alike protested the executive military acquisition of their land and community property (Lee 1947: 893). Interwar military acquisition practices changed dramatically over the duration of the war period, mostly due in part to the replacement of the 1932 Economy Act that originally limited the military’s rental expenditure of private property. The 1942 Economy Act that replaced its predecessor of a decade earlier, asserted that the 1932 Act:

shall not apply during war or national emergency declared by Congress or by the President to such leases or renewals of existing leases or renewals of existing leases of privately or publicly owned property as are certified by the Secretary of War or the Secretary of the Navy, or by such person or persons as he may designate, as covering premises for military, naval or civilian purposes necessary for the prosecution of the war or vital in the national emergency [USDN 1947: 111].

The second War Powers Act was an additional Congressional and presidential action that permitted the reorganization of interwar land acquisition protocols. In a state of national emergency, the Secretary of War was authorized new leases or the renewed existing leases of privately or publicly owned property for use, in addition to having permission to improve all necessary and adequate additions to the leased land with public funds. At this time, the acquisition of private property was urgent and necessary, therefore community and landowner protests fell on silent ears. The destitution and hardship experienced by a large majority of rural community residents were additional sacrifices the US had to succumb to during wartime as many were quickly removed, and relocated from their property (Lee 1947: 889-890).

It was necessary during the war period the location of new training areas could support complicated training maneuvers, precision training, and safety precautions.
Significant factors such as, climate, availability of labor and material resources, and defense strategies were taken into consideration during this new wartime military acquisition process (Lee 1947: 892). Acquisition size, environmental setting, and proximity to water or communities were components necessary to a training station's objective. The conveniences allotted by the rural agricultural regions of the western US ideally served the objectives of a large majority of the newly developed training areas of WWII.

Historically, the west has played a pivotal role in the evolution of military aviation due to its expansive and unique terrain, aridity, and ideal year round weather (Launius 1996). Previous attempts to establish aviation schools in the southern regions of the US proved unsuccessful because of poor weather, and overly saturated areas of urban growth (Launius 1996: 221). The circumstance of WWII increased aviation development and training in the rural western regions of the US. The common land acquisition process by the Federal Government included the obtainment of State owned land by lease because “of the temporary nature of many war projects and the legal restriction or reluctance of States to sell” (Lee 1947: 895). Federal owned land was an additional property type acquired during the war period and included those owned by land management bureaus, and agencies within the Departments of Agriculture and Interior. An Executive order, public land order, and a letter of permission known as a ‘use permit’, were the common methods by which land owned by other Federal agencies were made available for military use (Lee 1947: 894-895).

The attainment of federal properties was the preferred property type for military
use by both the Federal Government and private landowners because it could be obtained expediently while having a lesser impact on private landowners. Developments in the protective defense strategies of US geographical boundaries was an additional event resulting from WWII that had a profound and permanent affect on the rural western regions of the US. After the bombing of Pearl Harbor, the US military strategically placed naval defense facilities along the US' western coastline to protect against enemy attack, and from this position, it was easier to transfer the Navy fleet to the Pacific (Launius 1996; USDN 1947).

Policy Changes Affecting Military Construction Practices

Urgent time constraints along with a quickly expanding naval shore establishment remodeled prewar construction methods to better suit the current evolving war effort. The mass and expedient construction resulted in a significant shortage of resources, notably material and labor, and influenced the modification of prewar construction methods (USDN 1947: 12). Scarce resources influenced the establishment of the 1942 War Production Board (WPB), which supervised the allocation of construction material and equipment through a “construction-priorities system” (USDN 1947: 77, 88). The WPB required all material and equipment requests include a project construction schedule, along with the anticipated shipping date, to ensure the request was received according to the proposed building schedule (USDN 1947: 88).

This new system maintained a code of urgency that adhered to a time-sensitive schedule and limited resources.
The Directive for War-time Construction emphasized the Board’s new conservation policy and included the following constituents:

1. Unnecessary construction was to be eliminated.
2. Construction of a temporary nature consistent with sound engineering principles was to be employed.
3. Maintenance was to be kept to the minimum consistent with necessary operational requirements.
4. Use of critical materials was to be eliminated or decreased to the minimum amount practicable, by re-design, substitution of less-critical materials, or use of increased allowable working stresses.
5. Investigations and use of available surplus materials and equipment was to be made prior to placing of orders through the usual procurement sources.
6. Scrap material was to be collected, classified, and segregated as to kind, and processed back into proper using channels.
7. Conservative use was to be made of all utilities [USDN 1947: 97].

Scarcity of time and resources significantly influenced the establishment of a wartime utilitarian design doctrine emphasizing a “building should be no more elaborate or extensive than was absolutely essential and that, insofar as possible, substitutes should be found for scarce materials” (USDN 1947: 14). The application of utilitarian design principles efficiently standardized the role of military construction in WWII in which all new projects had to directly contribute to the war effort, and abide by the immediate time schedule. The use of men, material, and equipment could not conflict with the progress of additional projects, existing facilities, or interfere with the production of combat material, and all construction had to apply the cheapest available methods. Only in extreme circumstances were exceptions made for projects that boosted morale, the appearance, or the recreational opportunities of existing facilities. The application of additional resources had to run parallel with the project, and serve the war effort, and most significantly, the project’s contribution in postwar was not an issue (USDN 1947: 16).
Determining the location of the new naval shore establishment was an additional aspect considered early on during the construction-planning phase, and further emphasized distinct differences between the Navy in wartime and the interwar period.

Under the direction of the Chief of Naval Operations, the Bureau of Yards and Docks was the supervising authority overseeing the occupancy proceedings of the naval shore establishment, including its public works, and public utilities (USDN 1947: 3, 78). Additional programs influential to the expansion of the naval shore establishment in wartime included the Survey and Report on the Adequacy and Future Development of the Naval Shore Establishment Board of 1940, and the Greenslade Board. Together, these agencies evaluated each type of naval shore establishment, and assessed their role in fulfilling the strategic requirements of the US naval fleet. The Greenslade Board assessed and reported recommendations on the location and construction of new facilities, including the expansion limitations, construction, or conversion of existing shore facilities (USDN 1947: 8). In 1940, the Board’s evaluation resulted in a proposal of the projected costs likely to incur parallel to the fleet’s expectant growth and strategic requirements to 1946 (USDN 1947: 9, 39). The development of new military training missions in wartime significantly influenced the location of new naval training stations, thereby resulting in the extensive military acquisition of thousands of acres located inland and away from their interwar coastal training area counterparts.

Wartime Contingencies Resulted in New Training Facilities

The mission of naval training stations during wartime required weather for year round outdoor training in a reasonably clear, level, and well-drained expansive area.
Additionally, many training stations, most notably large facilities, required proximity to sources of transportation, for example, a railroad, or highway, and an adequate supply of water, electricity, and sewage for personnel. In addition to providing expansive space beneficial to naval training maneuvers, the expansiveness of the rural western US also guaranteed the new construction would not interfere with existing naval construction projects (USDN 1947: 266-267). Military training missions such as, strategic advancements in aeronautical weaponry, and precision flying maneuvers required open and isolated areas.

During WWII, the west embodied open space, isolation, and unimproved land necessary for the successful development and testing of aeronautical weaponry. Due to the destructive and dangerous nature of bombing and artillery ranges, and proving grounds, these training areas were commonly located on the poorest types of grazing and agricultural areas (Lee 1947: 898). The poor grazing land contained the minimalist amount of improvements, and therefore the government was not required to restore the property back to its original condition after use (Lee 1947: 893). Additionally, isolation prevented training congestion from neighboring training facilities for example, aerial training required an expansive 640 acres for precision ground bombing (Lee 1947: 892). Most significantly, the isolation created a safe barrier between communities and other training areas from dangerous bombing practices (Launius 1996: 228).

Further naval training areas developed and utilized during WWII included airfields, auxiliary, and emergency landing areas, and these required an environmental setting that was open, level, and isolated to function properly. For example, at least 160
acres of open and flat space was required for auxiliary and emergency landing areas (Lee 1947: 897).

Land acquired in the rural regions of the western US helped alleviate the stresses of coastal training stations saturated in equipment and personnel due to an expanding naval shore establishment in wartime. During this period, west coast training areas reached maximum occupancy in the San Diego, Los Angeles, and San Francisco areas of California. Additional overpopulated west coast training areas located north of California included Portland, Oregon, and Washington. The level of military personnel and equipment continued to increase during the duration of WWII, and was one of the significant factors influencing the establishment of all new Army, Navy, and Marine Corps recruitment and basic training areas inland (USDN 1947: 17, 18, 19).

Despite the availability of remote areas in the southwestern US, after the bombing of Pearl Harbor, the increased rate at which the Army, Navy, and US Marine Corps began to mobilize and prepare for combat in areas of the US’ southwestern continental shores quickly began to deplete land available for training. As a result, Army, Navy, and US Marine Corps training areas began to overlap as the influx of personnel and equipment rapidly increased. Prior to WWII, the Army Air Corps refused to acknowledge the Navy’s aviation comprehensiveness, and the Navy described the Air Corps as an aggressive entity that lacked aviation skills, thus the conflict resulted in segregated naval and Army training facilities (Shettle 1997).

However, in 1942 the President established the Joint Chiefs of Staff, thereby requiring administration from the Army and Navy to function as a team in exercising strategic control of the armed forces, including the “exchange of information of all kinds,
including that relating to operating techniques, new weapons, and strategic and tactical problems" (King 1946: 90).

In response to this new complexity, the military developed four programs to manage the use of land and air space for training purposes in the Eleventh Naval District’s operating boundaries in southern California. The Eleventh Naval District is a component within the Western Sea Frontier, a military designated coastal boundary in which a Navy officer exercises command over all forces and activities (National Archives Records Administration [NARA], Organizational Manuel of the Western Sea Frontier, 1942). The four programs that managed land and air space for training purposes in the Eleventh Naval District included the Joint Conference, the Eleventh Naval District Joint Operations Center, the Interdepartmental Air Traffic Control Board, and the Naval Air Control Center.

In 1942, representatives from the US Marine Corps, 4th Air Force, Civil Aeronautics Administration, San Diego Naval Air Station, and the Eleventh Naval District gathered to discuss the overlapping military operations, and the consensus was to develop the Joint Conference, a central controlling command. The Joint Conference included personnel from the Army, US Marine Corps, Navy, and the Civil Aeronautics Administration that reviewed and approved expansion projects of all Army, Navy, and US Marine Corps facilities, and oversaw the management of shared training space (Eleventh Naval District Office of the Commandant 1942).

The issues addressed at this Conference set in place procedures governing future joint conferences, organizational manuals, and memorandums, thereby redefining interwar military relations into a joint operative structure during wartime. Additional
programs, such as the Eleventh Naval District Joint Operations Center, the Interdepartmental Air Traffic Control Board, and the Naval Air Control Center further maintained the logistics of this cooperative relationship.

The objective of the Joint Operations Center was to supervise and maintain a cooperative training relationship among the Army, Navy, and Marine Corps, by supervising the establishment, allocation, and use of training areas in air and on ground within the Eleventh Naval District. The Interdepartmental Air Traffic Control Board required notification of the acquisition and use of navigable air space located 200 miles seaward from the US’ western continental shores by the Army, Navy, or civilian parties (NARA, Memorandum, Joint Operations Center, Western Defense Command-Western Sea Frontier, 1943a).

In the fall of 1943, the Army, Navy, and Marine Corps’ occupation of the sea and airspace throughout the Eleventh Naval District for training operations continued to escalate. To further enforce cooperation between these groups, the Naval Air Control Center acquired additional air space, and developed an overly grid that was superimposed on all air and land space within the Eleventh Naval District. The Naval Air Control Center authorized and supervised access to the sectioned areas thereby enforcing joint use coordination of sea and air training areas, while preventing exclusive air and land rights by one military branch (NARA, Memorandum, Joint Operations Center, Western Defense Command-Western Sea Frontier, 1943a).

San Diego and Imperial Counties’ isolation, expansive terrain, and proximity to additional military training centers in southern California, made an ideal training for the Army, US Marine Corps, and Cal Tech researchers in addition to the Navy during WWII.
The joint land use of this area is unique and special because it includes units from each military branch, including researchers of military technology, simultaneously sharing and operating separate training areas within a shared space.

This type of group alliance paved the way for further nation-wide joint military relationships as the Army, Navy, and US Marine Corps continued to mobilize and expand forces over the course of the war. Furthermore, because of the US' involvement in WWII, one national military force, no longer divided into distinct naval and Army armed forces was established (King 1946: 89-90).

A Synopsis of the Naval Land Use History of San Diego and Imperial Counties and the Establishment of WBT#2

During WWII, a significant strategic defense method of the Pacific Fleet was to stop enemy advancements in regions throughout the Pacific, and this required an adequate amount of trained fighter pilots (Grossnick 1997: 101). The logistical requirements to accomplish the Pacific Fleet's military objectives at naval training and operative facilities required the following; one heavy bombing target, one dive-bombing target, one machine gun firing area, one 1,000-inch range, one practice landing field, and one field for carrier landing practice (NARA, Eleventh Naval District, General Correspondence Files, n.d.).

In the early half of November 1943, the Eleventh Naval District began organizing preliminary actions for the estimated increase of large projects and plans affecting the San Diego and Los Angeles areas. The Eleventh Naval District concluded the current steady influx of military personnel and equipment surpassed a large majority of existing
facilities' capable limit, thereby hindering productive goals within these two regions, and foreseeable increases would further handicap productivity.

The resolution involved relocating activities elsewhere if facilities were made available (NARA, Commandant, Eleventh Naval District, Conference, 1943b; NARA, General Correspondence Files, 1943c).

The Eleventh Naval District began to occupy several inland locations in San Diego and Imperial Counties in the late 1930s for miscellaneous target training areas, and by war's end, at least 43 areas throughout the Eleventh Naval District had been acquired in a number of southern California Counties (Figure 4). WBT#2 is one of the 43 areas acquired by the Eleventh Naval District for training fighter pilots for the combat in the Pacific theater (Figure 2) (NARA, Circular Letter Number 20-44 from Commander 1944).

The Navy acquired the miscellaneous target training areas by way of a temporary use permit granted by either the Department of Interior, the State of California, or private parties, and included two types of acquisition sizes, a ¼ section (160 acres), 1 section (640 acres), or a 1 ½ section (960 acres). The practice bombing targets consisted of one of three types: concentric circles, radar rigged fencing, or simulated target structures (NARA, Circular Letter Number 20-44 from Commander 1944).

The Joint Operations Center authorized Eleventh Naval District units access to the target areas however, “the unit to whom the target is assigned may permit another unit to use such target”, and therefore, any Naval Aviation Station (NAS), Naval Auxiliary Air Station (NAAS), or Marine Corps Air Station (MCAS) unit within the Eleventh Naval
District had access to this target area, and included the following:

San Diego NAS (North Island)        San Nicolas Island NAAS
Terminal Island NAAS                Salton Sea NAAS
Los Alamitos NAAS                   Ventura County Airport NAAS
Camp Kearny NAAS                    Twenty-Nine Palms NAAS
Brown Field NAAS                    El Toro MCAS
Holtville NAAS                      Mojave MCAS
El Centro MCAS                      Ream Field NAAS
Santa Barbara MCAS                  San Clemente Island NAAS

(NARA, Circular Letter Number 20-44 from Commander 1944).

From 1944 to 1945, any one of the above 16 NAS, NAAS, and MCAS units within the Eleventh Naval District had access to WBT#2 for low-level rocket and bombing target practice (NARA, Circular Letter Number 20-44 from Commander, 1944; United States Army Corps of Engineers [USACE] 1996: 1-1). The establishment of WBT#2 provided a large and isolated target training area for expanding and new Eleventh Naval District NAS, NAAS, or MCAS in San Diego and Los Angeles Counties.

War is fluid and unpredictable, thereby requiring a country’s defense to maintain an order of fluidity in an unpredictable state of wartime. During WWII, training of Eleventh Naval District fighter pilots was contingent upon developing training areas capable of supporting; (1) an influx of personnel and equipment, and (2) large-scale and dangerous naval training maneuvers. The location, design, and mission of WBT#2 represents a reinvented military training landscape better equipped at fulfilling the Eleventh Naval District’s training mission in wartime.

Following the enactment of the Surplus Property Act of 1944, the Navy began disposing unneeded real estate. By spring of 1945, naval demobilization escalated, becoming a common practice following the end of war in August of 1945. The military’s
manner of disposing formerly used areas included returning private, public, and federal lands back to their previous owners (USDN 1947: 112, 20-23).

The Federal Government made thorough attempts to rehabilitate former military land, and minimal amount of buildings, and temporary architecture made it easier to dispose of excess military land (USDN 1947: 112, 20-23). Additionally, military demobilization projects considered the foreseeable defense needs of the Navy Fleet after the war, and a sufficient amount of land for naval use remained military property and permanent military structures quickly replaced the nonpermanent wartime buildings (USDN 1947: 20-23).

Changes to national naval policy in wartime created a new naval training landscape distinguishable in location, design, and mission. An additional transformative event resulting from the expansion of the shore establishment in wartime was war boomtowns in the rural areas of the US. The federal government’s acquisition of land for wartime mobilization and expansion resulted in the relocation of military personnel, their weapons, machines, aircraft, and various other devices, and at times, their families to various regions throughout the US. As a result, this wake of change had a transformative influence on a large majority of the rural and isolated communities throughout the US. In essence, two types of landscape change of events occurred from modifications to national naval policy. The following chapter provides an overview of the two popular research frameworks employed to study these landscapes, war boomtown, and military landscape change frameworks.
Figure 4. Bombing Targets in Southern California Sector, Western Sea Frontier (Eleventh Naval District)
CHAPTER III. RESEARCH APPLICATIONS IN MILITARY STUDIES: WAR BOOMTOWN AND MILITARY LANDSCAPE FRAMEWORKS

Researchers that consider the effects of wartime military facilities on nearby communities and those examining military landscape change use one of two research frameworks, a war boomtown, or a military landscape framework. A war boomtown framework attempts to identify the relationship between the establishment of a new wartime military facility and the influence of that facility on the economic and socio-cultural facets of a nearby community. Furthermore, by examining changes in various economic and socio-cultural aspects of a nearby community, a war boomtown framework allows a researcher to judge the significance of an installation's influence on the host community. Effects that may be evident in a war boomtown community include new economic opportunities, increased socio-cultural diversity, a rapidly increasing population, and an increase in city services developed to support that population.

A military landscape framework focuses on the relationship between periods of peace or war and military landscape change. Episodes of peace or war will result in two distinct categories of military landscape change, evolutionary or revolutionary change. Military landscape change generally occurs in the location, design, and mission of the facility. An understanding of revolutionary landscape change is essential in the analysis of changes to the naval training landscape in light of changes to national naval policy during WWII.

This chapter provides a detailed discussion of war boomtown and military landscape frameworks to illustrate the importance of applying a blended framework in
the analysis of a military landscape study. Varying types of WWII military landscapes will result in differing types of boomtown patterns. Generally, the host area will transform from a predominantly rural or semi-rural type of living environment and into a booming urban area because of a new wartime military installation. However, the event of WWII resulted in varying types of revolutionary military landscape change, thereby diversifying the development of WWII boomtowns. WBT#2 is a perfect example of a type of naval target training area exhibiting unique revolutionary landscape change during WWII. This training area’s location, design, and mission exemplify revolutionary changes that largely prevented a war boomtown influence on the nearby community of Borrego Springs. Following a more detailed discussion below of war boomtown and military landscape frameworks, the proceeding chapters will illustrate how and why revolutionary military landscape change, as seen in WBT#2, will result in varying degrees of war boomtown change.

*WWII and War Boomtowns in the Western US*

Historians, Gerald D. Nash and Richard White, argue that on the eve of WWII the economic, demographic, cultural, and social makeup of a large majority of the western US paled in comparison to the eastern US (Nash 1985; White 1991). Between 1939 to 1941 several factors contributed to the west’s premature growth following WWI and the Depression. One such factor was the west’s exportation of its raw materials eastward for processing, in which the east retained a large portion of the profits derived from their fabrication. Additionally, although agriculture and mining industries provided a
significant source of income for the west, western manufacturers were extremely restricted, accounting for less than 5 percent of the region’s income (Nash 1985: 5).

The success rate of western manufacturers were dwindling to less than 5% because of restrictions enforced by Wall Street bankers and the Interstate Commerce Commission in Washington who imposed discriminatory freight rates and the basing point system (Nash 1985: 5). Furthermore, western farmers, cattlemen, miners, and oil producers were struggling to repair themselves from the aftermath of the Depression. A great majority of farms were on a decline because of the vast majority who suffered from home and farm foreclosures during the Depression. The Depression had also contributed to a decline in meat consumption, mining operations, and the production of motor fuels and fuel oil. At the eve of WWII, the entire nation continued struggling to repair itself following the Depression, and the sluggishness of the west’s economy was a reflection of this (Nash 1985: 4-7). Furthermore, the limited economic and entrepreneurial opportunities afforded by this region contributed to the west’s displaced populations. These displaced populations limited the development of socio-cultural diversity in western towns and cities (Nash 1985: 10). In general, at the eve of war, the eastern region of the US far surpassed the west in economic, demographic, and cultural development.

Prior to WWII, military-industrial and training facilities required a landscape that included water, electricity, transportation, food, and additional resources, that only large communities could provide (White 1991: 496). Additionally, the construction of military facilities required densely populated communities that could supply a significant labor
pool, and the thinly populated rural west did not have the populace for the establishment of such facilities. However, during WWII, changes to national security interests, military mobilization and expansion, along with modifications to military training objectives and management, resulted in the expansion of the nation’s shore facilities inland to the isolated and sparsely populated portions of the west. Very quickly, the qualities of this landscape, once perceived as impediments to their use by the military “came to be virtues that provided a magnet for vast new facilities in every western state” (Nash 1985: 23, 24).

The rapid establishment of WWII military industrial, manufacturing, and training facilities, among others, throughout the rural western US created what many historians argue to be one of the largest booms in the history of this region (Nash 1985; White 1991). Nash defines this extensive amount of change as a boom similar to the nineteenth-century mining and railroad booms, in which the employment and entrepreneurial opportunities enabled by these two events prompted a large migration of people westward in a short period of time. Similarly, much of the economic opportunity provided by the development of military facilities came in the form of employment (Nash 1985: viii, 14, 57, 58).

The dispersal of federal monies and investments for the construction and operation of military facilities stimulated this growth, and a wave of migratory laborers traveled westward to reap the benefits, thereby changing the region’s underdeveloped economy, population, city development, and cultural make-up (Nash 1985: viii, 14, 57, 58). The “Great Migration” is a popular phrase used to describe the movement of approximately eight million people across the Mississippi and into the west during WWII (Nash 1985: 58).
Popular Methods and Methodologies in War Boomtown Case Studies

There are varying breadths of examination historians apply when using a boomtown framework. Gerald D. Nash and Richard White are examples of two well-cited authors that conducted expansive historical studies of economic and socio-cultural change that occurred throughout various regions in the rural west through the application of a war boomtown framework (Nash 1985; White 1991). The authors share arguments similar in content and depth, and it is common for additional authors of war boomtown case studies to cite one or both authors.

Their level of popularity arguably stems from their broad application of this framework type. Both of these authors employ a boomtown framework to examine the affects of WWII on the entire western region of the US. Nash and White assert the allocation of federal monies and investments throughout the west for military mobilization and expansion provided this region with the economic stimulus to evolve from its prewar “colonial” status (Nash 1985: viii; White 1991). To assert this argument, both authors’ provide an extensive overview of how areas in the rural west transitioned economically and socio-culturally between the eve of WWII, 1939 to 1941, during WWII, and postwar. The analyses encompass the economic, demographic, and social aspects, among others, in communities throughout the northwest, the Pacific coast, the Midwest, and the southwest (Nash 1985; White 1991).

Nash and White’s broad scale analysis provides researchers of WWII war boomtowns an extensive amount of data for comparison. Researchers that prefer a small-scale approach, or those that focus on changes to a single community, can compare changes in their case study to those that occurred at the regional and national level.
However, a small-scale approach arguably provides a more thorough analysis of the human component impacted by the economic and social transformations that occurred nation wide resulting from the US’ involvement in WWII.

An examination of current WWII war boomtown studies reveals Marilyn Johnson’s microcosm approach of value in small-scale studies, or the analysis of a single community, to examine economic and socio-cultural change during wartime (Johnson 1990: 2 as cited in Pulcheon 2000: 81). This method is appropriate for researching the human element, as opposed to a broad-level approach that examines an entire region consisting of multiple cities, in WWII boomtown case studies (Johnson 1990: 2 as cited in Pulcheon 2000: 81). It is appropriate because focusing on a single urban area allows the researcher to isolate the specific transformations in the social relations of individuals, the family, neighborhood, and overall city due to the establishment of a nearby military installation in wartime (Johnson 1990 as cited in Pulcheon 2000: 81, 82).

In a microcosm approach, period newspapers provide insight to the general social tone of the community during the presence of a wartime facility. Period newspapers play a significant data-gathering role among researchers incorporating a microcosm approach in a war boomtown study, and data gathered from oral interviews provide a more in-depth and personal account where period newspapers lack data (Swanson 1987).

Andrew Pulcheon used Johnson’s microcosm approach in his study of two WWII airfields, Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield, both located in Sonoma County, California (Johnson 1990: 2 as cited in Pulcheon 2000: 81). Using a microcosm approach, Pulcheon identified the naval facilities’ impact on the
demography, economic vitality, socio-cultural sphere, and postwar development of Sonoma County. He argues that period newspapers provide insight to the general social tone of the community during the presence of the auxiliary airfields (Pulcheon 2000).

War boomtowns often share the following characteristics; (1) the sudden emergence of a military installation in a rural community; (2) the introduction of economic and socio-cultural opportunities; (3) the development of city services because of large federal investments into the local economy; and (4) post-war development and growth. Communities commonly reacted both positively and negatively to these changes, and it was the older generation, fearful of losing traditional socio-cultural values, that resisted community transformations resulting from the influx of migrant laborers and military personnel, and women and youths in the work force.

The military had to mobilize and expand very quickly during wartime, necessitating the rapid construction of new military facilities. For example, an air base and naval ordnance plant in Pocatello, Idaho were both constructed in a period of just four months, and military personnel quickly arrived thereafter (Swanson 1987: 1). Confidentiality was also of key importance during the federal government’s acquisition of land in Pocatello because of the air base’s anticipated training of B-17 and B-24 bombers, and the construction and anticipated number of military personnel remained confidential to prevent leaking information to the Axis enemy (Swanson 1987: 1-2).

An additional popular theme found in WWII war boomtown literature is the sudden growth of the community’s economy (Breese et al. 1965; Gleason 1981; Havighurst and Morgan 1951; Johnson 1994; Launius 1995; Leonard 1987;
Lotchin 1993, 1994; McConaghy 1989; Nash 1985; Pulcheon 2000; Russell 1995; Shragge 1994; Verge 1994; White 1997). A primary event that initiated a boom effect in many rural communities during WWII was the investment of millions of federal dollars to support military mobilization and expansion.

From 1941 to 1945, Congress allocated approximately 70 billion dollars throughout the western region to build shipyards, factories, ammunition depots, and military training bases, among other capital investments. Many previously isolated and impoverished communities rode the economic tidal wave created by this capital (White 1991: 496; Nash 1985: 19).

During WWII, the operation of new ammunition depots, aviation bases, and shipyards provided communities with new employment opportunities. For instance, new military aviation bases in Utah provided close to 40,000 jobs (Launius 1995: 224). In Kirkland, Washington, the establishment of naval shipyards on the northeastern shore of Lake Washington presented nearby communities employment opportunities never before available. Unskilled shipyard laborers started at nearly $1 an hour, and worked six-day weeks, and with overtime, these workers easily earned $60 to $70 per week (McConaghy 1989: 42).

New wartime military installations also provided women the opportunity to join the labor force, thereby removing them from their traditional role as homemakers, mothers, or students. Several military cases studies emphasize how the development of military installations, specifically aircraft and ship building companies, recruited women from the local communities as the availability of male labor declined because of military drafts (Lotchin 1994: 394; Verge 1994: 297, 302).
As a laborer, women gained new economic opportunities, and in many cases with husbands overseas, they became the sole breadwinner for their family. Furthermore, working in a military facility provided women with the ability to contribute to a greater cause, the war effort. In many ways, this new role offered women with a multitude of freedoms, most notably economic liberties and a new sense of self in wartime (Lotchin 1994; Verge 1994). Many historians argue the economic and social gains women attained from entering the workforce during this period were perhaps more historically significant than the economic and socio-cultural boom experienced in the entire rural west during WWII (Lotchin 1994: 415-416). Similar to a large majority of additional new economic and social liberties attributable to the establishment of the wartime military facility, females in the work force only lasted the duration of the war (Pulcheon 2000:84).

War boomtown case studies also emphasize the physical transformation the rural community experiences because of the dispersal of federal monies and increase in employment. These physical transformations included the establishment or improvement of public transportation, roads, telephone lines and electricity, housing, and retail and business development. A variety of new city services will commonly emerge in a war boomtown because they are necessary for the military installation to function properly. At this point of expansion and development, the once rural and underdeveloped community has notably transitioned into a booming wartime town, and in some cases into a city.

In Kirkland, Washington, the establishment of naval shipyards provided employment and an increase in pay to the community’s population of Eastside truck
farmers and chicken ranchers. Very quickly, shipyard laborers invested their hard-earned money into the community, and from 1940 to 1945, Kirkland’s First National Bank increased by 500%. The frequency with which the shipyard workers shopped at Kirkland’s boutiques and retail stores motivated shopkeepers to stock boots, heavy jackets, rain gear, warm pants, and work shirts. Every payday the shipyard workers bustled into downtown Kirkland, and soon local investments transformed Kirkland from the once modest and somewhat shabby market town into a bustling small city. As expressed by one shipyard comptroller, “The shipyard made Kirkland ... it made the Eastside” (McConaghy 1989: 42).

Historian Arthur C. Verge argues that prior to WWII the city of Los Angeles in southern California was a small and isolated town separated by at least 3,000 miles from the nation’s leading industrialized eastern region (Verge 1994: 290). Physically, Los Angeles encompassed a large portion of land, but the land was largely underdeveloped and consisted of vacant city lots (Motley 1939: 251-252 as cited in Verge 1994: 291). Los Angeles’ growth and development was bolstered during WWII by massive federal defense dollars, through which the city became a significant industrial entity responsible for producing vital defense goods, war ships, and planes. The industrial strength Los Angeles provided during the war effort made it one of the leading US military defense distributors to the war effort (Verge 1994: 290). The physical impact of the military-industrial complex in Los Angeles was incredible, and greatly influenced its emergence from WWII as one of the principal urban centers of California, if not the entire western region of the US (Motley 1939: 251-252 as cited in Verge 1994: 291).
In some cases, communities advertised property to military officials to reap the economic benefits during the military’s wartime mobilization and expansion. The residents of Sonoma County were obviously aware of the economic and employment benefits airfields afforded to developing communities, and encouraged the military to develop Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield (Pulcheon 2000: 83). The influx of construction workers that migrated into Sonoma County during the construction of the air station and airfield economically invigorated the community’s retail and service sectors. Laborers spent their pay-checks at local restaurants, boutiques, bars, and clubs, and later, aviation development became an essential component of the postwar planning process in Santa Rosa (Pulcheon 2000: 106, 118).

Air commerce helped connect the once small agricultural community of Santa Rosa to the greater US’ rapidly expanding national economy (Pulcheon 2000: 83, 113). After the war, auxiliary airfields, such as those in Santa Rosa, presented smaller communities with the opportunity to participate in a newly completed national network of navigational aides and airways resulting from military expansion (Milbrooke et al. 1998: 11). Pulcheon argues aviation developments facilitated the community’s emergence from an agricultural community to a bustling town capable of providing a vast employment and entrepreneurial opportunities that were previously unattainable (Pulcheon 2000:111).

The relationship between the new wartime military facility and community is complicated. The speed at which a large majority of the military facilities emerged throughout the rural western US often created a socio-cultural shock during a community’s adjustment to the military presence. The construction and operation of the
facility ignited development, employment, and an economic boost to the community, but also resulted in an alarmingly heavy influx of civilian migrant construction laborers, and military personnel and staff, into previously rural and socio-culturally isolated communities (Breese et al. 1965: 588-590). In many incidences, this sudden and dramatic integration of people from differing backgrounds, religious beliefs, languages, and worldviews into rural communities did not make for an easy transition.

An additional negative consequence related to the influx of migrant laborers and military personnel was the physical strain placed on the community’s housing and transportation spheres. The transformation of a host area during a war boom is one of great magnitude, capable of influencing the dramatic metamorphism of a rural community. However, the rapidity with which these changes occurred also seriously challenged the community’s ability to adjust to such change (Breese et al. 1965: 588-590).

In Santa Rosa, California, the opinion of many residents, most notably the older generation, was that this sudden influx was destabilizing the core values of the community. The older generation rallied together, and formed an authoritative presence that challenged and resisted what they perceived as the negative influences damaging the traditional social norms of the community (Pulcheon 2000: 84). The large amount of federal investments during the construction and operation phase of the auxiliary airfields in Santa Rosa attracted a wave of migrant laborers and military personnel from various regions of the US. Up until this point, Santa Rosa had very little or no prior experience with migrant laborers or military personnel, and the differences these groups brought to
the community created many negative issues. Service personnel likely strained social morals in a large majority of WWII boomtowns because they focused less on their morality, rigid social convention, and strict standards of behavior while at their last stateside assignment before combat duty (Overbey 1982: 57 as cited in Pulcheon 2000: 86).

The pool and dance halls, and bars were popular social venues frequented by personnel, migrant laborers, and locals, and within these contexts prostitution, gambling, drinking, and carousing occurred. Racial tensions, and an increase in venereal disease, are the two prominent social and health related issues found in war boomtowns related to the influx of migrant laborers and military personnel (McConaghy 1989; Shragge 1994; Swanson 1987; Verge 1994). In the city of San Diego, California, the suppression of prostitution and the eradication of venereal diseases became the San Diego Chamber of Commerce's top priority. Together, San Diego’s naval personnel and city police force established a joint alliance in the fight against these two disruptive issues (Shragge 1994: 347). The San Diego city council enacted California state vagrancy laws, and the San Diego police force began arresting all “dissolute people wandering about the streets without any visible means of support” (Shragge 1994: 348; Nash 1985: 61-62).

The employment and economic opportunities the new military installations provided to women also raised concerns, and many argued this newfound freedom loosened their morals. A large majority of first generation community members in Santa Rosa believed such changes decayed traditional community morals, and expressed their concern in letters-to-the-editor and at community meetings. However, external forces beyond their control were at work, and during the urgency of wartime their pleas
fell on deaf ears as the old standards and moral values continued to fade under the 
consistent military presence (Pulcheon 2000: 84). In essence, economic, employment, 
and socio-cultural opportunities, along with community developments, came with a price. 

During this same period, Denver experienced an enormous wave of migrant 
laborers and military personnel, and inadequate housing accommodations resulted in 
squatters converting large vacant homes into apartment housing, hotels became crowded 
with tenants, and retail businesses transformed into temporary residences (Leonard 1987: 
37). Additionally, San Diego, Los Angeles, and small communities located in central 
California, all experienced housing crises resulting from the influx of migrant laborers 
and military personnel (Nash 1985). In San Diego, a shortage of housing resulted in 
crowded living quarters that impinged the health, morale, and working efficiency of the 
community. Additionally, San Diego’s population increase greatly depleted the 
availability of food and water (Nash 1985: 60).

The application of a war boomtown framework in a WWII military study enables 
a researcher to assess to what degree, if any, the facility influenced the evolution of a 
nearby community’s economic and socio-cultural sphere. A military landscape 
framework on the other hand, solely examines the evolution of a military landscape 
related to either evolutionary or revolutionary landscape change, or influences related to 
times of peace or war. An understanding of revolutionary landscape change is essential in 
understanding changes to the naval training landscape because of wartime naval policies.
The Application of a Military Landscape Framework

A military landscape framework is useful in understanding how changes to the location, design, and military training mission, among additional attributes, of a military landscape are associated to either periods of peace or war. External societal pressures can include technological advances in systems of weaponry, communications, and transportation, and a concern for a service member's quality of life. Changes to military design and planning objectives, existing base landscapes, the availability of suitable land and money, and the popularity of current military landscape design may also influence a military landscape.

Robert D. Kreger, asserts the various external societal pressures influencing military landscape change are associated to either "evolutionary or revolutionary landscape change events" or categories of related influences arguably responsible for the growth and transformation of the military landscape (Kreger 1988: 12, 15). Evolutionary change in a military landscape is predominately associated with peacetime and includes gradual transformations to the look and layout of a military landscape that perpetuate and intensify ongoing land use over a sequential amount of time (Kreger 1988: 13, 15). Changes to the military landscape during peacetime generally include the minimal use of utilitarian architectural style, or an architectural design and style that is absent of waste, complication, and frills, and a permanent layout and design emphasizing a "concern for its members' quality of life" (Kreger 1988: 176).

Revolutionary military landscape change often occurs during wartime, and includes transformations to the military landscape's look and layout and occurs as if
almost “overnight” (Kreger 1988: 15). The look and layout of a wartime military landscape will generally consist of an architectural style that is strictly utilitarian, and void of unnecessary and cost-productive facilities considered luxurious (Kreger 1988: 17, 18). Changes to the military landscape during wartime are also commonly temporary, and constrained to agency-specific wartime design objectives (Kreger 1988: 15).

Offutt Air Force Base located in Omaha, Nebraska underwent both evolutionary and revolutionary military landscape change. Kreger observed the gradual development of a paternalistic layout at Offutt Air Force Base that was associated with periods of peace, and predominately aimed at improving the quality of its inhabitants’ life with projects that supported housing, recreation, and additional community services (Kreger 1988: 53). However, during wartime, changes to the look and layout of Offutt Air Force Base occurred abruptly, were strictly utilitarian, without attention to aesthetics, and focused on fulfilling wartime military directives (Kreger 1988: 53).

The establishment of a bomber assembly plant at Offutt Air Force Base resulted from changes to the base’s assigned military mission in light of WWII (Kreger 1988: 177). During WWII, the War Department required the establishment of all new war defense plants to occur at least 200 miles from US borders, making the Offutt Air Force Base an ideal site for a bomber assembly plant (Kreger 1988: 37). Additional WWII related construction at Offutt included a new runway system, an aircraft modification center, six large aircraft storage hangars, and additional smaller buildings to support the base’s expanding supply and technical training missions (Kreger 1988: 37, 39). Kreger argues these wartime construction projects symbolize Offutt’s “role within a rapidly
evolving national defense scheme”, and most significantly, the bomber plant was only operable for the duration of WWII (Kreger 1988: 39).

Presently, there are few military landscape studies that focus on landscape change resulting from changes to military policy during WWII; Kreger’s analysis represents one of the few available research efforts. Although military landscape change is poorly represented in WWII military studies, an understanding of the cause and affect of revolutionary military landscape change is useful for understanding the relationship between changes in national naval policy during WWII and the reinvented naval training landscape.

Andrew Pulcheon incorporated Kreger’s revolutionary military landscape method in his analysis of two WWII military facilities in Sonoma County, Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield (Pulcheon 2000: 1, 49). Pulcheon identified changes to national naval policy because of the US’ involvement in WWII greatly changed military mobilization, facility expansion, and military pilot training practices resulting in a new American aviation landscape (Pulcheon 2000: 41). Pulcheon argues the location, design, and military training mission of these facilities represent wartime exigencies that precluded elaborate airfield design, and were instead geared exclusively toward the production of military aviators. Furthermore, Pulcheon asserts the two facilities represent a type of physical landscape feature indicative of the evolving nature of military flight training in light of WWII (Pulcheon 2000: 4).

Pulcheon argues that the expansion of the naval air shore establishment resulted in a wartime airfield construction and operation that reflected the urgency of aviation-
related mobilization during WWII (Pulcheon 2000: 4, 5). Changes to the military mission in wartime required new and mandatory characteristics for the establishment of an air base, and included a specific airfield size, weather, topography, geographical location, and the availability of utilities and local sources of land and sea transportation (Brown 1990: 2 as cited in Pulcheon 2000: 42). Sonoma County offered many of these characteristics, and the runway design of Santa Rosa Naval Auxiliary Air Station exemplifies the significant relationship between changes to military training mission requirements and the design and layout of an air base (Pulcheon 2000).

Advances in airplane design resulted in changes to aircraft size, weight, speed, and complexity, and the success of a new air base was contingent on a design and layout that supported these advancements in technology (Brown 1990: 4-6, 114; Guinn 1982: 43; Johnson 1996: 2 as cited in Pulcheon 2000: 46). In order to construct an effective airfield based on changes to aircraft, prior to the construction of Santa Rosa Naval Auxiliary Air Station preliminary airfield investigations identified areas containing varying moisture levels and soil densities resulting in an airfield design that included below and above ground airfield components. The new airfield's design included a crushed gravel sub-layer, along with an extensive drainage system, to allow for the stabilization of runway footings and to provide a solid foundation for the evolving airfield operations (Pulcheon 2000: 62).

Additionally, Pulcheon argues that because of a shortage in materials, labor, and time, it was critical that the construction of the airfields occur quickly, and this construction was thus guided by wartime utilitarian design principles (Pulcheon 2000: 63). The Santa Rose Naval Auxiliary Air Station's two-story, wood framed structures are
indicative of the popular WWII mobilization facility, constructed hastily to accommodate the influx of pilot trainees completing their preliminary instruction and preparing for operational training (Pulcheon 32, 39). Pulcheon indicates the materials, physical form, and construction methods emphasized the facility’s primary mission during wartime, “the need for combat pilots was most acute early in the war, and the means of providing these aviators was linked to the essential ‘stripped down’ nature of these fields” (Pulcheon 2000: 63).

The location, design, and mission of a military landscape will undergo either evolutionary or revolutionary change related to periods of peace and war. An understanding of why a military property experiences revolutionary change because of wartime contingencies has the ability to relate the property to a significant event in military history. As Pulcheon discovered in his analysis of Sonoma County’s WWII military facilities, WWII military landscapes subjected to revolutionary changes embody similar characteristics as identified by Kreger in the above paragraphs. However, varieties of military installations were constructed during WWII, and each served specific military objectives. The proceeding chapters will demonstrate how, as a unique product of the WWII military landscape, Winona Bombing Target #2 failed to cause a war boomtown affect on the host community of Borrego Springs, Ca because of the nature of its military training objective.
CHAPTER IV: A STUDY OF WARTIME IMPACTS IN THE DESERT COMMUNITY OF BORREGO SPRINGS, CALIFORNIA

This study employs a microcosm approach to determine the degree to which the rural desert community of Borrego Springs evolved into a war boomtown community because of WBT#2. Borrego Springs is located in Borrego Valley in the Colorado Desert of southern California, San Diego County, approximately 90 miles east of San Diego (Figure 3). Period newspapers, autobiographies of long-time community residents, and oral interviews provide historical background of Borrego Springs before, during, and after WWII. An analysis of these three periods of Borrego Springs’ development identified themes prevalent in war boomtowns including; (1) the sudden emergence of a wartime military facility in a rural community; (2) the introduction of economic and socio-cultural opportunities; (3) the development of city services because of large federal investments into the local economy; and (4) post-war development and growth. The application of a war boomtown framework is of value in the current study because it answers a significant question, “Did Winona Bombing Target #2 create an influential presence, thereby altering the economic, and socio-cultural environment, as well as the post-war development, of Borrego Springs as typically found in a war boomtown community?”

Originally, the primary objective of this analysis intended to identify the type and level of relationship between WBT#2 and Borrego Springs. However, no documentation exists detailing an economic and/or socio-cultural influence experienced by the community because of the target area. Presently, the only documented cases of Borrego
Residents interacting with military personnel are those who resided at a distance from the community’s core, and for the most part near Army and US Marine Corps training areas. For these reasons, this study includes an examination of the economic and socio-cultural influences Borrego Springs residents experienced in light of Army, Marine Corps, and Navy presence from 1940 to 1945. The objective of this all-inclusive analysis is to highlight how the military training areas’ diverse mission created differing levels of impact on Borrego Springs, including no impact at all, as in the case of WBT#2.

*The City under the Sun: Borrego Springs, Ca*

Prior to 1910, Borrego Valley’s first inhabitants predominantly consisted of cattlemen, prospectors, wanderers, and bandits, as the region’s isolated and harsh desert conditions discouraged many from establishing permanent settlements. From 1910 to 1930, the community of Borrego Springs slowly developed into an agricultural area, yet remained small and sparsely populated (Moran 1989: B-6) (Figure 5). Doc Beaty, Elsie Wynn, and the Ensign and Duvall families were among the first to settle and begin farming the valley. Many of the current residents of Borrego Springs mention these names in their recollections of the community’s history (Charlotte Fortiner, personal communication 2008) (Figure 6). Although by 1930 homesteaders were gradually populating the area, their lives were not without hardship.

For these early valley inhabitants, the arid environment combined with a lack of employment opportunities, adequate water wells, electricity, sewer systems, or paved roads, equated to a hard life (Moran 1989: B-6).
The Borrego Valley has an environment to which few people have adapted, and the area’s first inhabitants are arguably a rare breed that persevered while living in a secluded and arid environment with minimal resources required for a sustainable life.

In the late 1930s, the rural population, isolation, and expansiveness of this harsh desert landscape that discouraged settlers suddenly became an ideal setting for difficult Army, Marine Corps, and Navy training maneuvers and aeronautical weaponry testing. The military land use history of the surrounding Borrego Springs area is one of unique and grand proportion. During the mobilization and expansion of all military branches for
WWII combat, this isolated area created an ideal training area for dangerous maneuvers that would be unsafe in a more developed and populated location. Also, the rugged desert terrain offered the military the opportunity to train soldiers in an environment similar to that in which they would be required to fight during WWII. For these reasons, the lands surrounding Borrego Springs became alive with military training maneuvers from the late 1930s to 1945.

Figure 6. Borrego Valley inhabitants, circa 1913

![Image of Borrego Valley inhabitants](image)

Courtesy of California State Parks, 2009

*The Impact of Army and Marine Corps Presence at Ensign Ranch*

During the period of military presence in Borrego Springs, the Army established a headquarters and bivouac area in close proximity to the Ensign Ranch homestead and date grove. A cordial relationship developed between the Ensign family and Army
personnel, and one that exemplifies a relationship of compromise, in that the family forfeited their land and quiet lifestyle for the war effort. Army provisions commonly lacked proper desert training supplies, tents, or adequate food and water, and the Ensign family encouraged the personnel to eat as many dates as they wanted, which provided a nice supplement to the soldier’s rations (Orrell 1992: 37, 101). According to long-time Borrego resident Tom Davis, the dates also supplied comfort to soldiers when fierce desert winds infiltrated the Army unit’s food with sand, and during these incidences, the soldiers drove to Ensign Ranch via motorcycle to gather dates and buy milk as a convenient substitute (Orrell 1992: 37, 104). To express their gratitude and appreciation to the Ensign family for the water, food, and a place to stay, the personnel dug irrigation ditches on the Ensign property for two weeks (Orrell 1992: 101).

Additionally, the Ensign family temporarily provided Army personnel with a designated space for entertainment and social activities with the younger generation of the community. For a limited time, military personnel and girls from Borrego Springs and the nearby town of Julian, utilized the granary on the Ensign Ranch as a dance hall on Saturday nights (Surles 1989: 11). However, these dances lasted briefly due to the School Committee’s concern with the social interaction between the soldiers and young women (Orrell 1992: 38).

However, living in close proximity to Army training activities was not always convenient for the Ensign family. Due to the lack of tents, trainees resorted to digging shallow foxholes in the sand, and covering themselves with a poncho for warmth during the harsh winter months (USACE 1997b: I-5; Orrell 1992: 37). The Ensign family did not
approve of the foxholes in the date groves and the digging stopped quickly following protests to the officer in charge. Additionally, from the front door of the Ensign’s house the headquarters of one Army detachment and trainee camp were positioned just “a stone’s throw” away (Surles 1989: 11). Planes flew overhead at a close distance to the ranch creating a troublesome experience for the homeowners, and often frightened their cattle into stampeding the barbed wire fences and severely injuring their udders (Surles 1989: 11).

In addition to the Army, the US Marine Corps Motor Transport School also bivouacked at the Ensign Ranch. However, there is limited historic documentation describing their interaction with the Ensign family. One can speculate that the brigade of US Marine Corps trucks at night likely resulted in disruption to the lives of those at Ensign Ranch (USACE 1997b; Orrell 1992: 45; Surles 1989: 7). While the Army and US Marine Corps presence at the Ensign Ranch seemed to create minor disruptions, the presence of Army and naval personnel in other areas in Borrego Valley presented much more dangerous and disruptive effects.

_Disruptive Impacts because of Military Presence_

Borrego Springs’ resident David Rock remembers watching naval planes fly in from the southeast and dive bomb targets at Clark’s Dry Lake while standing in his family’s yard. Living in close proximity to the naval training exercises was not only disruptive, but also dangerous. As an example, during one particular training exercise a bomber pilot accidentally shot up the Rock family’s barn with small arm’s fire (USACE 1997b: 1-14). Nancy Ellis also remembers watching from her backyard the low flying
planes bombing large round target circles, and on one occasion bomber planes mistakenly strafed the family home with small arms ammunition. Mr. Ellis was outraged and filed a series of complaints with the local military authorities. However, documentation was not located indicating how the military responded to these complaints (USACE 1997a: 1-6; USACE 1997b: 1-14).

An additional negative impact on Borrego Springs’ residents resulted from the military’s acquisition of private property without owner’s knowledge or consent. For instance, the Army occupied portions of the Laag homestead for training exercises without the Laag family’s consent. The Laag family used their property as a vacation retreat, and during one particular visit in the fall of 1942, Arthur Laag “discovered that the ranch and dwelling had been commandeered, occupied, and abandoned by the military. This had been done without prior knowledge or permission of the owners” (Orrell 1992: 97).

*The Military Presence and its Influence in Borrego Springs’ Business Sphere*

Though not quite as dangerous or disruptive as the encounters of the Ellis, Rock, and Laag families with military personnel on their homesteads, other Borrego residents also felt the effects of military presence in their community. The Duval family owned and operated Borrego’s general store/post office. As a child, Denny Duvall recalls watching several types of military vehicles drive by their storefront windows, and his father’s collection of Army ordnances in the window for patrons to examine. Duvall remembers friendly interactions between his family and Army personnel, including memories of
Army store patrons enjoying breakfasts prepared by his mother, and on one occasion, personnel took him for a ride in a military tank (USACE 1997b: 1-21). It is likely the breakfast patrons may have slightly economically boosted the Duvall business during WWII. Although still limited, substantially more documentation exists describing the influx of Army personnel’s affect on one Borrego business in particular, hotel La Casa del Zorro. After the bombing of Pearl Harbor, Mr. and Mrs. Crickmer, owners of the hotel La Casa del Zorro, feared their hotel would suffer financially because of a decrease in tourism until after the war. However, financial stability came from the sudden influx of Army trainees in the valley who quickly benefited from the hotel’s vacancy as housing for themselves and their families (Voigtlander 1971: 4).

La Casa del Zorro was designed to house 18 guests. During the military’s occupation of the valley, the hotel housed 40. Surprisingly, the close living quarters did not bother the hotel owners or the guests, and “no one cared how crowded it became as long as families could be together a few more days or hours” (Voigtlander 1971: 4). The Crickmer’s, and nonmilitary guests, were sympathetic to the military wives’ desire to remain close to their husbands. On one occasion, Mr. Crickmer and a guest sacrificed their beds to weary military wives and instead spent their night sleeping in kitchen chairs. Additionally, the Crickmer’s depended on ration stamps to provide staggered meals to their military guests, and when the food stamp allotment was cut in half, civilian guests and community members provided food, cigarettes, candy, cokes, and additional necessities to the personnel (Voigtlander 1971: 4).

Although the Crickmer’s did their best to provide their military residents with the
appropriate necessities, the limited availability of kitchen help significantly strained Mrs. Crickmer. As the hotel's sole cook, Mrs. Crickmer had her hands full providing fresh baked bread up to three times a day, but fortunately for Mrs. Crickmer, Bessie, the hotel cow, provided fresh milk, cream, and butter. The Ensign Ranch and surrounding communities also presented the hotel with dairy products, and freshly butchered meats.

Fuel was also in short supply during the war period, resulting in a lights out curfew after 10 p.m. Guests were sympathetic to the hotel's ration situation, and those who chose to stay up late obligingly lit candles or kerosene lamps. Community residents also pitched in their part by donating gas or ration coupons to help fund the hotel during this trying period (Voigtlander 1971: 4).

The Postwar Development of Borrego Springs

Quickly following the war's end, the military training areas surrounding Borrego Springs closed. In 1947, Virginia DeMarais and her family settled in Borrego Springs, and found a community that looked very much like it did before the war, "When we first came to Borrego there was very little here" (San Diego Historical Society [SDHS], Borrego – then). Dirt roads continued to provide the only access route through Coyote Canyon and into Borrego Springs, and the community maintained its rural agricultural population (Moran 1989: B-6). Following the war, Borrego Springs did not participate in the nation wide development of aviation, as was common for many war boom communities. However, Borrego residents prewar focus on establishing an agricultural community provided the foundation on which large out of state investors could build an agricultural industry once the war was over.
A.A. Burnand and Co. was one such out of state company that invested a significant amount of money into the community’s agricultural sphere, and eventually funded a residential development after 1946. Di Giorgio Co., an additional out of state investor, also invested money and agriculture technologies, making it possible for the community to produce agricultural products, such as grapes, alfalfa, and cotton.

None of these cultigens would otherwise thrive in an arid region without the appropriate funding and resources. The private investments also enabled the community to establish city services, such as electricity, an adequate water system, postal service, and telephone system, all of which were previously unavailable (SDHS, Borrego – then). At this time, the community was slowly establishing a name for itself, and a 1951 article published in Redbook titled “This was the Life” described Borrego Springs as the next Palm Springs. However, Borrego Springs did not evolve into a Palm Springs-type community, and this is likely due in part to its inconvenient access routes, isolation, and harsh desert environment. Although Borrego Springs continued to gradually grow during this period, many new residents preferred to only vacation in the area during the winter, a season when Borrego Springs is significantly cooler (Charlotte Fortiner, personal communication 2008).

During WWII, the influx of military personnel, equipment, and rapidly advancing military technology and training requirements resulted in varying types of training and industrial facilities. Many researchers of military case studies agree the ‘type’ of military installation, along with its ‘character’, served to complete an assigned objective and determines its level of impact on a nearby community (Breese et al. 1965: 590; Nash 1988; White 1985).
Although a few documented instances of economic and social interaction between the military presence and Borrego’s retail sector exist, comparatively speaking, Borrego Springs in no way economically or socio-culturally developed into a WWII boomtown community. The lack of significant wartime boom in Borrego Springs arguably stems from the Army, US Marine Corps, and Navy training areas’ assigned military objective at their nearby facilities.

The training areas established near Borrego Springs are reflective of wartime policies emphasizing isolation, impermanence, and very little consideration of the inhabitant’s quality of life. A significant impetus for the economic boom of many rural communities came from employment opportunities during the construction and operation of the new wartime facility, as well as the dispersal of federal investments into the community during the facility’s operation. Neither of the training areas near Borrego Springs involved large construction projects which required migrant labor or provided employment opportunities to area residents. The wartime objective of the training areas in San Diego and Imperial Counties was to train personnel stationed in larger and more permanently built facilities located in metropolitan areas in San Diego County for short durations in realistic combat maneuvers prior to overseas duty. The short amount of time trainees bivouacked near Borrego Springs, combined with the need to offer soldiers a realistic combat training area, made it unnecessary for the military to establish a facility that emphasized the inhabitant’s quality of life. Therefore, housing, recreation, and additional services, did not exist as part of the training area. The lack of migrant laborers, and the short duration of the personnel’s stay in the area, also limited the amount of socio-cultural integration experienced by community residents.
The important relationship between the mission of the facility and its economic and socio-cultural influence on a nearby community is obvious in an examination of WBT#2. The following chapter examines how the primary determinant influencing the location and design of WBT#2 was ‘the relentless pursuit’ of the bombing target’s ‘assigned military mission’, and this significantly limited the amount of interaction with the nearby community of Borrego Springs (Kreger 1988: 175).
CHAPTER V: WINONA BOMBING TARGET #2: THE PURSUIT OF AN ASSIGNED MILITARY MISSION

The WWII naval training landscape included an isolated and undeveloped location and a strict utilitarian architectural style that both "oriented exclusively to the successful accomplishment of an immediate mission as opposed to long-term preparatory objectives" (Kreger 1988: 176). This study draws upon Kreger's revolutionary military landscape change model to demonstrate how changes in national naval policy in light of WWII prompted the military to create a new type of naval training landscape, which was notably different from its interwar counterpart according to three important character defining traits. This analysis will demonstrate that WBT#2's location, design, and training mission are examples of this temporarily reinvented naval training landscape of WWII, and how its unique characteristics prevented a war boom influence in Borrego Springs.

WBT#2's Location: An Example of the Reinvented Naval Training Landscape

The training of thousands of new Eleventh Naval District pilots in precision rocketry and bombing tactics for combat in the Pacific required the following logistic criteria; isolation, emergency landing fields, and good year round weather (NARA, Eleventh Naval District, Planning Officer Files, 1940 as cited in Newland 1997: 5). Heavy bombing targets required free airspace that ideally encompassed a twenty-mile clear radius, that would enable the execution of group attacks without limiting the direction of approach (NARA, General Correspondence Files, n.d.). Furthermore, the military preferred 640 acres of undeveloped land, because it necessitated minimal
improvement prior to use, did not require rehabilitation after use, and was free of civilians (Lee 1947: 892).

An expansive and isolated land and air space was favored for training areas because it prevented training congestion from neighboring training facilities, specifically air collisions, and helped to create a sense of segregated space between the military and civilians. Kreger asserts that this segregated space is also important for assuring successful pilot training. "...Air Force forms of segregation are inexorably rooted in the long standing belief that discipline is essential to mission success and discipline is best maintained when fraternization between persons of different status is minimized" (Kreger 1988: 17). Furthermore, "the military's perceived need to isolate and separate themselves from the surrounding community, and the compliance to express, in the landscape, the presence of authority are also considered basic planning criteria" (Whittlesey 1935 as cited in Kreger 1988: 18). Therefore, the establishment of a target training area in an isolated area is a means through which the military can maintain discipline and control. Isolation created a natural, and well-defined, barrier between the military and communities. This distance provided safety to civilians during dangerous rocket and bomb maneuvers, and afforded adequate space to the military to conduct confidential military training maneuvers.

 Portions of the western US have historically played a significant role in the evolution of military aviation, experiencing its greatest growth of naval aviation development during WWII. The west's expansive and unique terrain, aridity, ideal year round weather, and proximity to the Pacific Ocean, and Japanese forces, made an ideal
environment for establishing naval training areas during WWII (Launius 1996; Shettle Jr. 1997: 10). Many of the Eleventh Naval District units’ Naval Air Station (NAS), Naval Auxiliary Air Station (NAAS), and Marine Corps Air Station (MCAS) established during the naval shore expansion program of WWII acquired land in San Diego and Imperial Counties because of these reasons.

El Centro MCAS one of the 16 units of the Eleventh Naval District authorized to use WBT#2 as a training area, established in Imperial County following the attack of Pearl Harbor. El Centro MCAS included 2,300-acres composed of skeet and rifle ranges, malfunction and turret ranges for gunnery practice, and a rocket range, among others, which were used to train squadrons of the Pacific Fleet (Coletta 1985: 195; Department of the Navy, Naval Historical Center and Archives [NHCA], “History of Marine Corps Air Station, El Centro, California”, 1945). El Centro MCAS successfully functioned during WWII because it provided a “vast unobstructed desert terrain” with “limited non-military air traffic”, and included an environment with year-round ideal temperature, wind speed, and clarity essential for all types of pre-combat training (Coletta 1985: 195; U.S. Naval Air Facility 1995: 6).

Holtville NAAS is an additional Eleventh Naval District unit established in Imperial County with authorized access to WBT#2 for training purposes. Imperial County averages approximately 360-days per year of clear weather, which ideally suited the training of naval squadrons in night-flight techniques (Department of the Navy, NHCA, “History of Marine Corps Air Station, El Centro, California”, 1945; Department of the Navy, NHCA, Historical Report of U.S. Naval Auxiliary Air Station, n.d.). Additionally, this region’s isolated and expansive setting supported dangerous night-
flying maneuvers and training with live fire without the potential of jeopardizing civilian lives, and prevented naval trainees from fraternizing with civilians. Bob Hambley, WWII naval fighter pilot veteran, trained at Holtville NAAS prior to deployment to the Pacific Fleet and asserts the expansive and isolated deserts of Southern California were the only region in the US that could support realistic and dangerous WWII naval combat training (Bob Hambley, personal communication 2007).

The ideal weather pattern of Imperial County attracted Eleventh Naval District units to the area, as in the case of El Centro and El Torro MCAS. Located in portions of the Colorado Desert, this area “records a higher percentage of sunshine than any other place in the US, even during the winter which is usually considered a rainy period in the southwest” (USACE 1996: 3-1). The Navy likely chose Imperial County because the aridity and clear skies provided optimal flight operations for 92% of the year (Department of the Navy, NHCA, Historical Report of U.S. Naval Auxiliary Air Station, n.d.). Furthermore, the southern California desert did not contain the mountainous terrain or limited air space that interfered military training in more coastal areas of California (Coletta 1971: 198). The environmental setting and locational attributes of WBT#2 are identical to those that enabled optimal training success at Holtville NAAS, El Centro MCAS, and El Torro MCAS, among others.

In addition to the historical record, the archaeological record may also shed light on the use of WBT#2. Several field surveys of the target area conducted by the United States Army Corps of Engineers documented munitions indicative of practice rocketry, bombing, and gunnery. The available military documents provide an inadequate account of the specific types of ordnances historically used at the site (USACE 1996: 7-1).
Currently, WBT #2 contains a substantial amount of ordnance yielding important historical information illustrating its specific training missions (Table 1).

**Table 1. Ordnances identified at WBT#2**

<table>
<thead>
<tr>
<th>Ordnance Type</th>
<th>Training Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 lb. miniature practice bomb</td>
<td>Used to training bombing crews, and included a hollow tube in its longitude axes loaded with a signal cartridge. Upon impact the bomb expelled a puff of smoke indicating impact location.</td>
</tr>
<tr>
<td>100 lb. practice bomb</td>
<td>Used by the Navy for practice bombing, and was filled with either water or wet sand. Dye was often used in conjunction with the water or sand to enhance the detection of the impact area.</td>
</tr>
<tr>
<td>2.25 in practice rocket</td>
<td>Used during practice firing against surface targets.</td>
</tr>
<tr>
<td>3.5 in practice rocket</td>
<td>Employed during practice firing against surface targets.</td>
</tr>
<tr>
<td>20 mm ammunition</td>
<td>This played a significant role during WWII against aircraft, and naval pilots received extensive training using the 20 mm.</td>
</tr>
<tr>
<td>.30 and .50 caliber ammunition</td>
<td>The .30 and .50 caliber weaponry, most significantly the .50 caliber, played a poignant role during air-to-air and air-to-ground conflict during WWII. Naval pilots received extensive training in both .30 and .50 caliber weaponry.</td>
</tr>
</tbody>
</table>

(Department of the Navy 1947: 166, 167, 438, 440; Department of the Navy 1955: 5-8; War Department 1942b: 66-67, 193, 196, 197, 209, 211, 212, 329, 330).

The dense ordnance concentrations and large impressions located on the surface at the target area are indicative of dangerous and destructive rocketry, bombing, and anti-aircraft gunnery training missions. Naval fighter pilots at Holtville NAAS operated similar munitions against targets located on the surface of the Salton Sea at Salton Sea NAAS in Salton City, California. The primary training mission of Holtville NAAS was to train naval pilots in the mastery of anti-aircraft gunnery and bomber warfare at nighttime, and the remoteness of the NAAS prevented the trainees from worrying about dive-bombing civilians. Bob Hambley recalls the remoteness of Imperial County strengthened
the training mission at Holtville because it eliminated civilian interference (Bob
Hambley, personal communication 2007).

Similar to Holtville NAAS, it is likely the isolated location of WBT#2 was
purposefully selected to prevent endangering civilian lives. The town of Borrego Springs
is located at a great distance from the target area (Figure 3). The distance of the target
area from the community ensured civilian safety, deterred trespassing, and guaranteed
military confidentiality, similar to that of an actual barbed wire fence or high concrete
wall, two trespass preventative methods commonly employed at military facilities
(Kreger 1988: 18).

WBT#2’s proximity to the Pacific Ocean, San Diego and Los Angeles area
Eleventh Naval District units, and emergency landing fields also more than likely
contributed to accomplishing the Navy’s training mission. From its location, naval pilots
training at either one of the 16 Naval District units located in the San Diego and Los
Angeles region could conveniently access WBT#2 for consistent daily training prior to
combat in the Pacific Fleet. In addition to its setting and location, WBT#2’s architectural
design reflects the strict utilitarian architectural standards and temporary nature indicative
of the reinvented naval training landscape, as well as elements of Kreger’s revolutionary
military landscape change, and will be illustrated in the subsequent paragraphs (Kreger
1988).

WBT#2’s Design: An Example of the Reinvented Naval Training Landscape

The military’s need to expediently mobilize and expand its forces during WWII
resulted in time constraints, and a scarcity of resources, such as labor and construction materials. The military altered the naval training landscape because of these constraints. As a result, the Navy did away with the design and construction methods indicative of the interwar training landscape, and developed a wartime training landscape that abided by strict utilitarian architectural design principles that emphasized impermanence (USN 1947). The architectural design imperatives of WBT#2 reflect temporary, war driven training objectives.

Bob Hambley recalls that the design and resources employed to construct Holtville NAAS reflected its impermanence, and consisted of poorly designed runways lighted with smudge pots, or inexpensive kerosene filled buckets with wicks, as opposed to light bulbs. The simplified runways and lighting system created difficulties for pilots during take offs and landings, and Hambley recalls witnessing sparks flying down the runway as the tip of an airplane wing impacted the narrow runway during a landing maneuver. Additionally, the target area designed and constructed to train Holtville NAAS fighter pilots included minimal and inexpensive resources such as, floating smudge pots anchored in the Salton Sea. According to Hambley, the runways and target areas mirrored the expediency and minimal monetary investment executed by the Navy to construct Holtville NAAS due to the rapidity with which the Navy had to prepare for WWII (Bob Hambley, personal communication, 2007). Clarks Dry Lake, located in Anza-Borrego Desert State Park, is an additional example of a WWII naval training area that abided by the new wartime naval architectural design imperatives.

Clarks Dry Lake primarily functioned as a practice bombing target area for the
Salton Sea NAAS, and serves as an excellent example of a WWII naval training landscape constructed with resources from the nearby environment. The training area included a target, two dirt landing strips, a wind sock, a southeast pointing arrow, and two bomb-proof rake stations, and observation posts where military personnel observed and marked the locations of each bomb hit on the target (Department of the Navy, NHCA, Directory of Naval Air Bases Eleventh Naval District, n.d.; Orrell 1992: 15). The target, and southeast-pointing arrow were constructed using light-colored stones, most likely gathered from the low slopes of the nearby Santa Rosa Mountains.

Similar to the design and construction of Holtville NAAS and Clarks Dry Lake, the military employed utilitarian design methods and local material to construct WBT#2. In the center of Winona Bombing Target #2’s boundary is an approximate 300 X 300 ft square area that includes nails, lumber, and unidentified fragmented low-density blocks concentrated in the square’s four corners, suggestive of either a structure or building (Figure 7). From the northern perimeter of this central area, six square targets align northward, and at the southern perimeter, six square targets align southward, and all were constructed using local resources, such as bowling ball size granite rocks and sandstone slabs (Figure 8). The entire target boundary includes heavy concentrations of training and service munitions, such as 2 ¼ and 3 ½ in. rocket debris, bomb fragments, and .50 and .30 calibers and 20 mm munitions (Figure 9).

Due to the lack of available primary or secondary sources detailing the design and construction history of WBT#2, the physical remains represent the primary source yielding important information regarding the target’s design and construction history.
The use of utilitarian design and local resources employed in the construction of WBT#2 was likely a product of the lack of time and resources to do otherwise.

Figure 7. Overview of WBT#2

Kreger argues revolutionary military landscape change embodies two important characteristics; a strict utilitarian architectural design, and agency-specific design objectives that emphasize an immediate military objective with little attention to permanence (Kreger 1988: 176).

Circumstances of war, including an expanding Navy and evolving wartime military objectives, created a wartime naval training landscape that was dramatically

Courtesy of California State Parks, 2009
different from its interwar counterpart in terms of location, design, and military training mission. One such significant change included an expanding Eleventh Naval District with military mission directives that completely overhauled the location of the interwar naval training landscape.

Figure 8. Detail of WBT#2 target

The expansive deserts of southern California provided the isolation, environmental setting, and proximity to Eleventh Naval District units and emergency landing fields for establishing temporary training areas to support an expanding Navy and its wartime training mission. These new training areas had to be constructed fast, using
minimal resources and funds, and were only to be exploited for wartime training objectives. As a temporary wartime training area, the sole purpose of WBT#2 was to provide new training opportunities to an expanding Navy during wartime, and this is evident throughout its physical nature. The following chapter will evaluate this resource in light of the National Register of Historic Places criteria.

Figure 9. WBT#2's 2 1/4 and 3 1/2 in. rocket debris

Courtesy of California State Parks, 2009
CHAPTER VI: THE EVALUATION OF WINONA BOMBING TARGET #2
ACCORDING TO NATIONAL REGISTER OF HISTORIC PLACES CRITERIA

Pulcheon argues that someone has yet to develop a historical context statement for
WWII auxiliary airfields, and therefore “there is a lack of representative properties from
this important period of national and community aviation history” (Pulcheon 2000: 194).
The lack of representative properties resulted in the evaluation of Sonoma County’s Santa
Rosa Naval Auxiliary Air Station using a historic context associated with larger WWII-
era aviation properties, including those embodying paternalistic and permanent
architectural design attributes associated with the interwar period (Pulcheon 2000: 195).
A thorough evaluation of a WWII-era naval training resource is unlikely to occur when
the design characteristics associated with the larger airfields of the interwar period are
used to evaluate the significance of a uniquely different wartime training property, as in
the case of WBT#2. To thoroughly evaluate WBT#2, this study draws upon war
boomtown and military landscape frameworks to assess the target’s significance at the
local and national level, in light of National Register of Historic Places (NRHP)
eligibility criteria.

WBT#2 encompasses munitions debris, depressions, a utilitarian design, and most
importantly, is void of buildings and structures. To an untrained eye, this WWII training
area can easily be interpreted as a previously used but undeveloped military training area.
Undeveloped, because it does not embody the common characteristics of a military
aviation property, including extensive and well designed runways, housing and
administration buildings, and structures, among others. However, a thorough historical
examination of the target area reveals it is a significant historic property as an example of the reinvented naval training landscape in light of WWII. This chapter presents a historic context with which to evaluate this unique temporary target training area according to NRHP criteria.

The NRHP: An Introduction

NRHP criteria are the only standards with which to judge a property representative of an important pattern of "our shared local, State, and national experience" for listing in the NRHP (NPS 1995: i). The National Historic Preservation Act (NHPA) was established in 1966, and section 106 of the NHPA requires federal agencies to identify and evaluate cultural resources within their jurisdiction, most significantly, areas to be affected by a federal undertaking (King 2004: 81-83). The NHPA established the NRHP, a list maintained by the National Park System (NPS) and is comprised of districts, sites, buildings, structures, and objects. NPS determines list eligibility based on historic, cultural, architectural, archeological, or engineering significance at the national, state, or local level (King 2004: 362). The National Register contains bulletins that provide the standards by which resources are evaluated for eligibility for listing in the NRHP, and generally, only resources at least fifty years old are considered (King 2004: 109). For a resource to be eligible for listing in the NRHP, it must be significant, and is thereby required to meet one or more of the four criteria defined in the Code of Federal Regulations, Title 36, Part 60.4 (36 CFR 60.4) (King 2004: 109-111).
The criteria are listed below:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history (NPS 1995: 2).

Developing a historic context is the method with which to evaluate the resource’s significance according to one or several of the above criteria. “Historic contexts are those patterns, themes, or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within prehistory or history is made clear” (NPS 1995: 7). To develop a thorough historic context a researcher must conduct a comprehensive historical investigation. Furthermore, because a property can be significant in more than one historic context, a thorough study of a property will include an examination employing more than one historic context.

There are three types of historic contexts; local, state, and national, and each represents a type of “geographical scale” in which to examine the property (NPS 1995: 9). A local historic context assesses the importance of a property by its relationship to “an aspect of the history of a town, city, county, cultural area, or region, or any portion there of” (NPS 1995: 9). The application of a state historic context includes an evaluation of
the property’s association to “the history of the state as a whole” (NPS 1995: 9).

Properties that represent an important aspect to the history of the US as a whole are evaluated in a national context (NPS 1995: 10).

In addition to the NRHP criteria detailed above, a property’s eligibility for listing is also determined by its level of integrity, or a property’s ability to convey its significance. There are seven aspects of integrity, and the property must embody several, if not all of the seven aspects which include, location, design, setting, material, workmanship, feeling, and association (NPS 1995: 44). “Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant” (NPS 1995: 44).

Location is the original place where the historic property was established or where the historic event occurred. The design includes a combination of elements that together produce the form, plan, space, structure, and style of a property (NPS 1995: 44). The setting includes the physical environment of a historic property. Materials includes the physical constituents “combined or deposited” during a specific time and in a specific “pattern or configuration” to create the historic property (NPS 1995: 45). The workmanship is the physical evidence of the techniques of a specific culture or people during any given period in history or prehistory (NPS 1995: 45). Feeling is the historic property’s ability to express the “aesthetic or historic sense” of a specific period of time (NPS 1995: 45). Last, association is the specific connection between an important historic event or period and a historic property (NPS 1995: 45).
Two Contextual Frameworks for Evaluating Winona Bombing Target #2

This thesis presents two frameworks, a war boomtown and a military landscape framework, and both proved beneficial to the evaluation of WWII-era military resources similar to WBT#2. For instance, Pulcheon evaluated the significance of Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield at the local and national level applying these two frameworks. Pulcheon concluded, “At the national level they [Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield] are examples of the rapid mobilization that produced WWII military pilot training facilities, particularly operational training airfields” (Pulcheon 2000: 190). The author determined Santa Rosa Naval Auxiliary Air Station and Santa Rosa Army Airfield are significant at the local level because “they contributed to the economic invigoration of Santa Rosa, reflected close social ties and cooperative associations with citizens and government officials, brought about an increase in the community’s awareness of aviation and civic potential, and provided the airfield facilities used to realize Sonoma County’s postwar commercial aviation prospects” (Pulcheon 2000: 190). These two framework types provide methods with which to evaluate WBT#2 according to NRHP criterion A at the local level and criterion A and C at the national level.

The Evaluation of WBT#2 Under Criterion A at the Local Level Using a Microcosm War Boomtown Approach

The rapid mobilization and expansion of the US military defense in wartime created war boomtown communities in rural areas of the western US from 1941 to 1945. Characteristics of WWII boomtowns include, but are not limited to; (1) the introduction
of economic and socio-cultural opportunities, (2) the development of city services because of large federal investments into the local economy; and (3) post-war development and growth. The methods applied in a war boomtown framework are applicable in assessing whether WBT#2 is representative of “a pattern of events or a historic trend that made a significant contribution to the development of a community, a State, or the nation” (Milbrooke 1998: 27). This analysis concluded WBT#2 did not significantly influence economic or socio-cultural growth, rapid community development and expansion, or postwar opportunities in Borrego Springs as typically found in a war boomtown.

The target area’s location, including its architectural design and training mission prevented its war boomtown influence. WBT#2 was used, only for the duration of the war, to train naval fighter pilots stationed in larger training facilities in San Diego and Los Angeles Counties. The training area was a target area, established in an isolated location, and designed using utilitarian design methods reflecting both its dangerous and temporary nature. Unlike a large and more permanently built training base, WBT#2 did not require large federal investments or a large labor pool during its construction and operation phase. Federal investments and migrant laborers greatly contributed to the economic and socio-cultural opportunities, the development of city services and community expansion, and post-war growth experienced by many WWII war boomtown communities. Although WBT#2 is not eligible for listing in the NRHP under Criterion A at the local level, it is eligible at the national level under Criterion A and C.
The Evaluation of WBT#2 Under Criterion A at the National Level

WBT#2 is eligible for listing in the NRHP at the national level under criterion A for its association with changes to national naval policy to train Eleventh Naval District pilots for combat in the Pacific Fleet during WWII. Changes in national policy led to the expansion of the naval shore establishment and resulted in the establishment of new off-shore naval training areas throughout southern California during WWII, as in the case with WBT#2. In the early half of November 1943, the Eleventh Naval District began organizing preliminary actions for the estimated increase of large projects affecting the San Diego and Los Angeles areas. The Eleventh Naval District concluded the current steady influx of military personnel and equipment surpassed a large majority of existing facilities’ capable limit, thereby hindering productive goals within these two regions, and foreseeable increases would only further handicap productivity.

The resolution involved relocating training activities elsewhere if facilities were made available (NARA, Commandant, Eleventh Naval District, Conference, 1943b; NARA, General Correspondence Files, 1943c). WBT#2 provided relief and realistic training to expanding Eleventh Naval District training areas in San Diego and Los Angeles Counties.

Secretary of the Navy, James Forrestal, stated it best in a letter to Admiral John J. Manning of the US Navy in which he wrote, “The expansion of the naval shore establishment in the United States and the building of advance bases overseas which enabled our armed forces to carry the war to the enemy’s home waters, by sea and air,
and to conquer him on his own soil, is one of which your organization can well be proud” (USDN 1947: iii). The establishment of WBT#2 directly resulted from changes to national naval policy that implemented the expansion of naval shore establishments.

The Evaluation of WBT#2 Under Criterion C at the National Level Using a Military Landscape Framework

WBT#2 is eligible for listing in the NRHP at the national level under criterion C because it embodies the distinctive characteristics of a reinvented naval training landscape in its location, design, and training mission resulting from changes in national naval policy during WWII. The reinvented naval training landscape includes attributes of landscape change indicative of Kreger’s wartime military landscape model. To reiterate, Kreger argues revolutionary military landscape change often occurs during wartime, and includes transformations to a military landscape that generally consists of an architectural style that is strictly utilitarian, and void of unnecessary and costly facilities (Kreger 1988: 17, 18).

Changes to the military landscape during wartime are also commonly temporary, and constrained to agency-specific wartime design objectives (Kreger 1988: 15). New national naval policy, an influx of personnel and equipment, scarcity of air and land for training purposes, and a shortage of time, labor, and construction material, are all contributing factors that led to several revolutionary military landscape changes during WWII. WWII-era training areas that are located in isolated areas and encompass a utilitarian architectural design are reflective of the agency-specific wartime training objectives indicative of WWII, and WBT#2 is an example of such a training area.
Training of Eleventh Naval District naval fighter pilots was contingent upon developing training areas capable of; (1) providing relief to existing training areas in San Diego and Los Angeles areas experiencing an unprecedented amount of congestion due to expansion, and (2) supporting agency-specific wartime objectives. An undeveloped and isolated location was the preferred setting for the development of training areas, while the architectural design abided by a strict utilitarian doctrine that emphasized its temporary nature. Together, the location and design of these training areas provided the necessary ingredient capable of supporting temporary wartime military training missions. WBT#2’s physical characteristics along with its objective directly resulted from the changes in national naval directives during the expansion of the naval shore establishment during wartime. The target area’s isolation and utilitarian architectural design created a realistic target training area for expanding Eleventh Naval District training areas in San Diego and Los Angeles Counties from 1944 to 1945.

Conveying Significance: WBT#2’s Level of Integrity

Archaeological properties nominated under NRHP criteria are judged in their ability to convey significance through an assessment of their physical remains, specifically speaking, the property must look similar as it did during its period of significance (Hardeysty and Little 2000: 33, 45). This portion of the thesis will assess the physical attributes of WBT#2 under criterion A, and C by examining the target’s location, design, setting, materials, workmanship, feeling, and association.
An Assessment of WBT#2’s Location and Setting

WBT#2 has remained in its original location since naval disposal in 1945. Although the target area is located within Ocotillo Wells SVRA park boundaries, the target’s current physical environment continues to embody the environmental characteristics that originally attracted the Eleventh Naval District to acquire isolated desert areas throughout Imperial County during WWII (Figure 7). The target area’s physical environment remains isolated, undeveloped, and at a lengthy distance from developing communities such as, Borrego Springs and Salton City. Currently, the only development located near the target boundary are off-highway vehicle trails, however these are located at a distance from the site, therefore do not interfere with the target’s physical environment.

An Assessment of WBT#2’s Design, Material, Workmanship, Feeling, and Association

WBT#2 encompasses a utilitarian design and material from the local environment, sandstone slabs, thereby representing “the combination of elements that create the form, plan, space, structure, and style” of a temporary WWII-era naval target training area (NPS 1995: 44). During WWII, the Navy developed two significant design imperatives distinguishing the WWII naval training landscape from the interwar period and asserted 1) the “building should be no more elaborate or extensive than was absolutely essential and that, insofar as possible, substitutes should be found for scarce materials” (USDN 1947: 14), and 2) “the project’s contribution following the war was not taken into consideration” (USDN 1947: 16). The materials used to construct WBT#2, along with its architectural design, symbolize the revolutionary landscape changes that
affected the naval training landscape nation-wide because of time constraints, a scarcity of labor and construction materials, and agency-specific wartime design objectives.

The extensive rocket, bomb and ammunition debris densely scattered throughout the WBT#2 represents “the physical elements that were combined or deposited” during its original use by Eleventh District naval fighter pilots from 1944 to 1945 (NPS 1995: 45). Currently, Winona Bombing Target #2 contains a substantial amount of ordnance yielding important historical information illustrative of its specific training missions. The dense ordnance concentrations and large impressions on the surface at Winona Bombing Target #2 are representative of the dangerous and destructive rocketry, bombing and anti-aircraft gunnery training missions of Eleventh District naval fighter pilots during WWII. The location, setting, design, workmanship, and materials arguably contribute to the target’s feeling and association as an extensively accessed naval target training area for WWII.

When evaluating a property’s ability to convey its significance under criterion A and B, the presence or absence of standing buildings and structures is a principal component. This thesis has illustrated the construction methods applied during WWII were constrained to military training mission objectives that included the application of utilitarian design principles and an emphasis on impermanence. Therefore, it is common for WWII-era aviation properties similar to WBT#2 to be without standing buildings and structures. Unfortunately, the absence of buildings and the application of non-permanent utilitarian architectural style have historically influenced an assessment of a property’s level of “significance” in terms of historic preservation. WBT#2’s lack of aesthetically
pleasing and paternalistic design attributes represent a period of angst for a country unprepared in the face of war. This target area illustrates how a country, confronted with multiple time and resource constraints, pulled together and efficiently employed its personnel and resources to create temporary combat training areas.
CHAPTER VII: CONCLUDING REMARKS, AND RECOMMENDED FUTURE WORK

Concluding Remarks

The popular and retold story of the US Navy in WWII includes heroic tales of battles in the Pacific and Atlantic between aircraft carriers and battleships, and stories of allied victory. However, less commonly told is the account of how transformations in national naval policy and practice resulted in the development of hundreds of temporary naval training areas during WWII, and that later contributed to successful allied victory in both the Pacific and Atlantic. New naval training areas were developed in the late 1930s to 1945 in response to the US military’s call of defense, and at the height of WWII they covered areas of the rural landscape of the United States, helped the Navy to train crews, teach wartime aviation skills, and supply fleets with trained personnel that later won battles in the Pacific and Atlantic theaters. The development of war boomtowns and new training areas in locales throughout the rural west resulted from the mobilization and expansion of the naval shore establishment program in wartime. The two frameworks most prevalent in military studies within the past ten years include war boomtown and military landscape frameworks. Both of which are helpful in evaluating a WWII-era naval training area for listing in the National Register of Historic Places at the local and national level. This thesis evaluated WBT#2, a WWII-era naval target training area for listing in the NRHP by employing the above two frameworks.

This study concluded WBT#2 is not eligible for the NRHP under criterion A for having contributed to the economic or socio-cultural growth, community development
and expansion, or postwar opportunities in Borrego Springs, Ca, as typically found in a war boomtown.

However, WBT#2 is eligible for listing in the NRHP at the national level under criterion A for its association with changes to national naval policy to train Eleventh Naval District pilots for combat in the Pacific Fleet during WWII, and C because it embodies the distinctive characteristics of a reinvented naval training landscape resulting from changes in national naval policy during WWII. WBT#2’s physical attributes, and training objective are associated to changes in national naval policy to train Eleventh Naval District pilots for combat in the Pacific Fleet during WWII. Furthermore, an application of Kreger’s revolutionary military landscape change framework helped to understand why WBT#2’s location, design, and mission prevented a war boomtown influence in Borrego Springs. Through this analysis, this thesis has developed a historic context statement to properly evaluate WBT#2 for listing in the NRHP. WBT#2 is illustrative of a nation-wide revolutionary military landscape change employed by the military to establish temporary naval training areas throughout southern California from the late 1930s to 1945.

As a target area used for training Eleventh Naval District fighter pilots it was necessary to establish WBT#2 in an isolated area, far away from civilians to prevent injury from dangerous and destructive training practices. Additionally, the isolation helped establish a natural barrier between civilians and confidential naval training practices. The isolated and barren desert environment of Imperial County also presented an ideal training location that did not require the relocation of civilians or removal of agricultural fields or forests prior to use. Furthermore, it was highly likely this area would
remain uninhabited following the war, thereby limiting the amount of restoration after use. In addition to WBT#2’s location, its utilitarian design, along with the resources used to construct the target, also represent changes to the interwar design practices of the military during wartime.

The rapidity with which the war unfolded placed many constraints on new training areas because of scarcity of time, labor, and construction material. Changes to national naval policy emphasized employing utilitarian methods to construct all temporary training areas of WWII. Most importantly they were to be constructed using the most cost-efficient resources available, and attributes emphasizing aesthetics or long-term use were to be avoided at all costs. The use of sandstone slabs to construct WBT#2 greatly emphasizes its intended simplistic design and temporary nature. These two physical characteristics were necessary for the target’s objective as a temporary bombing and rocket target area for naval fighter pilots in the Pacific theater.

Recommended Future Work

Establishing a historic context for WBT#2 has more of an applied purpose. WBT#2 is likely part of a discontiguous district that encompasses the additional 42 temporary Eleventh Naval District target areas located throughout several other counties in southern California (Figure 4). A district is defined as “a significant concentration, linkage, or continuity of sites, buildings, or objects united historically or aesthetically by plan or physical development, such as a rural village or a canal system” (Hardesty and Little 2000: 12). Each property type within a district must independently be contributing or noncontributing to the district as a whole, meaning the historic context for the property
will provide the framework with which to judge each property type according to NRHP criteria (Hardesty and Little 2000: 12-13). For the most part a district encompasses “a single geographic area of continuous historic properties; however, a district can also be composed of two or more definable significant areas separated by nonsignificant areas” (NPS 1995: 6). In this particular case, the 42 target training areas are part of a discontinuous district because, although they are located in different counties in southern California, they are historically related though their period of use and function (NPS 1995: 6).

Assessing the eligibility of the additional training areas for listing in the NRHP using the historic context developed in this study is to avoid implementing a context not related to these resources’ period of significance as unique and temporary target training areas for Eleventh Naval District fighter pilots from the late 1930s to 1945. For instance, Pulcheon illustrated the inconsistencies in evaluating all WWII aviation properties using a historic context related to aviation properties that are typically larger, and embody design characteristics associated with the interwar period (Pulcheon 2000: 195). This thesis has developed a historic context applicable for evaluating WBT#2 for listing in the NRHP, and the additional target areas located throughout several counties in southern California. Most significantly this context explains why WBT#2 lacks buildings and structures, paternalistic architectural design, and permanence.

Understanding history is what links us to our past and to our futures, and provides us with a sense of continuity because it includes a variety of resources, physical remains, places, names, etc., that show how we have changed. Most importantly, a thorough understanding of a significant period in history will contribute to a more holistic and
truthful evaluation of a property’s level of integrity that is absent of buildings, structures, aesthetics or permanence.

This thesis has used Kreger’s methods to illustrate a wartime military landscape will be dramatically different than its interwar military landscape counterpart. Military properties established during wartime will typically embody physical characteristics that promote an immediate functionality, and void of aesthetics and permanence. Furthermore, depending on the training area’s military training mission, the design of the area will differ from one training landscape to the next. An understanding of how to read a wartime military landscape allowed this study to evaluate WBT#2 using an appropriate historic context, while at the same time successfully judging the target’s integrity because of this accuracy. The success of this study illustrates the importance to a holistic and thorough evaluation of a WWII-aviation property using a historic context applicable to its period of use and function. Through this approach, this thesis has emphasized why WBT#2’s lack of buildings, structures, and aesthetics, are the physical attributes that best argue this property’s level of integrity based on its period of significance.

A great number of researchers in the field of preservation have emerged over the past ten years that examine limitations due to popular preservation beliefs that judge a property’s significance based on aesthetics, and architectural design, including the presence of buildings and structures, as in the case with WWII-era training areas. Most importantly, these authors present solutions to bridging the gap between historical importance and integrity (Barthel 1996; Groth and Bressi (eds) Howett 1997; Hardesty and Little 2000; Watt, Raymond, and Eschen 2004; Wellman 2002; Pulcheon 2000). The holistic and thorough evaluation implemented in this study extends beyond WWII-era
training areas, and is successful in the evaluation of properties that are associated to an important event or person in our prehistory or history yet lack buildings, structures, aesthetics or permanence. An excellent case in point includes the evaluation of properties associated to the underground railroad.

The history associated with the underground railroad had widely been ignored because oral histories were predominantly the only surviving remains of this history, and many historians agreed a coherent and truthful documentation of the underground railroad was not possible through their use. The belief among many historians asserted the vagueness of the oral histories would create more doubt in the opinions of many regarding this history than warranted. Additionally, preservationists expressed concern regarding the integrity of the underground railroad sites, thus both of the above mentioned issues resulted in a minimal amount of underground railroad site identification and public interpretation (Wellman 2002: 11, 12).

Interestingly enough, Judith Wellman, author and historian, concluded through her research that oral histories provide the most important historic information and answers to the events and places significant to the underground railroad (Wellman 2002: 12). Wellman argues well-documented sites should also be considered for listing in the NRHP, even when their integrity is compromised (Wellman 2002: 14). The methods incorporated by Wellman, along with the assistance of additional researchers, included compiling a list of people and places thought to be associated with the underground railroad, and cross-referencing with data retrieved from secondary sources such as, newspaper articles. Based on this information, a rating system was employed to identify the people and places most likely to be associated with the underground railroad
(Wellman 2002: 14, 15). Through extensive comparative research, Wellman, along with her associates, identified properties specifically associated with the important event of the underground railroad. However, many of these properties had since been physically altered, therefore, according to the NRHP did not retain enough historic integrity to convey their significance. Although the properties were arguably associated with an important event in history, the strict definition of integrity excluded these historically significant properties’ listing in the NRHP (Wellman 2002: 23).

What WBT#2 lacks in architectural design and aesthetics, it arguably makes up for in its rich history as an important WWII-era Eleventh Naval District fighter pilot training area. WBT#2 may have been previously overlooked because it lacks buildings and structures commonly found at larger and more permanently built training facilities. However, a new generation of historians and preservationists, among others, are beginning to examine resources that were once disregarded because they did not fit into the rigid paradigm originally drafted to evaluate all types of resources. This new generation has authored a multitude of case studies encouraging a new and fruitful approach to examining how and why the significance of historic properties are evaluated according to architecturally and aesthetically biased evaluation guidelines of the NRHP.

The authors encourage a new way of thinking that considers the ramifications of using a definition of integrity that is biased towards properties with certain aesthetic and/or architectural characteristics. This study has proven this new approach is applicable in the evaluation of WBT#2, and will likely be of value to additional WWII-era training properties, as well as properties beyond this study’s intended scope.
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