SECTION 213 REPORT

COMMONWEALTH OF THE NORTHERN MARIANAS JOINT MILITARY TRAINING (CJMT)

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REPORT SUMMARY

Tinian Landing Beaches, Ushi Point Field, and North Field, Tinian Island, National Historic Landmark (North Field Historic District)

North Field was designated a National Historic Landmark (NHL) in 1985 under the theme of military history. The property was designated as *Tinian Landing Beaches, Ushi Point Field, and North Field, Tinian Island*, with the common name listed as *North Field Historic District*. North Field is nationally significant under Criterion 1 for its association with defining events of World War II including Japanese colonial and military expansion into the Pacific, the US Central Pacific Drive, the launch of B-29 strategic and incendiary bombing raids of the Japanese home islands, and the deployment of the atomic bombs. The period of significance is from 1944 to 1945, encompassing the initial US aerial bombardment of Tinian on February 23, 1944; the amphibious assault and ground invasion beginning July 24, 1944; the construction and operation of the airfield; and the deployment of the atomic bombs on August 6 and 9, 1945.

North Field is located on the northern end of the island of Tinian, the least developed of the three major islands comprising the Commonwealth of the Northern Marianas Islands. The other two islands are Rota, located approximately seventy-three miles to the south, and Saipan, located just three miles to the northeast. Tinian also lies approximately 122 miles northeast of Guam and 1,500 miles southeast of Tokyo, Japan. It measures approximately twelve miles long and has an area of thirty-nine square miles. The NHL district occupies approximately 2500 acres.

The NHL nomination for North Field identified some key historic features including the two landing beaches, surviving Japanese military buildings and structures, and North Field's visible runways, taxiways, and service aprons, including the atomic bomb loading apron and bomb loading pits. Since designation, extensive archeological, historical, and cultural landscape research has been conducted in the NHL district and the surrounding area.[1] This has resulted in identification and evaluation of additional resources and character defining features located within and outside the present NHL boundary that are associated with the significance of the NHL and that contribute to its integrity. This information allows for more complete, up-to-date documentation and understanding of the NHLD area and the events that occurred there.

The NHL is composed of a series of systems and features that together create the landscape known as North Field, and while these elements appear to be "indelible marks on the land" they are finite and irreplaceable resources. The character defining features of the landscape are collectively the National Historic Landmark, and should these historic resources be destroyed, the landscape would no longer exist or could no longer convey its significance.

Section 213 Report Request

In October 2015, pursuant to Section 213 of the National Historic Preservation (NHPA), the Advisory Council on Historic Preservation requested the National Park Service to assess how the United States Marine Corps Force, Pacific (MARFORPAC) plan to establish live fire ranges, training areas and maneuver areas for Commonwealth of the Northern Marianas Islands Joint

[1] For a summary and bibliography of this research refer to *CJMT EIS*, Appendix N: "Cultural Resources Technical Memo."

Military Training (CJMT), within the Tinian Landing Beaches, Ushi Point & North Field, Tinian Island (North Field) National Historic Landmark could affect the integrity and physical interpretation of the landmark district.

MARFORPAC's goal is "to reduce existing joint service training deficiencies and meet the United States (U.S.) Pacific Command Service Components' unfilled unit level and combined level training requirements in the Western Pacific. The CJMT proposed action would place four of the five live firing ranges, 5-aviation Landing Zones; 8-Observation Posts; 4-tactical amphibious training beaches; 10-Field Artillery Indirect Firing Range firing points; a Convoy Course; a Tracked Vehicle Driver's Course; 6-Surface Radar sites; laydown yards along the entire lengths of Runways C, C, and D and Support facilities (including the base camp, Munitions Storage Area, access roads, gates, fences, and utilities including water, wastewater, electrical, information technology, communications, and solid waste) within the Military Lease Area on Tinian. The proposal includes up to twenty weeks of live fire training and an additional twenty two weeks of pre and post training annually. The CJMT proposal is in addition to existing training and operations established under the Marianas Island Training and Testing (MITT). MITT allows training for up to eight weeks per year.

Findings

The National Park Service finds that the proposed CJMT undertaking would significantly diminish the integrity and directly adversely affect the Ushi Point, North Field, Landing Beaches (North Field) National Historic Landmark District. Various aspects of the proposed undertaking would damage the landmark and would alter the landmark in ways not consistent with the Secretary of the Interior Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines. These impacts are rooted in the proposed design, location and frequency of the training and related construction.

The National Park Service also finds that key character defining features that are critical for interpreting the North Field NHLD will be damaged and altered in ways that threaten the landmarks ability to convey its physical character, and therefore to be interpreted and understood by the public.

Recommendations

CFR Part 36 § 800.10, *Special Requirements for protecting National Historic Landmarks (a) Statutory requirement*, states:

> *Section 110(f) of the act requires that the agency official, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking.*

Toward this end, we are providing nine recommendations that would result in avoiding and/or minimizing adverse effects of the proposed undertaking on the North Field NHLD. The goals are (1) to preserve the integrity of the NHLD, and (2) to avoid and minimize negative effects on heritage tourism and interpretation of the NHLD. It is our belief that the undertaking can be

modified to be more compatible with the preservation and interpretation of the NHLD while still meeting goals stated in the DEIS. The greatest degree of minimizing harm would be achieved through implementation of all nine recommendations since they address the proposed undertaking as a whole. As such, they should be considered as a suite of related recommendations rather than as alternatives. Where possible, more than one approach for carrying out a recommendation has been identified. Responsibility for implementing the recommendations falls to the Department of the Navy (DON) as the lead agency. The follow are summary recommendations. The full set of recommendations, including goals and intent are described in Section 5 of this Section 213 Report.

1. Prepare an amendment, including a boundary adjustment, to the North Field NHLD nomination based on existing cultural resource documentation supplemented by additional research and site survey..

2. Revise the DEIS to include an environmentally preferred alternative that is compatible with the preservation and interpretation of the NHLD.

3. Prepare and implement a preservation plan with NPS and stakeholder involvement based on existing cultural resource documentation, consultation, and undertaking needs.

4. Ensure that areas of the NHLD and adjacent areas that are currently accessible to the public remain accessible for the greatest amount of time possible..

5. Prepare and implement an interpretive plan with NPS and stakeholder involvement based on existing cultural resource documentation, consultation, and undertaking needs.

6. Relocate and/or significantly reduce Range Complex A, the High Hazard Impact Area, which overlaps with the current NHLD boundary and which contains numerous NHLD associated resources and character defining features.

7. Eliminate or significantly reduce proposed new construction associated with ground combat and aviation training activities in Range Complex D.

8. Eliminate the proposed amphibious landing plan or modify it to avoid or substantially minimize adverse effects on the two NHLD contributing landing beaches, Unai Chulu and Unai Babui..

9. Modify the proposed Convoy and Tracked Vehicle Driver’s Courses to ensure that historic airfield and road surfaces, circulation patterns, viewsheds and other NHLD associated resources and character defining features are preserved in their present condition to the maximum extent possible.

Introduction

The North Field National Historic Landmark District (NHLD) is located on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI). The property consists of a layered historic landscape associated with some of the most important events of World War II. A major sugar production center for the Japanese empire by the late 1930s, Tinian was also vital to Japan's military presence in the Pacific, making it a key strategic objective in the United States Central Pacific Drive beginning in early 1944. The US amphibious assault on the island beginning July 24, 1944 marked the start of the crucial third stage in the battle for the Mariana Islands which began with the invasion of Saipan on June 15, followed by the capture of Guam. These engagements broke Japan's inner line of defense in the Pacific, creating staging areas for aerial bombing raids on the Japanese mainland.

Even as the battle for Tinian continued through late July, the island became the site of the largest American military construction project completed during the war. 1,500 members of the US Navy Construction Battalions, or Seabees, arrived soon after the initial Marine landing to repair the existing Japanese Ushi Point Airfield, located near the northern tip of the island. With most of the island secured by August, a workforce of 15,000 Seabees constructed a new airfield comprised of four parallel 8,500 foot-long runways with support facilities including taxiways, service aprons, and hardstands for 265 B-29 "Superfortress" bombers. When completed, North Field was the largest airfield in the world. It played a critical role in the final stages of the war as the largest of five airfields from which the US launched B-29 strategic and incendiary bombing raids of the Japanese home islands. These raids, including the March 9-10, 1945 fire-bombing of Tokyo, had a devastating effect, obliterating Japan's cities and resulting in hundreds of thousands of civilian deaths.

In May 1945, the US Army Air Force's 509th Composite Group, the unit tasked with the operational use of atomic weapons, began deploying to North Field. The group's base of operations included a camp, laboratory facilities for the assembly of the bombs, and a service apron with specially designed "pits" for loading the massive weapons onto the two B-29 "Silverplate" bombers equipped for their deployment. On August 6, 1945, the crew of the *Enola Gay* deployed the first atomic bomb, a uranium gun-type bomb known as Little Boy, over Hiroshima, incinerating the city and killing an estimated 90,000 to 150,000 people. Three days later, the crew of *Bockscar* deployed the second bomb, a plutonium implosion device known as Fat Man, over the city of Nagasaki, killing an additional 40,000 to 80,000 people. Again, the majority of victims were civilians, mostly women, children, and the elderly. About half were killed in the initial blast. The rest died in the ensuing months and years, many from illnesses related to radiation exposure. The dropping of the two bombs marked a major juncture in the war and in world history, contributing to the Japanese surrender and heralding the start of the nuclear age.

Most of North Field's standing buildings and structures were removed after the war, and much of what remains today is obscured by non-historic vegetation. Still, numerous features associated

with the battle for Tinian and the construction and use of the airbase survive and are relatively unaltered from the historic period. The NHLD is most clearly distinguishable by the alignment of the four runways and associated airfield surfaces. Many other features including concrete piers and foundations, earthen revetments, and debris associated with camp and service areas also exist. A grid pattern of roads built by the US military partially on top of an existing Japanese road network connects the airfield to the rest of Tinian, embedding it within larger patterns of circulation. Topographic features associated with the US invasion and the construction and use of North Field also remain and are largely unmodified by non-historic development. These include the two landing beaches, the level plateau where the airfield is located, and the limestone cliffs and low mountains bordering the airfield to the south. Some historic vegetation is also present. Remnant Japanese military features, many displaying strafe marks, bomb craters, and shelling impacts from the invasion, convey the events of the battle from the perspective of Japanese and American forces, while remnants of Shinto shrines, farmsteads, and farm villages reflect the lives and experiences of the civilian population present at the time of the attack. Other resources tell the story of the atomic bomb. These include remnants of the 509th Composite Group facilities, the bomb loading pits, and Runway Able, the northernmost of the four runways. Numerous archeological and cultural sites associated with native Chamorro history and culture also exist in the NHLD and the surrounding area.

Survey and Documentation of the Property

North Field was designated a National Historic Landmark in 1985 under the theme of military history for its role in the war in the Pacific and in the deployment of the atomic bombs. The property was listed as “Tinian Landing Beaches, Ushi Point Field, and North Field, Tinian Island” with the common name given as “North Field Historic District.” The nomination identified key historic features including the two landing beaches, surviving Japanese military buildings and structures, and North Field’s visible runways, taxiways, and service aprons, including the atomic bomb loading apron.

Since the original designation, extensive archeological, historical, and cultural landscape research has been conducted in the NHLD and the surrounding area.[1] This work, which includes both independent scholarship and studies commissioned by the US military, has resulted in identification and evaluation of additional resources and character defining features located within and outside the present NHLD boundary that are associated with the significance of the NHLD and that contribute to its integrity. This information allows for more complete, up-to-date documentation and understanding of the NHLD area and the events that occurred there. It informs the property description below and is considered in the assessment of effects section of this report.

Significance

[1] For a summary and bibliography of this research refer to *CJMT EIS*, Appendix N: “Cultural Resources Technical Memo.”

North Field is significant under Criterion 1 for its association with defining events of World War II including Japanese colonial and military expansion into the Pacific, the US Central Pacific Drive, the launch of B-29 strategic and incendiary bombing raids of the Japanese home islands, and the deployment of the atomic bombs. The period of significance is from 1944 to 1945, encompassing the initial US aerial bombardment of Tinian on February 23, 1944; the amphibious assault and ground invasion beginning July 24, 1944; the construction and operation of the airfield; and the deployment of the atomic bombs on August 6 and 9, 1945.

Description

North Field is located on the northern end of the island of Tinian, one of the three major islands comprising the CNMI. The other two islands are Rota, located approximately seventy-three miles to the south, and Saipan, located just three miles to the northeast. Tinian also lies approximately 122 miles northeast of Guam and 1,500 miles southeast of Tokyo, Japan. It measures approximately twelve miles long and has an area of thirty-nine square miles. The 2010 census recorded a population of 3,136. The majority of residents are Chamorro or Caroline Islanders, many of whom were resettled there after World War II. Most of the population resides in the village of San Jose, formally Tinian Town, on the southwest coast. The primary industry is tourism. Some small-scale agriculture and subsistence fishing also occurs on the island.

The NHLD occupies approximately 2,500 acres of a 16,100-acre area of Tinian known as the Military Lease Area (MLA). Encompassing most of the northern two thirds of the island, the MLA is administered by the US Navy under a fifty-year renewable lease agreement between the landowner, CNMI, and the US Department of Defense (DOD). The current lease began in 1983 and extends to 2033. While access is periodically restricted for military exercises, the MLA – including North Field – is usually open to the public and the primary uses are tourism and recreation. The MLA remains undeveloped, with no permanent military installations or staffed facilities post-dating the period of significance.

A lowland plateau of approximately six square miles characterizes most of Tinian's northern area. This is bordered to the south by limestone cliffs and two gradual sloped mountains, Mount Maga and Mount Lasso. The coastlines are characterized by low limestone sea cliffs, broken in places with narrow coral sand beaches, including the two World War II landing beaches, Unai Chulu and Unai Babui as known as White Beach 1 and White Beach 2 respectively. A fringing coral reef surrounds all of Tinian except for the Tinian Harbor area. The vegetation in the NHLD area mainly consists of dense non-native Tangantangan (*Leucaena leucocephala*) with some mixed forest, including small areas of native limestone forest. Many of the NHLD features are partially or fully obscured by disturbed area vegetation. The Hagoi wetland, the largest wetland on Tinian, is a distinctive natural feature within the NHLD. The wetland supports populations of the endangered Mariana common moorhen (*Gallinula chloropus guami*) and is surrounded primarily by mixed forest. Hagoi is also historically significant as the largest permanent freshwater source on the island. Archeological sites associated with pre-contact Chamorro use, Japanese colonial settlement, and World War II military use have been recorded there and in many nearby areas.

Overview of NHLD Contributing and Additional Associated Resources

The significance values of the North Field NHLD are conveyed through a variety of resources and resource types. As noted above, while the original NHL nomination listed several contributing resources, a number of additional resources that possess the same or similar significance values and integrity as those identified in the initial evaluation have subsequently been documented both inside and outside the NHLD boundary. Many of these have been identified as "likely contributing" to the NHLD in Navy-sponsored studies.[2] The 2010 *Tinian North Field Cultural Landscape Report (CLR)* also recommended re-examining the NHLD boundary in light of these findings, and possibly expanding it to create a more cohesive district.[3] This was specifically acknowledged in the 2011 *Programmatic Agreement for Military Relocation to Guam and the Commonwealth of the Northern Mariana Islands* (Guam Buildup PA) which stipulated that "DOD will coordinate with the NPS to update the Tinian NHL historic district, based on the results of the Tinian CLR."[4] This has not yet been addressed.

In accordance with 36 CFR 800.5 (the implementing regulations for Section 106 of the National Historic Preservation Act), an assessment of adverse effects includes examination of associated resources identified subsequent to the initial evaluation of any National Register-listed property, which includes all NHLs. Specifically, the legislation reads:

> *Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register.*

Therefore, this report addresses the effects of the proposed undertaking on both contributing resources identified in the original nomination and additional associated resources identified in subsequent studies. The latter include resources that have been identified as "likely contributing" in Navy documentation, as well as other resources that have not been identified as likely contributing but are part of the NHLD setting and contribute to its integrity. Many of these resources have been evaluated as eligible for national register listing in Navy documentation and have been treated as contributing to the NHLD during Section 106 consultation.

The original nomination identified the following as contributing resources:

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[2] See resource lists in: Department of the Navy, Naval Facilities Engineering Command (NAVFAC), Pacific, *Reference Documents for CJMT Environmental Impact Statement/ Overseas Environmental Impact Statement Section 106 Consultation*, prepared under contract N62742-11-D-1801, Task Order 2 (September 2014): 45-46.; and AECOM in association with TEC Joint Venture, Inc., *Tinian North Field Cultural Landscape Report*, contract N62742-06-D-1870, TO 0007, prepared for: Department of the Navy, Navy Facilities Engineering Command, Pacific, Pearl Harbor, HI (May 2010): 4-47 – 4-51.

[3] *Tinian North Field CLR*, 4-5, 5-17.

[4] The full title is: *Programmatic Agreement Among the Department of Defense, The Advisory Council on Historic Preservation, the Guam State Historic Preservation Office, and the Commonwealth of the Northern Mariana Islands State Historic Preservation Officer Regarding the Military Relocation to the Islands of Guam and Tinian* (Guam Buildup PA), March 9, 2011: 28.

- Landing Beaches Unai Babui (White Beach 1) and Unai Chulu (White Beach 2)
- The north Japanese pillbox at Unai Chulu
- Resources associated with the former Ushi Point Airfield including the Japanese service apron, the air administration building, the air operations building, and two air raid shelters
- The four B-29 runways, two service aprons, and taxiways of North Field

Additional associated resources located inside the present NHLD include:

- B-29 hardstands obscured by vegetation
- Additional service aprons, taxiways, and east-west connectors obscured by vegetation
- The 509th Composite Group Service Area
- The 121st Navy Construction Battalion (NCB) Group Camp
- The perimeter road network
- Ruins and archeological sites including concrete pads, footings, and debris associated with base support facilities that were removed after the war including Quonset huts, flack towers, radar towers, and dump sites
- Borrow pits and quarries associated with the construction of the airfield
- Additional Japanese military features including the south pillbox at Unai Chulu, ammunition storage bunker, fuel storage bunker, power plant, aviation tie-downs, drainage canal, and cisterns at the air administration building
- Japanese defensive bunkers, modified caves, tunnels, and rock shelters located in the limestone cliffs within the southern boundary of the NHLD. Similar features are also located outside the NHLD boundary.

Additional associated resources located outside the present NHLD include:

- Site of the three atomic bomb assembly buildings northwest of the NHLD
- The 509th Composite Group camp site located southeast of the Eighth Avenue roundabout
- The Broadway roundabout including the American Memorial Hinode Shrine
- The Eighth Avenue roundabout including the Landing Vehicle Tracked (LVT)
- The 1322nd/67th NCB camp site located southeast of the NHLD
- The 313th Bomber Wing Command Area (Service Group Shop Area) located northeast of the NHLD
- The road network extending south of the NHLD including Riverside Drive, Eighth Avenue, and Broadway
- Japanese earthen revetments extending east of the NHLD
- Japanese pillbox at Unai Dankulo southeast of the NHLD
- Japanese defensive bunkers, modified caves, tunnels, and rock shelters located in the limestone cliffs outside the southern boundary of the NHLD

World War II-era resources at North Field also overlay and are integrated with landscape features, ruins, and archeological sites associated with early twentieth century Japanese colonial occupation. Although pre-dating the period of significance and often located outside present NHLD boundaries, these features contribute to the NHLD's integrity of location, setting, feeling, and association as part of the battlefield landscape. They are especially important for conveying the experiences of the approximately 15,700 civilians present at the time of the invasion.[5] These consisted primarily of Japanese and Okinawan tenant farmers, although approximately 2,700 Koreans and smaller numbers of Chinese and possibly Chamorro laborers were also present. Resources potentially affected by the proposed undertaking include the NKK Shinto Shrine located south of the Broadway roundabout, archeological sites associated with Japanese farm villages and farmsteads, and remnants of a narrow gauge railway located throughout the NHLD area.

Numerous pre-contact Chamorro archeological sites also exist in the NHLD and adjacent areas. Notable sites that are potentially affected by the proposed undertaking include a significant early settlement site on the terrace above Unai Chulu and a *latte* period site at Unai Babui. These and a number of other sites have been evaluated as eligible for national register listing in Navy-sponsored studies.[6] Unai Chulu has also been evaluated as a traditional cultural property (TCP) associated with Chamorro fishing practices.[7] While not directly linked in time to the events of World War II, these resources contribute to the overall significance and meaning of the NHLD. They form part of the NHLD setting, providing points of reference for interpreting the events and legacies of the war years in the context of broader historical and environmental changes affecting the Mariana Islands up to the present.

Overall, the layered historic landscape comprising the North Field NHLD and the surrounding MLA offers a unique opportunity to interpret in a small area, and from diverse perspectives, some of the defining events of World War II and the start of the nuclear age. Surviving in a relatively undisturbed setting, the varied resources and resource types associated with the NHLD also speak to the dramatic and lasting impacts of colonialism and war on the Northern Mariana Islands and their inhabitants.

Character Defining Features

Character defining features of the North Field NHLD exist at the macro level in the spatial organization of the built environment and topographic features, and at the micro level as materials, small scale features, and historic vegetation. The physical qualities and spatial patterning of these various features convey the feeling and association of the NHLD as a nationally significant historic landscape, making it recognizable as both a US military

[5] It is worth noting here that Saipan and Tinian were the first battlefields where American troops encountered large numbers of Japanese civilians. This was a defining aspect of both battles.
[6] Refer to: NAVFAC, *Reference Documents for CJMT Environmental Impact Statement*.
[7] Department of the Navy, Naval Facilities Engineering Command (NAVFAC), Pacific, *Identification and Evaluation of Traditional Cultural Properties on the Island of Tinian, Commonwealth of the Northern Mariana Islands*, Draft V2, prepared under contract N62742-11-D-1801, Task Order 2 (July 2014), A-I, 6-4 – 6-7.

installation and a unique property that developed in a specific time and place and that was associated with a specific series of historical events. The minimal land disturbance and absence of significant development post-dating the period of significance allows the character defining features described below to form the dominant pattern on the landscape today. North Field's historic character is evident at localized scales and at larger landscape scales in the form of character defining views from various locations both inside and outside the present NHLD boundaries.

Spatial Organization and Circulation Patterns

The parallel grid alignment of North Field's four runways with their associated taxiways and service aprons defines the overall spatial organization of the historic built landscape. The locations of the 509th Composite Group service areas and the atomic bomb loading aprons northeast of and partially detached from the main airfield complex are also important, reflecting the unique role of North Field and the special requirements and top secret nature of the 509th's activities. This also applies to the 509th Group Camp located southwest of the NHLD east of the Eighth Avenue roundabout. The spatial patterning evident in the ruins of the Japanese air apron and associated buildings and structures further define the character of the historic landscape, revealing the partial extent, layout, and character of Japanese military development at the time of the US invasion. These remnant Japanese buildings and structures were preserved by the US military during the construction of North Field and are integral to the spatial organization of the airfield.

The strategic objectives, tactics, and experiences of the US invasion of Tinian can also be interpreted though the spatial arrangement of topographic features and surviving structures associated with the Japanese defense of the island. Specific character defining features include the two small, undeveloped landing beaches bordered by low limestone cliffs; the minimal Japanese defensive fortifications at those beaches; the level topography of the north Tinian plateau which at the time of the invasion was predominantly covered with sugar cane; Japanese earthen revetments on the east side of the plateau; and remnant Japanese defensive fortifications in the limestone cliffs on the plateau's southern boundary, and on the slopes of Mount Mago and Mount Lasso.

The intact grid pattern of roads that link the features of North Field and connect the airfield to the rest of Tinian is also highly significant. Although named for their spatial resemblance to the streets of Manhattan, many of the roads were actually constructed on top of an existing road network dating to the Japanese colonial period. This includes the two primary north-south routes of Eighth Avenue and Broadway which culminate at two roundabouts marking the entries to the airfield. Portions of Lenox Avenue overlay an earlier road to Ushi Point Airfield. Other portions of the road network built on pre-existing Japanese roads include sections of Riverside Drive which runs along the west coast, connecting to the Eighth Avenue roundabout and Unai Chulu from the southwest, and 116th Street which extends along the southwest boundary of the airfield from the Broadway roundabout. While most of the roads were entirely reconstructed during the construction of North Field, some spur roads display surfacing and edging possibly dating to the

Japanese period. The road network is also among the few surviving features on Tinian that define the earlier agricultural field grid.

A number of other less visible features located both inside and outside the present NHLD further define the spatial organization and circulation patterns of the historic landscape. These are mostly obscured by vegetation and include hardstands, taxiways, and service aprons that are largely intact; concrete pads, footings, and debris associated with "temporary" buildings and structures including Quonset huts, flack towers, and radar towers that were removed after the war; and features associated with the 509th Composite Group camp site and atomic bomb assembly areas.

Materials

Most of the historic material extant in the NHLD is concrete and asphalt manufactured from locally quarried limestone and coral. Differences between the composition of American period concrete and the earlier Japanese concrete are an important part of North Field's historic character. As noted in the *CLR*, Japanese concrete exhibits a "handmade appearance, with large pieces of aggregate, covered in a smooth cement finish."[8] Concrete dating to the US military period is generally smoother and characterized by smaller aggregate without a cement coting. These differences reflect different manufacturing techniques and technical requirements. The airfield surfaces and most of the major roads are also topped with a layer of asphalt dating to the US military period. Although overgrown with vegetation and cracked in places, these surfaces have received only light use since the historic period and are in good to excellent condition.

Most other materials that were part of North Field including metal and wood components of standing structures were removed after the war. Some metal debris remains in ruins and archeological sites. Metal, stone, and some wood materials are also extant in Japanese period resources, including farm village and farmstead sites, remnants of the narrow gauge rail network, and the NKK and American Memorial Hinode Shrines.

Small Scale Features

A number of smaller features are also significant. Features dating to the Japanese period include cisterns near the air administration building, aviation tie downs (moorings) at the Japanese air apron, and stone edging lining the path in the ravine to the fuel storage bunker and present at Japanese farmstead sites. Archeological remains of the Japanese field system including concrete fence posts and stone or concrete boundary markers also exist. Stone lanterns, walls, and pavings still exist at the shrine sites. Two concrete *torii* are extant at the NKK Shrine and display damage possibly dating to the US invasion.

Small scale features dating to the US military period include strafe marks, bomb craters, and shelling impacts associated with the invasion, discarded equipment and wreckage, and concrete

[8] *Tinian North Field CLR*, 4-30.

footings and debris left over from the postwar removal of base facilities. Although moved from its original location, the LVT at the Eighth Avenue roundabout is a prominent object directly associated with the invasion. The American Memorial Hinode Shrine which was reconstructed by members of the 13th NCB within the Broadway roundabout is also significant for its association with US troop encounters with Japanese civilians and the construction of North Field. Both of these features are located outside the present NHLD. A number of additional features have been identified archeologically in former camp and service areas, many of which are also located outside the present boundary. These include signage, garden plots, concrete piers and foundations, and stone-edged paths. A possible "helmet shrine" reportedly honoring thirteen Seabees killed during base construction is located at the 509th Group Camp.[9]

Landscape Features and Vegetation

Various landscape features, human-modified and naturally-occurring, further characterize the NHLD area. These include the Hagoi wetland and the northern beaches which have been focal points of human activity throughout Tinian's history as demonstrated by the high concentration of archeological resources at those locations. During the planning stages of the Central Pacific Drive, the level topography of the north Tinian plateau appealed to US military planners as ideally suited for the construction of a large airbase to stage bombing raids of the Japanese home islands. The wide area appeared sufficient to meet the technical specifications required for accommodating the massive very long-range B-29 bombers just coming off American assembly lines. The flat topography, covered at the time with sugar cane and broken with roads, farmsteads, and windbreak plantings, also influenced the course of the battle. Although more heavily vegetated than during the invasion, the largely unmodified limestone cliffs and gradual slopes of Mount Maga and Mount Lasso south of the NHLD boundary retain historic character as Japanese defensive positions, and possibly as civilian refuge areas.

The small size of the two landing beaches and their intact coral reefs and low surrounding limestone cliffs rimmed with strand vegetation are also highly significant, providing clear associative links with the planning and execution of the amphibious landing. That the beaches remain free of non-historic development is a crucial character defining feature and an essential aspect of their integrity as contributing resources.

Remnant plantings also contribute to the historic character of the NHLD landscape. This includes naturalized Bougainvillea at the 509th Composite Group camp site and other areas. Many more historic plantings predate the invasion and are primarily associated with the Japanese colonial period. These include a grove of mature flame trees (*Delonix regia*) surrounding the NKK Shrine; plantings of mother-in-law's tongue (*Sansevieria*), a slow-spreading ornamental plant which has become naturalized in the NHLD area; and a sosugi tree growing behind the Japanese air administration building. Also prevalent are kapok trees (*Ceiba pentandra*), a type of cotton tree first introduced during the German period. A row of kapok trees likely associated with a

[9] See "Tour of the 509th Composite Group Camp on Tinian," posted by Gary Boothe, 2015. Accessed February 4, 2016 at https://vimeo.com/121001314.

Japanese farmstead exists north of Hagoi near the intersection of Dyckman Street and Lenox Avenue. Other species introduced during the Japanese colonial period include coconut, banana, papaya, ironwood, banyan, and Manila tamarind. Portions of historic windbreak plantings associated with the Japanese field grid have also been reported, although at the time of the 2010 *CLR*, none had been positively identified in existing surveys, likely due to heavy vegetation overgrowth.[10] These plantings marked the boundaries of cane fields and were important during the 1944 invasion.

Topographic Modifications

Features associated with the massive earthmoving effort involved in the construction of North Field also form part of the historic landscape. Construction of the runways and other airfield surfaces required moving an estimated 11 million cubic yards of coral (including more than 2.3 million cubic yards for the fourth runway alone). The airfield surfaces rest on fill as deep as forty-two feet in some places.[11] Much of the material was obtained from borrow pits and quarries including a large quarry labeled on historic maps as "Pit No. 15" located between 124th Street and Boston Post Road. Another quarry labeled "Pit No. 3" located north of the atomic bomb loading apron may have supplied material for the three revetments comprising part of the bomb assembly area. Although extending over large areas, these features are difficult to discern from the ground and from aerial photography due to thick vegetation. Other smaller quarries located across Tinian are associated with *latte* period construction and/or early twentieth century Japanese projects.

Viewsheds

Although often obscured by vegetation, viewsheds from locations inside and outside the NHLD also convey the feeling and association of the historic period. A key aspect of all these viewsheds is that they are almost entirely unobstructed by non-historic development. These include aerial and offshore views of the small, unmodified landing beaches which retain their character from the time of the invasion. Views from areas of North Field and from Ushi Point across the strait to Saipan carry associations with the early US bombardment of Tinian prior to the amphibious landing. Partial views of North Field from the cliffs at the southern boundary of the NHLD evoke the experience of Japanese defense forces and civilians who retreated to these positions following the US landing. Views from Mount Lasso are closely associated with the battle for Tinian as this was the position from which Colonel Kiyoshi Ogata, commander of the 50th Army Infantry Regiment, directed counterattacks during the early stages of the invasion. Later, US Marine spotters directed artillery fire from this location. It was also used as an observation post for monitoring takeoffs and landings of B-29s.[12] Views along Runway Able and the other intact

[10] *Tinian North Field CLR*, 4-32–4-33.
[11] The areas of deeper fill are mainly at the east and west ends of the runways. This was necessary to accommodate the full 8,500-foot runway length required for the operation of B-29s. See Department of the Navy, Bureau of Yards and Docks, *Building the Navy's Bases in World War II: History of the Bureau of Yards and Docks and the Civil Engineer Corp, 1940-1946*, Volume II (Washington DC: United States Government Printing Office, 1947), 362.
[12] A homing beacon used to guide returning B-29 pilots was formerly located on the summit.

runways and taxiways give a sense of the scale of the construction effort and of the technical requirements for accommodating heavy use by B-29s. Views along the roads convey associations with both the US military period and the former Japanese field system. Views of the roundabouts are also centered on features directly associated with the battle for Tinian: the LVT at the Eighth Avenue roundabout and the American Memorial Hinode Shrine in the Broadway roundabout. Many visitors also view North Field from the air during the short flight from Saipan. This provides a sense of the overall layout, spatial organization, and scale of the construction effort, as well as its relationship to topographic features.

Integrity

The North Field NHLD retains a high degree of integrity according to the seven criteria of location, setting, design, workmanship, materials, feeling, and association. The absence of substantial development post-dating the period of significance is a key characteristic that distinguishes North Field from other military properties in the Pacific, including the Isley Field NHLD on Saipan. Non-historic development is limited to commemorative monuments, interpretive signs, railings, ornamental vegetation, and some unsurfaced trails and spur roads. These do not detract significantly from the overall integrity of the property and are important for visitor access and interpretation.

Integrity is diminished to some degree by the removal of most of North Field's support buildings and structures following the war. Much of the material was used to build an infrastructure to accommodate Chamorro resettled from Yap in 1948. Island residents continued to salvage usable materials after the retreat of the military. This repurposing of materials does not significantly diminish the NHLD's overall integrity, as it is part of the story of North Field and connects its history to other aspects of Tinian's history. The minimal land disturbance since the period of significance has also meant that while many physical resources have been lost, those that remain are in good to excellent condition and retain associations with historic events.

North Field retains integrity of location and setting as a historic district incorporated within a larger cultural landscape. Tinian's geographic position in the Pacific and relative to Japan is important in conveying its strategic value in the US Central Pacific Drive and in subsequent B-29 bombing campaigns. The airfield's location on Tinian's level northern plateau also reflects the role of local geography in influencing US military strategy and tactics, military construction projects, and the combat use of new military technologies including B-29 bombers and the atomic bomb. Defining topographic features remain clearly identifiable and are relatively unchanged since 1945. These include the undeveloped coastline and beaches, the low sea cliffs, and the level inland plateau bordered to the south by limestone cliffs and the gradual slopes of Mount Maga and Mount Lasso. Most extant historic resources also remain in their original locations. An exception is the LVT in the Eighth Avenue roundabout which was moved to that location after the period of significance. Although located outside the present NHLD, the LVT is a highly visible feature and is directly associated with the US invasion.

The most noticeable change affecting the integrity of setting is the dense vegetation encroaching on nearly all the NHLD features. National register guidelines for historic battlefields recognize some benefits to non-historic vegetation coverage, defining it as "a natural and reversible alteration to the landscape" which in some cases can help preserve features that contribute to the overall integrity of the battlefield.[13] However, encroaching vegetation can also damage and conceal historic resources. For North Field, a program of vegetation management performed in connection with stabilization and monitoring of NHLD resources can contribute to preserving integrity of setting, provided it follows preservation guidelines and best practices.[14]

North Field retains integrity of design, workmanship, and materials. Even with the absence of standing US military buildings and structures, historic patterns of design and workmanship remain discernable in the spatial patterning and scale of the airfield surfaces, in the topographic modifications made to accommodate the technical specifications of B-29s, in the grid patterned road network, and in the architectural differences between Japanese and US military period resources. Features associated with the atomic bomb including the loading pits, the bomb assembly area, and the site of the 509th Group camp also convey elements of military base design specific to the handling and deployment of a new top secret weapon technology. Remaining historic materials are also generally intact and unobscured by non-historic development or repairs. This includes the limestone and coral concrete forming the airfield surfaces, roads, and ruins of Japanese buildings and structures. Other historic materials including metal debris, concrete pads and footings, stonework, earth fill, and some wood retain integrity in archeological sites and ruins.

Encroaching vegetation and the loss of physical features detract somewhat from North Field's integrity of feeling and association. However, numerous resources remain that tell the story of the battle and the construction and use of the airfield. The airfield surfaces are the most visible of these, however other resources also contribute. The beaches of Unai Chulu and Unai Babui appear much as they did at the time of the invasion, giving a clear sense of the challenges involved in the planning and execution of the landing. Strafe marks, bomb craters, and other damage from the battle on Japanese military features also contribute to integrity of feeling and association. Defensive positions in the cliffs and forested slopes south of the NHLD boundary further convey the Japanese military and civilian experience of the battle. Non-military features also contribute to the feeling of the NHLD area as a battlefield. Japanese colonial period features including the road network, the NKK Shinto Shrine, archeological sites and ruins associated with

[13] Patrick W. Andrus, *National Register Bulletin 40*, "Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields" (National Park Service, 1999) , 12.; This is referenced in *Tinian North Field CLR*, 4-60.

[14] For specific recommendations for vegetation management at North Field that does not harm the integrity of NHLD resources refer to the treatment guidelines in *Tinian North Field CLR*, chapter 5, especially 5-19 – 5-20, 5-37 – 5-38.

farm villages and farmsteads, and historic plantings form part of the battlefield landscape and help convey the feeling of the battle from multiple perspectives.[15]

Finally, it is important to stress that North Field's integrity of association, as well as its overall integrity, is preserved by the absence of significant non-historic development. With the notable exception of the non-historic vegetation, nearly all extant elements of the NHLD landscape including human-built and naturally occurring features were part of the landscape during the period of significance and together give a sense of the rootedness of those events in a specific place and time. These elements include North Field's intact built features and ruins, as well as topographic features, archeological sites, and remnant vegetation comprising the physical context for the airfield.

[15] For battles occurring in rural districts, national register guidelines state that "the presence of farm roads, agricultural buildings, and field systems combine to convey the feeling of the area at the time of the battle." Andrus, *National Register Bulletin 40*, 11.; This is referenced in *Tinian North Field CLR*, 4-60.

Proposed Undertaking as Stated in the DEIS

> *The proposed action is to establish a series of live-fire ranges, training courses, and maneuver areas within the CNMI to reduce existing joint service training deficiencies and meet the United States (U.S.) Pacific Command Service Components' unfilled unit level and combined level training requirements in the Western Pacific. An RTA refers to live-fire ranges, training courses, maneuver areas, and associated support facilities, collectively, that are located in close proximity to each other. Under the proposed action, a unit level RTA is proposed on Tinian* (DEIS, 2-1).

The undertaking proposes additional training facilities and activities for the island of Pagan. This Section 213 report addresses proposed activities on Tinian only.

Goal and Length of Training as stated in the DEIS:

> *The cumulative duration of live-fire training in the unit level RTA would be up to 20 non-consecutive weeks per year (140 days per year), with varying lengths of training exercises. Prior to and after each live-fire training event, additional non-live-fire training preparation would occur with between 2 and 100 U.S. military personnel on island for administrative and logistical support . . . and a total of approximately 22 additional non-live-fire preparation weeks are anticipated. There would also be periodic maintenance and range management conducted on the RTA during times when live-fire training is not being conducted.* (DEIS, 2-13)

The following Table from the DEIS shows the training exercises, number of personnel and duration for the unit level training proposed for Tinian.

Table 2.2-3. Unit Level Training and Exercises, Duration, and Personnel

Training and Exercises	*Live-Fire Training Duration and Personnel*		*Pre-Training Duration and Personnel (non-live-fire)**		*Post-Training Duration and Personnel (non-live-fire)**	
Bilateral Training	2 weeks, once a year	500	1 week, once a year	25	1 week, once a year	25
Multilateral Training	2 weeks, once a year	750	1 week, once a year	30	1 week, once a year	30
Joint Services Exercises	2 weeks, twice a year	1,000	2 weeks, twice a year	50	1 week, twice a year	50
Marine Unit Training	1 week, twice a year	2,200	1 week, twice a year	100	1 week, twice a year	100
Special Operations Command Exercises	1 week, twice a year	30	1 week, twice a year	2	1 week, twice a year	2
Marine Aircraft Wing Aviation Training Relocation	2 weeks, twice a year	300	2 weeks, twice a year	30	2 weeks, twice a year	30
Other Services	2 weeks, twice a year	500	1 week, twice a year	25	1 week, twice a year	25
Total:	20 weeks per year	NA	16 weeks per year*	NA	12 weeks per year*	NA

**Note:* After accounting for overlap, a combined total of 22 pre- and post-training weeks are anticipated per year. Pre- and post-training durations are typically 1 to 2 weeks in duration and are not inclusive of other approved non-live-fire training.
NA = not applicable.

In summary, all action alternatives for Tinian considered in the DEIS would include (Common to All):

- 20 weeks of live fire training,
- an additional 22 weeks of non live-fire training
- Land Use Agreements,
- Construction,
- Training Operations,
- Operations and Management,
- Transportation,
- Munitions,
- Danger zones,
- Amphibious Operations,
- Airspace Requirements, and
- Sea space Requirements

TRAINING LOCATIONS, ASSOCIATED CONSTRUCTION and OPERATIONS

The proposed Tinian RTA consists of four range complexes identified as Complex A, Complex B, Complex C and Complex D, as well as activities and facilities located outside the four ranges. In the DEIS, these areas are referred to as *Military Lease Area-wide Training Assets* and include, 5-aviation Landing Zones; 8-Observation Posts; 4-tactical amphibious training beaches; 10-Field Artillery Indirect Firing Range firing points; a Convoy Course; a Tracked Vehicle Driver's Course; 6-Surface Radar sites; and Support facilities (including the base camp, Munitions Storage Area, access roads, gates, fences, and utilities including water, wastewater, electrical, information technology, communications, and solid waste). The proposal also includes laydown yards along the entire lengths of Runways C, C, and D.

Many but not all training activities and facilities proposed for Tinian are located within the boundary of the North Field National Historic District as currently defined. For the sake of clarity in understanding/conveying where proposed activities would occur, the next section consolidates and summarizes information from the DEIS to describe the activities, the activity location and the historic resources that have been identified within these areas.

Analysis of the adverse effects from the proposed military development and activities are discussed in the Assessment of Effect section of this document.

Proposed Range Complex A overlaps with the most southern portion of the North Field NHLD; Complex A is a 935 acre *High Hazard Impact Area* that would include:

> *a Live Hand Grenade Range; firing positions for the Mortar Range; a Light Anti-Armor Weapon Live Range; a Grenade Launcher Range; a Demolition Range; Offensive Air Support Range targets; Close Air Support Range targets; Field Artillery Indirect Range targets Convoy Course targets. (DEIS, 2-53) The Live Hand Grenade Range would*

include construction of four throwing positions/pits with 6 foot (1.8 meter) high earthen berms between each position. (DEIS, 2-62)

A four foot high fence topped with four strands of barbed wire will enclose the entire Range Complex A. The area will remain closed to the public at all times and includes closing the north end of Broadway, most of 16th Street and Lenox Avenue as well as the associated roundabout where the American Memorial Hinode Shrine is located.

As indicated in the DEIS, there are at least twenty additional known historic resources located within the area proposed for Range Complex A, including:

- 3 Pre-Contact sites (1 ceramic scatter, 2 cave sites),
- 7 pre-World War II Japanese Administration sites,
- 4 World War II-era Japanese defensive sites, and
- 6 World War II American military sites, including two memorials, the Hinode American Memorial Shrine and the Nan‘yo Kohatsu Kaisha (NKK) Shrine.

Two of these properties, American Memorial Hinode Shrine and the 67th NCB Camp Foundations/Site, were identified by the Navy during Section 106 consultations as properties located outside the current boundary of the North Field NHLD, but "Likely Contributing to NHLD." (See *Reference Documents for CJMT Environmental Impact Statement/Overseas Environmental Impact Statement Section 106 Consultation*, September, 2014, Table 4, pp45-46) The fifteen remaining properties listed above that are associated with the significance of the NHLD would arguably also fall into the Navy's *Likely Contributing to NHLD* category. Missing from the DEIS list of historic resources located in the area proposed for Range Complex A are the North Field NHLD and historic roadways.

<u>Range Complex A Activities as Described in the DEIS</u>

Live-fire high explosives from ground-based and aviation training activities would be employed at the proposed Range Complex A High Hazard Impact Area. Ground-based activities would include hand grenades thrown and launched from the Live Hand Grenade and Grenade Launcher ranges . . . [firing of] 60 and 81 millimeter mortars at the Mortar Range firing positions; and rockets would be employed at the firing points associated with the Light Anti-Armor Weapon Live Range. Within the Demolition Range, explosives training would occur, there would be detonations of charges with a maximum of 24 pounds net explosive weight within a designated detonation point (a cleared area set back from roads and supporting facilities).

Aviation activities would use live munitions from machine guns and rockets and delivery of inert aviation ordnance at targets within the High Hazard Impact Area as part of Offensive Air Support Range and Close Air Support Range training. Additionally, artillery would be fired indirectly at the High Hazard Impact Area from Field Indirect Fire Range firing positions throughout the RTA. (DEIS, 2-62)

Proposed Range Complex B is located entirely outside the North Field NHLD Boundary as it is currently defined and immediately south of Complex A; however as indicated in the DEIS, there are

at least nine historic properties located within the area proposed for Complex B . Five of the nine historic properties appear to be associated with the significance of the NHLD and could fall into the Navy's *Likely Contributing to NHLD* category.

Range Complex B Activities as Described in the DEIS

> *The proposed Range Complex B would include six ground ranges: the Combat Pistol Range; Anti-Armor Tracking Range; Tank/Fighting Vehicle Stationary Target Range; Battle Sight Zero Range; Multi-Purpose Training Range; and the Tank/Fighting Vehicle Multi-Purpose Range Complex. The Combat Pistol Range and the Battle Sight Zero Range would each include construction of 13 foot (4 meter) high earthen berms, and a 20-foot (6-meter) high impact berm would be constructed at the Multi-Purpose Training Range. Within Range Complex B, ground disturbance associated with construction would include interior roadways and target firing points and targets. (DEIS, 2-56)*
>
> *The primary emphasis of Range Complex B would be to conduct live-fire vehicle-mounted (e.g., tanks, fighting vehicles) training. Personnel in vehicles would move to firing points and using the lines of sight they would practice firing at stationary and moving targets (i.e., target objectives). Although not the primary purpose for this range complex, personnel would maneuver on foot within the range complex in squads. This type of foot maneuvering differs from that within the Infantry Platoon Battle Course (Range Complex C) which occurs in larger groups (i.e., platoon level).*

Training at all of the ranges with the exception of the Combat Pistol and Battle Sight Zero ranges would include the use of rifles, machine guns, as well as grenade and rocket launchers. "Munitions at those ranges would include live munitions as well as inert grenades, rockets, and 60 millimeter and 81 millimeter mortars. (DEIS 2-68)

Proposed Range Complex C is located entirely outside the boundary of the North Field NHLD boundary as it is currently defined and to the West of Complexes A & B; however as indicated in the DEIS, there are at least fourteen historic properties located in the area proposed for Complex C . Nine of these fourteen historic properties appear to be associated with the significance of the NHLD and could fall into the Navy's *Likely Contributing to NHLD* category.

Range Complex C Activities as Described in the DEIS

> *Range Complex C includes four ground ranges: the Multi-Purpose Automated Unknown Distance Range; Field Fire Range; Infantry Platoon Battle Course; and Urban Assault Course. Within Range Complex C, interior roadways and objective areas would require ground disturbance associated with construction. In addition, approximately 20 temporary one-story roofless structures would be installed as part of the proposed Urban Assault Course and a 26-32 foot (8-10 meter) high no impact berm is required for the Multi-Purpose Automated Unknown Distance Range. (DEIS,2-58)*
>
> *The primary emphasis of Range Complex C would be the live-fire training activities associated with the Infantry Platoon Battle Course and the Urban Assault Course. Training activities at the Infantry Platoon Battle Course, and Urban Assault Courses would involve personnel moving primarily on foot to target objective areas employing live munitions for*

rifles and inert munitions for grenade and rocket launchers. The two smaller ranges (e.g., Multi-Purpose Automated Unknown Distance Range and Field Fire Range) would be stationary and co-located in the complex to maximize space efficiency. (DEIS, 2-68)

Simulated aviation training would occur within Range Complex C but it would not involve firing of weapons. This type of aviation training involves the flight patterns used for live-fire munitions delivery, but without the release or delivery of munitions. Attack helicopters and fixed-wing aircraft (jets) would perform these "dry-runs" to provide ground-based tactical air controllers air-ground coordination training. (DEIS, 2-68)

Proposed Range Complex D is located completely within the North Field NHLD boundary as it is currently defined and is located to the north of the three other range complexes. Runways, hardstands and taxiways identified as contributors in the existing NHL nomination are located within the proposed area for Range Complex D. Sub-Service Aprons and the 121st Construction Battalion Service Area (TN-6-0426) also are located within that area and are properties identified by the Navy as *likely contributing* to the NHLD. (Reference Documents, 45-46). The Battleline (TN-5-0936) also is located within the Complex D area and appears to be associated with the significance of the NHLD and could fall into the Navy's *Likely Contributing to NHLD* category**.**

Range Complex D Activities as Described in the DEIS

Range Complex D would include: an aviation Drop Zone; an aviation Landing Zone (i.e., existing cleared runways Able, Baker, Charlie); Unmanned Aircraft Systems Ground Station; and (4) a Forward Arming and Refueling Point. (DEIS, 2-68)

The DEIS also indicates that an Urban Assault Course and Battle Area Complex also could be included in Range Complex D and located within the NHLD under ALT 1 and 2 (See MAP 2.4-22 on page 2-93).

Training within Range Complex D emphasizes both aviation training and ground training. Aviation training would occur within a Drop Zone, a Landing Zone, an Unmanned Aircraft Systems Ground Station, and a Forward Arming and Refueling Point. Aviation training would include takeoff and landing practice for fixed wing, helicopters, tilt-rotor aircraft, and unmanned aircraft (i.e., drones), drop (parachute) of personnel/cargo/equipment, aircraft refueling, and aviation command and control. (DEIS, 2-68) Battle Area Complex construction improvements would include target objectives and lines of sight. In addition, approximately 20 one-story, roofless structures related to the Urban Assault Course (included as the final objective of the Battle Area Complex) would be constructed. The addition of the northern Battle Area Complex inclusive of the Urban Assault Course creates approximately 22 acres (9 hectares) of impervious surface. (DEIS, 2-92)

Training using Landing Zones would involve fixed wing, helicopters, tilt-rotor, and unmanned aircraft landing and taking off at existing (cleared) North Field runways (e.g., Baker, Charlie and Dog). In addition, five smaller designated Landing Zones at Pina (south of Unai Masalok), base camp, east of base camp, within Range Complex C, and north of Range Complex C would involve helicopters and tilt-rotor aircraft landing and

taking off. Landing Zone training is non-live-fire and no aviation munitions would be employed (including blanks). (DEIS, 2-70)

Aviation Landing Zones (Training Assets and Support Facilities Outside of the Range Complexes) – DEIS does not identify any aviation Landing Zones within the NHLD that are outside the Range Complex D as described above.

Observation Posts (Training Assets and Support Facilities Outside of the Range Complexes) – DEIS identifies one observation post located within the NHLD in Range Complex D; three additional posts are located close to the NHLD boundary, to the south. The observation post located in the NHLD is 50 feet tall centered on a 50' x 50' cleared area.

Observation Posts within the Military Lease Area would allow personnel to observe operations in the high hazard impact area and monitor ordnance scoring and detonation. (DEIS, 2-70)

Tactical Amphibious Landing Beaches (Training Assets and Support Facilities Outside of the Range Complexes) –DEIS shows three landing beaches located within the NHLD. The Navy has proposed using, Unai Lam Lam for small boat and swimmer training, Unai Babui Beach for Landing Craft Air Cushion vessels, small boat, and swimmer training and Unai Chulu Beach as an Amphibious Assault Landing Beach in addition to Craft Air Cushion vessels, small boat, and swimmer training. The Amphibious Assault Training proposal for Unai Chulu includes construction of an underwater ramp approximately 656 feet long, with an average width of 160 feet. Other additional support construction including sheetpile causeways and tracked vehicle pathways also would occur at Unai Chulu as part of the proposed training. Unai Chulu and Unai Babui also known as White Beach 1 and White Beach 2 were the US Military invasion landing beaches in 1944 and are identified contributors to the NHLD in the North Field NHL nomination. Additional NHLD contributors located in the proposed Assault Beach area include a pill boxe and bunkers. A second pillbox, which the Navy has identified as "Likely Contributing" to the NHLD, the Unai Chulu Latte Complex and the Unai Chulu Beach Traditional Cultural Property also are located in the area proposed for the Amphibious Assault Landing Beach. Additional amphibious training will occur at Unai Masalok, which is located outside the boundary of the NHL.

<u>Tactical Amphibious Training Activities as Described in the DEIS</u>

Tactical amphibious training would involve the use of Amphibious Assault Vehicles (at Unai Chulu), where *vehicles would come ashore and use military roads to gain access to the Tracked Vehicle Driver's Course . . . Landing Craft Air Cushion vessels (at Unai Babui, Unai Chulu, and Unai Masalok) . . . would come ashore or near shore, offload personnel, equipment and vehicles, and personnel would move either on foot or by vehicle to training facilities within the RTA . . . small boats (e.g., inflatable Rubber Raiding Craft) and combat swimmers (at Unai Babui, Unai Chulu, Unai Lam Lam, and Unai Masalok) . . . would come ashore and move either on foot or by vehicle to training facilities within the RTA.* (DEIS, 2-70)

Maneuver Area (Amphibious Forces) would involve personnel driving Amphibious Assault Vehicles from designated amphibious training beaches to engage in training

within the RTA. Tracked vehicles would travel only along the Tracked Vehicle Drivers course. Furthermore, at designated amphibious training beaches, Landing Craft Air Cushion vessels would embark and/or disembark personnel and wheeled vehicles; small boats would on- and/or off-load personnel; and combat swimmers would come ashore and/or depart. Personnel and equipment would engage in training within the RTA. This training is non-live-fire which would use blank munitions to conduct force on force weapons training only when personnel and equipment are on shore. (DEIS, 2-70)

Field Artillery Indirect Firing Range Firing Positions ((Training Assets and Support Facilities Outside of the Range Complexes) – DEIS does not identify any indirect firing positions within the NHLD boundary as it is currently defined; however the three firing positions are located north along the shore north of the NHLD and the path of travel for the live rounds fired from these positions crosses the entire width of the NHLD.

Field Artillery Indirect Fire Range Activities as Described in the DEIS

Field Artillery Indirect Fire Range would involve personnel firing live rounds (such as 120 millimeter mortar and 155 millimeter high explosive) from ten designated firing points (five south of Unai Masalok, two north of the base camp, and three east of Ushi Point) into the High Hazard Impact Area (Range Complex A). (DEIS, 2-68)

As noted above, the High Hazard Impact Area overlaps with the southern portion of the NHLD.

Convoy Course (Training Assets and Support Facilities Outside of the Range Complexes) – DEIS shows approximately five and one quarter miles of the convoy course within/on the boundary of the NHLD as currently defined; approximately 1.5 miles of this length appears to be on top of or immediately adjacent to Runway Able. Two of the convoy engagement areas also are located within the NHLD.

Convoy Course construction would involve ground disturbance of the designated course and engagement areas under all action alternatives and course roadways within the military lease area. Military training roads are unpaved (dirt/gravel) roadways and are for military use within the Military Lease Area. These roads would be designed with one travel lane measuring 14.0-feet (4.3-meters) wide. Convoy Course engagement areas (492 feet [150 meters] in length) may be used as pull-outs where possible (i.e., along Riverside Drive) to allow for vehicle passing or emergency parking. No additional pullouts would be constructed. This type of roadway is not intended for use by the public. . . Although unpaved military training trails are not typically considered impervious surfaces, with frequent use and because these trails would be constructed over limestone-derived soils and rock, they will take on an impervious quality. Therefore, it is assumed that all . . . would be newly created impervious surface. (DEIS, 2-44).

Convoy Course Training Activities as Described in the DEIS

Convoy Course training would involve personnel driving vehicles in a convoy along a specific route through the Tinian RTA. The primary emphasis of this course is for vehicles (wheeled and tracked) to progress from one engagement zone to the next, firing

weapons at targets and maneuvering the vehicles. Tracked vehicles conducting convoy course training would be limited to those roads intended for tracked vehicles (i.e., Tracked Vehicle Driver's Course). (DEIS, 2-69)

Tracked Vehicle Driver's Course (Training Assets and Support Facilities Outside of the Range Complexes) – DEIS shows approximately seven miles of the Tracked Vehicle Course within/on the boundary of the NHLD as currently defined.

Tracked Vehicle Driver's Course construction would include gravel pathways largely parallel to existing and proposed roads . . . Roadway surfaces would be reinforced (e.g., with a concrete pad) at locations where cross-over travel for tracked vehicles must be accommodated..(DEIS, 2-62)

Tracked-Vehicle Training Trail (Driver's Course) is an unpaved trail composed of sealed dirt/graded surface layers and gravel base. It provides one travel lane measuring 14.0-feet (4.3-meters) wide and is best suited for handling unidirectional traffic patterns. Convoy Course engagement areas (492 feet [150 meters] in length) may be used as pull-outs where possible to allow for vehicle passing or emergency parking. No additional pull-outs would be constructed. Roadway surfaces would be reinforced (e.g., with a concrete pad) at locations where crossover travel for tracked vehicles must be accommodated. The tracked-vehicle training trail would also be used by other military vehicles within the Military Lease Area and would merge with the perimeter patrol road near the base camp. This type of roadway is not intended for use by the public. (DEIS, 2-44-2-45)

<u>Tracked Vehicle Driver's Course Training Activities as Described in the DEIS</u>

Tracked Vehicle Driver's Course training would involve personnel driving tracked vehicles (e.g., Amphibious Assault Vehicles) along designated roads or pathways. Tracked vehicles conducting convoy course training would be limited to those roads intended for tracked vehicles (i.e., Tracked Vehicle Driver's Course). Training conducted on the course is non-live-fire which would use blank munitions to conduct force on force weapons training. (DEIS, 2-69)

Surface Radar Sites (Training Assets and Support Facilities Outside of the Range Complexes)– The DEIS shows one Surface Radar Site located within the NHLD boundary as it is currently defined. Surface Radar sites would be approximately 25 to 50 foot tall towers constructed (centered) in an approximately 80 by 80 foot area cleared of vegetation. This area would be fenced and gated and inaccessible at all times. (DEIS, 2-66)

<u>Surface Radar Function as Described in the DEIS</u>

Surface Radar sites along the shoreline would monitor the surface danger zones. Through visual inspection and the use of cameras and/or a thermal imaging, the surface danger zones will be cleared and monitored prior to and during training events. Surface Radar sites 1 and 6 would include an additional camera for monitoring the surface danger zone to shore interface. (DEIS, 2-70)

Support facilities base camp, Munitions Storage Area, access roads, gates, fences, and utilities (Training Assets and Support Facilities Outside of the Range Complexes) – The Munitions Area and Base camp are located outside the boundary of the NHL and near the airport; however, some portions of fencing, gates, access roads and utilities are located within the NHLD. (DEIS, 2.41, 2-51)

Fences and Gates as Described in the EIS

According to the DEIS, *the Military Lease Area would become an active military training area that includes hazardous activity. Gates and fencing would be employed for access control and security (see Figure 2.4-6).* Two types of security fences are proposed on Tinian:

> *Chain-Link with Barbed Wire Fence and Barbed Wire Fence. The chain-link with barbed wire fence would be 7.0-feet (2.1-meters) high plus three strands of barbed wire at the top on a single extension arm. This type of chain-link fence accommodates a swinging gate. The barbed wire fence would be 4.0-feet (1.2-meters) tall with four strands of barbed wire (farm-style fence), which accommodates farm-type gates.* (DEIS, 2-49)

Where use of fencing within the NHLD is associated with a specific range complex or element of the Military Lease Area-wide Training Assets and Support Facilities Outside of the Range Complex it is noted above in each respective subsection; however there is more extensive general use of fencing and gates, that overlap with one of the major vehicular approaches to the NHLD. For that reason additional description of fencing is included here. The DEIS continues:

> *In accordance with military safety protocols and security regulations, demarcation of the boundary of the installation and access point restrictions would be constructed. Appropriate signage will be placed along boundary fencing at regular intervals. A new airport chain-link fence would be constructed along the border of the Commonwealth Ports Authority property (i.e., the airport boundary) and the Military Lease Area, separating the airport property from the Military Lease Area and proposed base camp. A new barbed wire fence would delineate the boundary to the west of the airport to the shoreline, and east of the airport to the shoreline. There would be two gates in the western perimeter fence, one of which would be at the intersection with 8th Avenue and the other at the intersection with Riverside Drive. Consistent with safety and security requirements, access to the Military Lease Area would be restricted to authorized personnel during certain training events. All access points would be either closed or manned to ensure unauthorized access does not occur during restricted times.* (DEIS, 2-49)

Roads as Described in the EIS

The DEIS indicates that the proposed Repair of Existing Roads for Public Use will occur within the boundary of the NHLD as presently defined. The repairs will include portions of Chulu Beach Road, Boston Post Road and 8th Avenue.

> *According to the DEIS, a public use roadway is a paved asphalt concrete roadway that contains two 10.0-foot (3.0-meter) wide travel lanes (one lane in each direction) with*

> *4.0-foot (1.2-meter) wide graded gravel shoulders on both sides. The typical cross section width would be 28.0 feet (8.5 meters). Public access [use] roadways provide circulation for both military and public use. . . Improvement actions include clearing overgrown vegetation and resurfacing existing roads to safely accommodate two-way traffic. . . it is assumed that no newly created impervious surface would be associated with this.* (DEIS, 2-40)

Utilities as Described in the DEIS

Both Electric and IT Utility lines cross through the North Field NHLD. The DEIS indicates that *the proposed telecommunications system for each alternative would consist of a combination of overhead pole-mounted cabling and underground conduits, manholes/handholes, and pull-boxes that would provide the site infrastructure to support government communications systems.* (DEIS, 2-52 – 2-53).

It's unclear whether the utility lines in the NHLD will be over head, underground or both.

DANGER ZONE

The North Field NHL is located completely within the Danger Zone identified in the DEIS.

Danger Zones as Described in the DEIS

> *Danger zones are established pursuant to statutory authority of the Secretary of the Army and are administered by the Army Corps of Engineers. Surface danger zones are three-dimensional areas that delineate portions of the earth's surface and the overlying airspace in which personnel and/or equipment may be endangered by ground weapons firing or detonation activities because of ricochet or fragmentation hazard.* (DEIS, 2-2)
> Also according to the DEIS, *within the surface danger zones, which are safety buffers that surround target areas and live-fire maneuver areas and would contain projectiles, fragments, debris and components resulting from the firing of weapons, the potential for direct impacts from strikes from stray rounds is extremely low. The ranges would be designed to contain live-fire inside the boundaries to minimize the potential for rounds landing outside the surface danger zones.* (DEIS N-38, 2-81)

PUBLIC ACCESS

Public Access to resources and areas located with the Military Lease area and Tinian RTA will be restricted during training activities and several areas will be permanently restricted to the public. These areas include the entire Range Complex A High Hazard Impact area, the Munitions Area; the base camp; the eight observation post areas; and the six Surface Radar areas.

Public Access as Described in the DEIS

> *Access procedures would be implemented to ensure safety and provide guidance and direction. Public access would be provided by an entry control facility or "Visitors Office along the southern boundary of the Military Lease Area. . . Entry control procedures would be applicable during training events. The entry control facility would conduct visitor processing, vehicle registration, identification checks, as well as privately-owned*

vehicle and truck inspections. Visitors would check in at the entry control facility prior to entering and upon leaving the Military Lease Area (DoN 2014d).

Public access to the Military Lease Area including the North Field National Historic Landmark, grazing lands, beaches, trails and other points of interest is a priority. Public access to the RTA would be prohibited, to varying degrees depending on training tempo, in some to all areas of the RTA during live-fire and other training events. However, public access would be allowed at times when such training events are not taking place. It is envisioned that public access to some or all areas of the RTA would occur during a couple daylight hours on a nearly daily basis. A range control facility and dedicated range scheduler would be in place to assess public access in real-time and to provide advance notice of public access dates, time frames, and areas. Range control and the scheduler would coordinate public access directly with the Tinian Mayor's Office and other interested parties, such as ranchers and entities within the tourism industry.

Summary Finding of Effect

The proposed CJMT undertaking would significantly diminish the integrity and directly adversely affect the Ushi Point, North Field, Landing Beaches (North Field) National Historic Landmark District (NHLD). Various aspects of the proposed undertaking would damage the NHLD and would alter the NHLD in ways not consistent with the Secretary of the Interior Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines. These impacts are rooted in the proposed design, location and frequency of the training and related construction.

According to the DEIS, "under the proposed action, a unit level RTA is proposed on Tinian . . . An RTA refers to live ranges, training courses, maneuver area, and associated support facilities collectively, that are located in close proximity to each other." (DEIS, 2-1) As such the proposed activities are not disparate pieces with disparate effects. The actions constitute a unified single undertaking. Similarly, as stated in the *Tinian North Field Cultural Landscape Report* (CLR), North Field is "more than a group of scattered structures, features and sites." It is composed of a series of systems and features that together create the landscape known as North Field, and while these elements appear to be "indelible marks on the land" they are finite and irreplaceable resources. The character defining features of the landscape are collectively the NHLD, and should these historic resources or elements be destroyed, the landscape would no longer exist or could no longer convey its significance.

Inventory, documentation and evaluation efforts help Federal agencies meet both their Section 110 and Section 106 responsibilities under the National Historic Preservation Act (NHPA). Knowing what types of historic properties are present on lands that they manage, where these resources are located and why they are significant allows an agency to make decisions that could minimize and avoid adverse effects. The regulatory requirement for minimizing impacts to historic properties is more stringent for National Historic Landmarks than for other National Register listed properties. In accordance with Section 110(f) of the National Historic Preservation Act, Pub. L. No. 89-665, as amended by Pub. L. No. 96-515:

> *Prior to the approval of any Federal undertaking that may directly and adversely affect any National Historic Landmark, the head of the responsible Federal agency shall to the maximum extent possible undertake such planning and actions as may be necessary to minimize harm to the landmark. The head of the Federal agency shall afford the Council a reasonable opportunity to comment with regard to the undertaking.*

Several studies have been conducted to identify, document and evaluate historic and cultural resources located in the Military Lease Area on Tinian. This includes the Tinian North Field Cultural Landscape Report (CLR), which was completed in May 2010. The purpose and intent for preparing the report is stated in the CLR Executive Summary:

> *This CLR, commissioned by Naval Facilities Engineering Command Pacific, is intended to support both the Mariana Islands Range Complex Environmental Impact Statement/Overseas Environmental Impact Statement and the*

> *Environmental Impact Statement/Overseas Environmental Impact Statement (MIRC EIS/OEIS) for the proposed relocation of the U.S. Marine Corps from Okinawa to Guam. This report will document the cultural landscape and provide a framework and recommendations for its future preservation and treatment*. (CLR, NP no)

> *The purpose of this Cultural Landscape Report (CLR) is to bring nationally accepted cultural landscape treatment standards to bear on activities and actions that may affect the North Field landscape; and accommodate necessary activities in ways that preserve the integrity of the landscape*. (CLR, 1-1)

The CLR identified three different treatment zones throughout the North Field Landscape. They include an Interpretation Zone, Resource Protection Zone and Activity Mitigation Zone. The zones were meant create a guiding framework aimed at "striking a critical balance between stewardship goals and ongoing uses, including both military training and visitation/interpretation." Preservation is a priority in the Interpretation Zone. Unai Chulu, Unai Babui, the rotary at Broadway intersection where the American Memorial Hinode Memorial Shrine is located and the historic roadway that circumvents the runway area are four of the key resources included in the Interpretation Zone.

The MIRC EIS/OEIS that is mentioned in the excerpt above also was released in May 2010 and included protective measures that identified specific areas where training would be constrained to varying degrees. Four constraint categories were identified: Limited Training Areas-No Cultural Resource Disturbance (NCRD); Limited Training Area-No Wildlife Disturbance; No Training Areas (NT)-Off Limits; and Pyrotechnics and fires permitted on pavement. These designations are defined as follows in the MIRC EIS/OEIS:

> *NT areas designate complete avoidance with no training exercises. NCRD areas indicate limited military training activities with no vehicular travel off-road, no pyrotechnic, no demolition, and no digging without prior written approval from the USCINCPAC REP*.(MIRC EIS/OEIS, 3.13-30)

These training constraint areas were mapped and agreed upon by consulting parties to the MIRC PA, including the SHPO, CNMI HPO, ACHP, and the NPS. The map also was included in the Final MIRC EIS/OEIS. Within the North Field NHLD, Unai Chulu and Lake Hagoi are located in No Training Areas; swaths of land in the western portion of the NHLD, including Unai Babui and a swath in the southern portion of the NHLD were identified as Limited Training Areas; and the North Field runways and taxi ways were identified as areas where Pyrotechnics and fires were permitted. (Note that pyrotechnics and fires on the runways and taxi ways are not proposed under CJMT)

Given the geographic overlap of the Area of Potential Effect on Tinian for the MIRC and CJMT, the proposed CMJT alternatives should have been informed by the findings and recommendations of the CLR and the resource protection considerations adopted by the MIRC. This clearly did not occur in a meaningful way. Not only are the training constraint area designations and CLR recommendations seemingly ignored by the CJMT proposed undertaking,

some of the most significant impacts to historic and cultural resources would occur in training constraint areas, the Interpretation Zone and/or would result from actions that go against CLR recommendations. In describing the cumulative impacts from the CJMT proposal the following assessment is made in DEIS:

> *Significant impacts would primarily be related to the direct disturbance of historic properties resulting from construction activities or by operations relating to the use of the High Hazard Impact Area and tactical amphibious training.* (DEIS, 5-57).

> *The impacted historic properties include: North Field National Historic Landmark; Pre-Contact latte sites, pottery scatters, and rock shelters; pre-World War II Japanese farms and shrines; and World War II-era Japanese and American military sites. . . Construction of a Surface Radar site at Unai Babui and near Unai Dankulo would have a significant visual impact to a latte site and a potential traditional cultural property by permanently changing the setting. Disturbance or destruction of these cultural resources would further diminish the regional historic record, thus decreasing the potential of its overall research contribution. (DEIS, 5-57).*

The High Impact Area includes areas identified as Limited Training Areas in the MIRC. Furthermore, proposed High Impact Area would permanently close and restrict access to the upper portion of Broadway, while the CLR treatment recommendations for Broadway include the following:

- Continue to maintain as main entrance point to North Field.
- Maintain shoulders in mown grass.
- Repair potholes and drainage as necessary for visitor safety.
- Maintain east lane in use.
- Retain west lane unused in place.
- Maintain linear views.

There are other examples in the proposed CJMT where CLR treatment recommendations are seemingly ignored and the training constraint areas defined in the MIRC EIS/OEIS nonexistent. It is unclear why this is so, since the agency has the responsibility to minimize harm to the NHLD to the maximum extent possible and both the CLR and the training restraint areas were developed to help protect the NHLD and other historic resources and cultural sites on Tinian.

Definition of Adverse Effect

The definition of what constitutes an adverse effect that was provided in the DEIS chapter on environmental consequences on cultural resources is not accurately stated (see DEIS, 4-328). For this reason and to convey most clearly why the undertaking will result in a significant adverse effect, it is worth quoting the Criteria of Adverse Effect in accordance with 36 CFR 800.5 (the implementing regulations for Section 106 of the NHPA) at some length. 36 CFR 800.5(1) reads:

> *An adverse effect is found when an undertaking may alter,* ***directly or indirectly****, any of the characteristics of a historic property that qualify the property for*

inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The emphasis has been added. 36 CFR 800.5(2) provides seven examples of adverse effects on historic properties that include, but are not limited to:

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Scope of the Assessment

The assessment of effect for this Section 213 report will focus on adverse effects that fall under all but two of the examples under 36 CFR 800.5(2) – i through v. The assessment of effect is followed by an assessment of the impact that the undertaking will have on the ability to interpret the NHLD as requested by the ACHP.

As previously stated in Section 1 of this 213 Report, there are several historic resources and character defining features associated with the significance of the NHLD that were not identified and evaluated in the NHL nomination. While not formally identified as contributing resources to the NHLD, they are considered to be character defining features of the historic property and are associated with the historic period and theme for which the NHLD was designated.

Subsequent surveys and documentation including two recent Navy sponsored studies have identified and documented some of these resources. The *Reference Documents for CJMT Environmental Impact Statement/Overseas Environmental Impact Statement Section 106 Consultation, September 2014* (Reference Document) characterizes these resources as "likely contributing" to the NHLD. Many of these resources are located within the existing North Field NHLD boundary; while some others are not. *The Tinian North Field Cultural Landscape Report, May 2010* (CLR) documented many of the same resources and several have been found eligible for listing on the National Register of Historic Places (Reference Document, 27-43).

The assessment of adverse effect conducted for the purpose of this Section 213 report considers the effect of the undertaking on the NHLD as it is currently defined and also includes an assessment of the effect that the undertaking would have on those resources subsequently identified in the aforementioned 2010 CLR and 2014 Reference Document that are associated with the NHLD during the identified period of significance. These other resources both from within and outside of the current boundaries collectively contribute to our understanding of the National Landmark and damage to these will in turn damage the integrity of the overall NHL, both directly and indirectly.

The detailed assessment that follows is presented geographically focusing on the major components of the undertaking in that specific location. In each subsection the effect on the NHLD will be presented first, followed by discussion of the effect on subsequently identified resources associated with the NHLD. The assessment, in some instances, also discusses the impacts that the proposed undertaking would have on cultural properties not directly associated with the NHLD. This detailed assessment is followed by a concluding restatement of the effect that the proposed CJMT will have on the NHLD as a whole.

Detailed Assessment of Effect

Proposed construction and operations that are part of Range Complex A, Range Complex D the Amphibious Assault Landing Beaches, Observation Towers, Convoy Drivers Course and the Tracked Vehicle Course would diminish the integrity of NHLD and significantly adversely affect landmark in ways defined under examples i through v, 36 CFR 800.5(2).

<u>Range Complex A and Observation Tower (south portion of the NHLD)</u>

As previously stated in the Section 2 of this report, Range Complex A overlaps with the southern portion of the North Field NHLD. The proposed construction for Range Complex A, and the operations proposed for inside this area would adversely affect the NHLD because a portion of the district would be damaged and the NHLD would be altered in a way not in accordance with the Secretary of Interior Standards and Guidelines, impacting the integrity of the landmark. Additionally, the construction and operations in Range Complex A change physical features of the NHLD and introduce visual elements that diminish the integrity the landmark and associated features that would adversely affect the Landmark.

The proposed ground range and targets, which include construction of throwing pits with six foot high earthen berms, and impacts from live munitions would damage and adversely affect the NHLD. Additionally, the proposed perimeter road and barbed-wire fence that would surround the entire Range Complex A cuts through the most southerly portion of the NHLD, effectively

severing this area from the rest of the district. Both the construction of this segment of perimeter road and fence as well as the division that would be created within the NHLD would adversely affect the landmark.

The southern border of the North Field NHLD is defined by Lennox Avenue/116th Street, Boston Post Road and the north edge of the roundabout where the two roads meet. The Hinode Memorial Shrine mentioned above is located in the center of the roundabout. The DEIS characterizes this point of circulation convergence as "an entrance to the North Field National Historic Landmark and a contributing feature to the cultural landscape." (Technical Report Appendix N, N-24) The CLR identifies the rotary [meaning the actual roadway] and the other primary historic roads as character defining to the Northfield Cultural Landscape; however, not likely contributors to the NHLD. (CLR, 4-47 – 4-52). This assessment needs further evaluation given the importance of circulation within any military installation and the date of these circulation structures.[1]

It is worth noting that when the National Park System Advisory Board first recommended NHL designation for Tinian Landing Beaches, Ushi Point Field, and North Field on Tinian Island (October, 1984) the East Rotary was included in the NHLD as were other lands not currently included in the NHL boundary. Navy opposition to the amount of land within an active Military Installation included in the boundary led the Advisory Board to postpone their request that the Secretary of the Interior take action on their recommendation to designate the property to allow for consultation with the Navy. The NHL was finally recommended to the Secretary for approval with the smaller boundary that currently defines the NHLD.

Both the Navy's Reference Document and the CLR identify the Hinode Shrine as likely contributing to the NHLD and it is a character defining feature of the NHLD setting and landscape. (CLR, 4-47 – 4-52; Reference Documents, 45) The CLR provides a detailed description of the roundabout and the American Memorial Hinode Shrine located in the center of the area defined by the circular roadway:

> *A grassy area in the center is where the American Memorial Hinode Shrine stands. The roundabout is approximately 265 feet (81m) in diameter, and the asphalt-paved road encircling it is approximately 18 feet (5 m) wide with mown grass shoulders. Over the years, grasses may have encroached and grown atop part of the original asphalt-surfaced road prism (see Figure 3.57).* (CLR, 3-34)
>
> *The American Memorial Hinode Shrine, also known as the Hinota Shrine or Hinode Shrine, is composed of a series of terraces, steps, and low stone retaining walls forming a pedestal for a central torii gate, centered in the Broadway roundabout and facing north-south as a visual terminus at the north end of Broadway (see Figure 3.100). The structural elements of the pedestal and the bases of the torii gate are of concrete, faced in heavily mortared limestone block (see Figure 3.101). There is mortar parging on the stone paving on the pedestal*

[1] Historic roads that retain integrity to the period of significance are included as contributing in other NHL districts such as US Naval Base Pearl Harbor.

> *area and the joints are filled with grass. The wooden torii gate forming the central element of the area is no longer standing due to termite damage; pieces of the gate are lying on the ground (see Figure 3.102). The stone lantern on the southeast corner of the pedestal area is broken.* (CLR, 3-43)

Range Complex A as proposed in the DEIS would completely disrupt the primary vehicular circulation route to the NHLD, by closing the rotary, and portions of Broadway, Lennox/116th Street, Boston Post Road that fall within the proposed area of Range Complex A. The closed segments and all of Complex A would remain inaccessible to public access at all times according to the DEIS.(DEIS, 2-75, 4-336) These proposed alterations to the circulation pattern are not in keeping with Secretary Standards, furthermore the Navy sponsored CLR specifically recommended against closer of historic roadways and recommended maintaining Broadway as the main entrance to the North Field. (CLR, 5-32). While the closure is described in sections of the DEIS dealing with construction as temporary and a less than significant impact resulting in a no adverse effect (DEIS, 4-333, Technical Report Appendix N, N-24), the adverse effect resulting from the closure is acknowledged elsewhere in the document:

> *The roundabout, a portion of Broadway Avenue, which is an entrance to the North Field National Historic Landmark and a contributing feature to the cultural landscape, would be closed permanently by the use of the High Hazard Impact Area of Range Complex A. This closure would be an adverse effect to the Landmark.* (DEIS, 4-348, 4-336)

The DEIS describes the adverse effects from construction related activities associated with Range Complex A as follows:

> *Construction-related activities, such as clearing, grading, excavation, and soil removal associated with construction of a perimeter road, an access road, and target areas, would directly and adversely affect 20 historic properties (Table 6) including 3 Pre-Contact sites (1 ceramic scatter, 2 cave sites), 7 pre-World War II Japanese Administration sites, 4 World War II-era Japanese defensive sites, and 6 World War II American military sites. Two of these sites include two memorials, the Hinode American Memorial Shrine and the Nan'yo Kohatsu Kaisha (NKK) Shrine. Adverse effects would occur to eight historic properties because of the construction of fences and roads around the perimeter of the High Hazard Impact Area. Since sites in this area tend to be large and dispersed, complete avoidance is not possible.* (Technical Report Appendix N, N-24)

The North Field NHL should have been included among the historic properties identified in the excerpt above and in Table 6 of the DEIS, since portions of the proposed Range Complex A perimeter road and barbed-wire fence are located in the NHLD and would damage and adversely affect the landmark. Additionally, a small portion of the NHLD is located within the area identified for the ground ranges within the complex and as noted elsewhere in the DEIS, the area for potential ground disturbance and impact to historic properties from operations (live firing and maneuvers) includes Complex A in its entirety (see Technical Report Appendix N, N-48)]. Furthermore, as previously stated, roundabout and Hinode Shrine are character defining features

of the NHLD setting and landscape. It is not clear whether the historic resources included within the ground range and target areas could be merely damaged or possibly destroyed by impact from live fire. Proposed mitigation to relocate the Hinode Shrine and other historic resources would adversely affect the resources and the NHLD.

The proposed undertaking also includes a 50-feet tall Observation Tower within the portion of Complex A that overlaps with the NHLD. (DEIS, 2-70). Construction of the Observation Tower will further demarcate the portion of the NHL severed from the district by the perimeter road and will impact the integrity and adversely affect the NHLD.

It is clear from the assessment of effect to the NHLD identified above and the assessment of effect presented in the DEIS that the proposed Range Complex A and Observation Tower would adversely affect the North Field NHLD in a significant way due to physical damage and actions not in keeping with the Secretary of the Interior Standards and Guidelines. It also is clear that the proposed Range Complex A would significantly adversely affect multiple historic resources that likely contribute (as defined by and identified in Navy sponsored studies) to the NHLD and are character defining features of the setting and landscape.

<u>Range Complex D, Tracked Vehicle Route and Convoy Course (Central portion of the NHLD)</u>
As previously stated in the project description section of this report, the proposed Range Complex D is located entirely within the boundary of the North Field NHLD; and approximately seven miles of the proposed Tracked Vehicle Drivers Course; five miles of the Convoy Course and two Convoy Engagement Zones also are located within the North Field NHLD.

The DEIS describes the construction related adverse effects to the NHLD for Complex D as follows:

> ***Range Complex D:*** *As described in Section 2.4.1, Tinian Alternatives, ground ranges would be constructed and 20 temporary roofless structures would be installed at the Urban Assault Complex in Range Complex D. A Landing Zone, an Unmanned Aircraft Systems Ground Station, and the Forward Arming and Refueling Point would be located on existing cleared runways associated with North Field and would not require vegetation clearing or ground disturbance. The Drop Zone would be cleared of vegetation. Historic assets, such as runways and remnant structures, would be avoided during construction. However, ground disturbance from grading, grubbing, and soil removal would occur in between these assets along interior roadways and at proposed target areas. These construction-related activities would have a significant direct impact to three historic properties, all World War II American military archaeological sites. One of the properties, the North Field runways and associated surrounding areas, is a contributing feature to the North Field National Historic Landmark. Although the runways themselves would be avoided, the surrounding area would be disturbed by construction and vegetation clearing. Therefore, the Landmark would be significantly impacted by ground disturbance associated with the construction of the target areas and a portion of the Convoy Course. The vegetation clearance at*

> *the existing runways, however, is considered to be a beneficial impact as it prevents deterioration of the pavement and restores the area to its historic appearance*.(DEIS, 4-331)
>
> *During training events, foot and vehicle maneuvering would occur within range complexes, Tracked Vehicle Driver's Course, Convoy Course, maneuver areas, and roads. Vehicle traffic would be confined to established roads and trails that are designed to avoid historic properties and, therefore, would not impact historic properties*.(DEIS, 4-335)

There are additional impacts from construction and operations associated with the proposed Range Complex D, Convoy Course and Tracked Vehicle Drivers Course to consider. The use of significantly heavier vehicles more frequently on aging pavement will result in a substantial in in pavement deterioration. Navy reports for other operations have identified areas of damage to historic resources, including damage from armored fire vehicle (AFV) training on Runway Baker. During these exercises, training was halted because, "the asphalt that had already been impacted by vegetation growth over the last 60 years could not take the weight of the AFV maneuvers." (see March 13, 2013 letter from Navy to NPS SUBJ: 2012 Report on 2012 Military Exercises and Cultural Resources on Tinian) This also has been demonstrated and documented by the use of heavy vehicles at Northwest Field on Guam over the last ten years by the U.S. Air Force REDHORSE Squadron.

Figure 2.4-13 on Page 2-61 of the DEIS, identifies the entire Military Lease Area, including the NHLD, as a Maneuver Area. It is unclear whether the proposal includes armored vehicle maneuvers on any of the runways. The Convoy Course is shown in various figures throughout the DEIS as overlapping with Runway Able. Figure 2.4-12 on page 2-60 of the DEIS illustrates this most clearly since Runway Able is labeled. Light Armored Vehicles and various wheeled vehicles are identified as the possible types of vehicles that would use the Convoy Course (DEIS, 2-11) It is highly likely that armored vehicle maneuvers on any of the historic runways would cause damage and adversely affect the NHLD as demonstrated from past training and anticipated from proposed increase in training frequency.

Also of concern is the impact that repeated take –offs and landings will have on the historic runways. The intense heat and downdraft from MV 22s is well documented. The potential impact to cultural resources is not discussed in the EIS; however, it is a concern that these aircraft and perhaps others could damage the more fragile areas of the historic runways. While NPS does not have adequate information to assess this effect; we nonetheless feel it necessary to state the concern in this report and that it should be addressed.

The full effects from the Convoy Course and the Tracked Vehicle Course on historic roadways are not completely clear due to some inconsistencies in the DEIS which states in some places that the proposed Convoy Course and Tracked Vehicle Driver Course would use existing historic roadways and in other places that a gravel road would be constructed immediately adjacent to historic roadways for the Track Vehicle Driver Course and only the Convoy Course would use

existing historic roadways. The inconsistency is present in action alternatives one and two and in the Cultural Resources Technical Report Appendix N:

> *Existing roads surrounding the North Field National Historic Landmark, which are recommended as contributing features to the cultural landscape, would be improved for public access and for use by the Convoy Course and the Tracked Vehicle Driver's Course. Improvement of poorly maintained roads would be a beneficial impact to the landmark; however, grubbing and clearing associated with the construction of the roads would have an adverse effect to other historic properties.*(DEIS, 4-332 [Alt1], 4-339 [Alt2], 4-345[Alt3], N-34)
>
> *Use of historic roads associated with the North Field National Historic Landmark by convoys and other vehicles would be in keeping with existing use and would not have an adverse effect on this historic property. Tracked vehicles would use newly constructed gravel roads adjacent to the historic roads to prevent damage.* (DEIS, 4-335, 4-341, N-37)

Additionally, figures showing the vehicular courses do not clearly illustrate which approach is being proposed.[2] Either way the proposed Convoy and Tracked Vehicle Courses would cause damage to historic properties, impacting the integrity and adversely affecting the NHLD. The type and extent of the damage depends on which action is proposed. The adverse effects from constructing the Convoy Course are addressed to some degree in the excerpt above; however whether those activities may cause damage to the immediately adjacent historic roadways is not addressed nor is the effect of the proposed "improvement" to these roads. As stated in the Description and Significance Section of this report , the materiality of the historic roads has been identified as character defining in the CLR.

Also, the assessment of adverse effects in the EIS does not address tracked vehicle use of historic roadways, which is needed if this is being proposed. Given the age and condition of the historic roadways within the NHLD and demonstrated damage to Runway Baker, it is the NPS assessment that repeated tracked vehicle use will damage the resource and adversely affect the NHLD. Furthermore, the North Field CLR recommendations for treatment of historic for historic roadways included the following: "Discourage use of tracked vehicles on paving due to the damage that tracked vehicles cause to the historic paved surfaces. (CLR, 5-19). If historic roadways are "improved" as stated in the above excerpt to accommodate the Tracked Vehicle Driver Course through widening and resurfacing, then the material integrity of the roadway would be adversely affected.

A portion of the proposed Tracked Vehicle Course that is within the NHLD cuts through areas that were identified in the 2009 MIRC EIS/OEIS as No Training (NT) Areas – Off Limits and

[2] Figures 21 and 23 in Appendix F are perhaps the most detailed depictions and show the tracked vehicle and convoy courses parallel to one another and to the historic roadway in some portions of the NHL and overlapping historic roadways in other areas. Also, the delineation of the convoy course in the area of Runway Able is not clear and the course appears to be either in very close proximity to or coincides with Runway Able. (DEIS, F48, F-52)

No Cultural Resource Disturbance (NCRD)- Limited Training Areas with (see Training Constraints Map from MIRC EIS/OEIS). The portion of the Tracked Vehicle located in the NT area will be discussed further in the Tactical Assault Amphibious Landing Beach section of this report.

It is clear from the assessment of effect to the NHLD identified in this report and the assessment of effect presented in the DEIS that the proposed Range Complex D, Convoy Course and Tracked Vehicle would directly and adversely affect the North Field NHLD in a significant way due to damage, actions not in keeping with the Secretary of the Interior Standards and Guidelines, relocation of historic resources, change to physical features within the property's setting that contribute to its historic significance and introduction of visual, elements that diminish the integrity of the landmark. It also is clear that the proposed Convoy Course and Tracked Vehicle Course would adversely affect multiple historic resources that likely contribute (as defined by and identified inn Navy sponsored studies) to the NHLD. While the adverse effect is acknowledged in the DEIS as noted above, the magnitude of the effect is not.

<u>Tactical Amphibious Assault Landing Beaches, Tracked Vehicle Course and Surface Radar Sites (West portion of the NHLD)</u>

As previously stated in the project description section of this report, three Tactical Amphibious Assault Landing Beaches are proposed within the boundary of the North Field NHLD as it is currently defined. Two of those beaches, Unai Babui and Unai Chulu are the Landing Beaches, often referred to as White Beach 1 and White Beach 2 that were used by United States invading forces during WWII. The proposed Tracked Vehicle Course in these locations also is part of the operations and construction at the landing beaches. Additionally, a Surface Radar Tower is proposed at Unai Babui. The DEIS summarizes the adverse effects from construction at the proposed Tactical Amphibious Landing Beaches as follows:

> *Three historic properties at the tactical amphibious training areas would be significantly impacted by grading, excavation, and soil removal associated with road construction and heavy machinery use during construction activities, including the World War II landing beach at Unai Chulu, a traditional cultural property, and a latte site.* (DEIS, 4-332; N-28)

The significant impacts described in this excerpt would impact the integrity and adversely affect the NHLD. There are additional adverse effects to consider as well. The DEIS further identifies specific construction related impacts and adverse effects to Unai Chulu from ground disturbance associated with the use of heavy machinery on the beach and on the existing access roads, permanent changes to the setting of the beach and construction of a 656 feet long amphibious vehicle ramp. (DEIS N-34) The DEIS identifies additional impacts to the landing beach, the TCP and latte site “due to ground disturbance caused by Amphibious Assault Vehicle traffic” that would adversely affect the NHLD. (DEIS, 4-336, N-37)

Unai Babui, which also is located in the NHLD should be added to the list of resources that would be impacted by construction activities and operations activities associated with Tactical Amphibious Land Beaches and Tracked Vehicle Drivers Course. With the exception of impacts

from the ramp, it seems that the types of impacts from the Tactical Vehicle Course at Unai Chulu also would occur at Unai Babui, given that the Tracked Vehicle Course is proposed in this location as well.

Although the significance of the TCP at Unai Chulu is not associated with the significance of the NHLD, the TCP occurs within the area known as White Beach 2 and the impacts to the resource should be discussed in this report. Similarly the Latte site at Unai Babui is in the vicinity of White Beach 1 and the impacts to this site should be discussed in this report.

Unai Chulu TCP - The adverse effect to the identified TCP at Unai Chulu from construction related activities is described in the DEIS Cultural Resources Technical Memo as follows:

> *Construction of the ramp at Unai Chulu would likely cause a change in the local fish populations through a permanent loss in coral reef habitat. Some populations could decrease, while others may increase, especially those associated with coral reefs. As this shoreline is part of a potential traditional cultural property associated with fishing, this change would be an indirect adverse effect to the historic property.* (DEIS, N-45)

The draft Traditional Cultural Properties Study that was sponsored by the Navy and completed in 2014 found that, "Several locations on Tinian were identified by the Chamorro community as integral to the continuity of traditional fishing practices and associated beliefs." Unai Chulu is one of three locations on Tinian where traditional fishing practices continue to take place. (TCP Study, 6-3) The study further describes the TCP as follows:

> *The integrity of relationship between Unai Chulu and its associated traditional practices (fishing) remains intact, as the beach continues to be used by Chamorro fishermen. The character defining features of Unai Chulu are its well-developed fringing reef, easily-accessed sandy beach, relatively protected lagoon and 41 back dune coconut grove . . .At Unai Chulu, the fringing reef developed at a greater distance from the lee shore than in other such locations, while the extent of the beach is narrowly circumscribed at approximately 656 feet (200 meters) long. This setting, sheltered from prevailing trade winds, enables shallow lagoon species of fish (and shellfish) to be exploited in relative safety by net fishing. It also allows communal gathering practices, such as the capture of seasonal rabbitfish, which are prized for community fiestas. The integrity of the loose sandy beach and protected lagoon is still retained, as is its 5 back dune coconut grove that provides shaded areas to clean and redistribute the catch before consumption or transport to family and friends.* (TCP Study, 6-4 – 6-5)

The marine biology section of the DEIS Cumulative Impacts Chapter provides additional information about the impact to marine life that should be considered when assessing the effect the proposed Tactical Amphibious Assault Landing Beach would have on the integrity of the TCP. The impacts to marine life are described as follows:

> *In-water construction at Unai Chulu and operations at Unai Babui, Unai Lam Lam, and Unai Masalok would result in significant impacts to Marine Habitat*

and Essential Fish Habitat and special-status coral species. The impacts to marine biology would be similar among the Tinian proposed action alternatives.

In-water construction for Amphibious Assault Vehicle landing areas at Unai Chulu would result in permanent direct loss of coral (including special-status coral species) and habitat loss for fish and sea turtles species resulting in impacts. Construction activities would also result in impacts to fish and Essential Fish Habitat as the seafloor within this area would be modified, which are all designated as Essential Fish Habitat Area for bottom fish, crustaceans, and coral reef ecosystems. Underwater noise during in-water construction would result in disturbance to sea turtles and marine mammals; however, some impacts to would be lessened with best management practices during construction.

Operational impacts to marine biology would be related to in-water training, increased vessel traffic, landings of amphibious and small craft vehicles, operation of vessels in nearshore waters, and land-based activities. Operational activities would also result in impacts to Essential Fish Habitat by disturbing or altering the seafloor, water quality, or physical environment (e.g., underwater noise) within the approach zone or indirect effect area at the proposed tactical amphibious landing beaches.(DEIS, 5-52)

The impacts to the coral and marine life described in the marine biological assessment will directly and adversely affect the integrity of the Unai Chulu TCP in a significant way, since the practices associated with significance are directly tied to coral and marine life.

Latte Site at Unai Babui - According to the DEIS, "The Surface Radar site would be constructed within a latte site at Unai Babui." (DEIS, N-45) As proposed, Surface Radar sites, "consist of approximately 25-50 foot (8-15 meter) towers constructed (centered) in an approximately 80 by 80 area [that] will be cleared of vegetation and be fenced and gated for security." (DEIS, 2-66). The impact from the construction and permanent presence of a Surface Radar Site at Unai Babui is described as follows in the DEIS:

". . . towers associated with Surface Radar sites would be constructed within a latte site at Unai Babui. The permanent location of these towers would have an indirect adverse effect to these historic properties. (DEIS, N38-39

It does not make sense that a 25-50 foot tall tower constructed within the Latte site would be evaluated as having an indirect effect on that resource. The proposed tower and enclosing barbed wire fence will have a profound adverse effect on the latte site, both in its presence and in its construction. The tower also will have an adverse effect to the setting of the historic landing beach.

Construction and training associated with the proposed Tactical Amphibious Assault Landing Beaches, Tracked Vehicle Course and Surface Radar Sites will damage and will alter the NHLD in a manner not consistent with the Secretary's standards for the treatment of historic properties. These activities also will change physical features within the NHLDs setting that contribute to its historic significance. These impacts would significantly, adversely and directly affect the

historic and cultural resources located in the Unai Babui and Unai Chulu areas to a greater degree than stated in the DEIS

Furthermore, the proposed training at Unai Chulu and Unai Babui would occur in areas previously identify as No Training and No Cultural Resources Disturbed Areas that were agreed upon by consulting parties to the 2009 Mariana Islands Range Complex (MIRC) Programmatic Agreement (PA) and identified in the 2010 MIRC Environmental Impact Statement/Overseas Environment Impact Statement (EIS/OEIS). These same areas fall within the recommended Interpretation Zone of the CLR, which identifies preservation as a priority.

Assessment of Affects Conclusion

The detailed assessment of effect demonstrates that the volume and location of construction, operational and management activities associated with Range Complex A, Range Complex D, The Amphibious Tactical Assault Landing Beaches, Convoy Driving Course, Tracked Vehicle Course, Radar Sites, and Observation Towers would damage portions of the NHLD, would alter the property in ways not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines; would remove a portion of the property from its historic location; would change physical features within the property's setting that contribute to its historic significance; and would introduce visual, elements that diminish the integrity of the property's significant historic features. Together these impacts significantly diminish the integrity and directly adversely affect the Ushi Point, North Field, Landing Beaches National Historic Landmark District. This assessment also demonstrates that additional resources associated with the NHLD, but not currently included within the NHL boundary also would be directly adversely affect and that the Unai Chulu TCP and the Latte site at Unai Babui would be significantly, directly and adversely affected by the proposed undertaking.[3]

[3] Note: There are two additional aspects of the undertaking not discussed in the body of the report. One would adversely affect the NHLD; the other has the potential to adversely affect the NHLD. Road repairs and improvements would adversely affect the design and materials and other character defining features that differentiate roads of one era from another. There also is a threat to the NHLD from errant or misfired munitions that traverse the NHLD when launched from the firing post located at Ushi Point. The possibility of such possibilities is acknowledged by the establishment of surface Danger Zones, which are described in the DEIS as "three-dimensional areas that delineate portions of the earth's surface and the overlying airspace in which personnel and/or equipment may be endangered by ground weapons firing or detonation activities because of ricochet or fragmentation hazard." *(DEIS, 2-28)*

SECTION 4 - IMPACT on PHYSICAL INTERPRETATION

The Assessment of Effect section of this Section 213 report demonstrates that several of the key character defining features that are critical for interpreting the North Field NHLD will be damaged and altered in ways that impact the integrity of those resources, adversely affect the NHLD and threaten the landmarks ability to convey its physical character, and therefore to be interpreted and understood by the public.

As previously stated in Section 3, The CLR identified three different treatment zones throughout the North Field Landscape. They include an Interpretation Zone, Resource Protection Zone and Activity Mitigation Zone. The zones were meant create a guiding framework aimed at "striking a critical balance between stewardship goals and ongoing uses, including both military training and visitation/interpretation." The overall goal was to provide "treatment for the guidance for the long-term preservation of the cultural landscape so that its integrity is retained throughout the military lease period, and interpretive elements remain intact and available to tell the story of North Field." (CLR, 5-1) According to the CLR:

> *Goals for interpretation involve maintaining resources at North Field that are currently—or have the potential to be—used for interpretation of its history and significance.* (CLR, 5-3)
>
> *Within this zone, the priority is preservation of the resources that are key character defining features of the cultural landscape and provide opportunities for interpretation of North Field's significance to visitors*. (CLR, 5-14)

The CLR included the primary entrance point (east roundabout); American Memorial Hinde Shrine; NKK Shrine, Unai Babui, and Unai Chulu in the Interpretation Zone along with the Atomic Bomb Assembly Area, Revetment 1, Atomic Bomb Loading Apron, Japanese Air Apron, Runway Able and other resources. (CLR5-16)

The proposed volume of training and restricted public access also will impact the physical interpretation of the landmark. The CJMT proposes 20 weeks of live fire training, plus an additional 22 weeks of post and pre training per year, which constitutes a significant annual increase in training from what occurred on Tinian in the last five years. The proposed increase in frequency and intensity triggers an increase in public access restrictions. Furthermore, there is a significant amount of uncertainty as to when the public would have access that would compromise advance planning for tour groups.

The CJMT proposal will have a significant effect on access to historic resources, cultural sites and places of recreation for residents of the island and tourists. The proposed types and the location of training proposed in the CJMT would require clear demarcations of the Military Lease Area that do not currently exist. The DEIS describes the nature of the demarcations as follows:

> *In accordance with military safety protocols and security regulations, demarcation of the boundary of the installation and access point restrictions would be constructed. Appropriate signage will be placed along boundary fencing at regular intervals. A new airport chain-link fence would be constructed along*

> *the border of the Commonwealth Ports Authority property (i.e., the airport boundary) and the Military Lease Area, separating the airport property from the Military Lease Area and proposed base camp. A new barbed wire fence would delineate the boundary to the west of the airport to the shoreline, and east of the airport to the shoreline. There would be two gates in the western perimeter fence, one of which would be at the intersection with 8th Avenue and the other at the intersection with Riverside Drive. Consistent with safety and security requirements, access to the Military Lease Area would be restricted to authorized personnel during certain training events. All access points would be either closed or manned to ensure unauthorized access does not occur during restricted times.* (DEIS, 5-57—5-58)

The intermittent closures which will occur up to twenty weeks a year will adversely affect the ability to visit the historic and cultural resources and recreational sites, whether for cultural practice, recreation, tourism, or academic study and add another obstacle to interpretation. Furthermore the permanent closure of the area proposed for Complex A means that there will be no public access to the resources in this area for any purpose. The restricted access stemming from the CJMT undertaking is compounded by trainings with access restrictions that will occur under the Marianas Island Training and Testing (MITT) since, as stated in the DEIS, both actions "would impact the same geographic area . . For these reasons, there would be cumulative impacts to the availability of recreational opportunities, the condition of recreational resources, and user experience." (DEIS, 5-41)

While the public will have access to many of the resources for approximately twenty-four to twenty- six week of the year, the impact that the intermittent nature of the closures could have on access and visitation is not adequately addressed. Intermittent and irregularly scheduled restricted access can discourage use even during times when the resources are accessible. This could have a long term impact on visitation, care of and interest in the resources.

While it is true there are National Historic Landmarks located on active military installations that are not readily accessible, the point here is irrelevant. What is being assessed here is a change from nearly unlimited access to restricted access, which will have a profound effect on how the landmark is interpreted and experienced. Visitation to the landmark and recreational and cultural activities will be curtailed.

The DEIS acknowledges the significant impacts of the restricted closures in the following excerpts:

> *Access restrictions on Tinian would reduce the opportunities for Tinian residents to participate in recreational and cultural activities such as fishing, hunting, and gathering, potentially altering the way some perceive their relationships with the land and affecting the interaction within social networks. While this impact would be less than significant for the overall population it could be significant for some. (DEIS, 5-77—5-78)*

> *Similar significant impacts to recreational resources were identified for all three Tinian proposed action alternatives that are described in Section 4.8.3, Tinian. The impacts would be a result of the new public access restrictions to the Military Lease Area during training events. . .There are annual festivals that would be significantly impacted by the training events. . . Limited access to cultural sites is considered a significant impact because 10 out of 12 historic sites are within the Military Lease Area. Similarly, the limited visitor access to the Blow Hole would be a significant impact. . .The proposed action would result in significant impacts to ocean-based recreational resources, including four of the five most popular snorkeling/dive sites and popular fishing sites due to limited access. (DEIS, 5-41).*

While the EIS identifies many of the significant impacts from restricted access that will adversely affect the NHLD, visitation, cultural practices and interpretation, none of the action alternatives is designed to avoid or minimize these adverse effects This is true for most every aspect of the undertaking as it relates to cultural resources.

Introduction

CFR Part 36 § 800.10, *Special Requirements for protecting National Historic Landmarks (a) Statutory requirement*, states:

> *Section 110(f) of the act requires that the agency official, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking.*

Toward this end, we are recommending nine changes to the proposed undertaking that would result in avoiding and/or minimizing adverse effects of the proposed undertaking on the North Field NHLD. The goals are (1) to preserve the integrity of the NHLD, and (2) to avoid and minimize negative effects on heritage tourism and interpretation of the NHLD. It is our belief that the undertaking can be modified to be more compatible with the preservation and interpretation of the NHLD while still meeting goals stated in the DEIS. The greatest degree of minimizing harm would be achieved through implementation of all nine recommendations since they address the proposed undertaking as a whole. As such, they should be considered as a suite of related recommendations rather than as alternatives. Where possible, more than one approach for carrying out a recommendation has been identified. Responsibility for implementing the recommendations falls to the Department of the Navy (DON) as the lead agency.

General Recommendations

1. **Prepare an amendment, including a boundary adjustment, to the North Field NHLD nomination based on existing cultural resource documentation supplemented by additional research and site survey.** This recommendation has been made in previous cultural resource studies including the 2010 *CLR*, and in the 2011 *Programmatic Agreement for Military Relocation to Guam and the Commonwealth of the Northern Mariana Islands* (Guam Buildup PA).[1] The goal is to provide a clear, comprehensive, and up-to-date description of the NHLD including its contributing and non-contributing resources, statement of significance, character defining features, and integrity in accordance with current NHL documentation standards and guidelines. Among other benefits, an amended nomination completed in a timely fashion will aid in future planning aimed at avoiding and minimizing adverse effects on the NHLD.

2. **Revise the DEIS to include an environmentally preferred alternative that is compatible with the preservation and interpretation of the NHLD.** The primary recommended action is to develop an alternative and/or alternatives that would substantially reduce the scale, frequency, duration, and number of types of training activities currently proposed for the NHLD area and for the undertaking as a whole. The

[1] Full title: *Programmatic Agreement Among the Department of Defense, The Advisory Council on Historic Preservation, the Guam State Historic Preservation Office, and the Commonwealth of the Northern Mariana Islands State Historic Preservation Officer Regarding the Military Relocation to the Islands of Guam and Tinian* (Guam Buildup PA), March 9, 2011: 28.

goals are: (1) to avoid and minimize harm to the NHLD; and (2) to avoid and minimize negative effects on tourism and interpretation of the NHLD.

3. **Prepare and implement a preservation plan with NPS and stakeholder involvement based on existing cultural resource documentation, consultation, and undertaking needs.** We recommend using the recommendations and treatment guidelines in the 2010 *Tinian North Field CLR* as a basis for preservation planning. We also recommend that the DON hire a preservation manager and support staff to ensure that objectives outlined in this report and other objectives identified in existing and subsequent programmatic agreements are met during the planning, construction, and operational phases of the proposed undertaking. Among other duties, this person and/or persons would be responsible for ensuring that appropriate measures are taken to avoid and minimize adverse effects to the NHLD and associated resources *prior to* the initiation of any actions of the proposed undertaking. We further recommend that this person and/or persons ensure appropriate handling of any artifacts discovered during proposed undertaking activities according to statutory guidelines and any additional agreed upon requirements. The goals are: (1) to preserve the integrity of the NHLD; (2) to improve public access to the NHLD; (3) to improve documentation of associated resources; and (4) to ensure that, over its entire duration, the proposed undertaking remains compatible with the preservation and interpretation of the NHLD.

4. **Ensure that areas of the NHLD and adjacent areas that are currently accessible to the public remain accessible for the greatest amount of time possible.** This can be achieved, in part, by meeting other recommendations in this report. We also recommend that it be specifically addressed in the revisions to the DEIS proposed in Recommendation 2. The goals are: (1) to limit restrictions on direct public access to the NHLD area that will negatively affect tourism and interpretation, and (2) to preserve the integrity of the NHLD. We also recommend dissemination of a schedule of restrictions on public access to the NHLD at regular intervals and within an agreed upon time frame in advance of any closure. The purpose is to further minimize negative impacts on tourism and interpretation of the NHLD.

5. **Prepare and implement an interpretive plan with NPS and stakeholder involvement based on existing cultural resource documentation, consultation, and undertaking needs.** The plan can be developed in connection with the preservation plan outlined in Recommendation 3 and implemented by staff under the preservation manager described in Recommendation 3a. It can also be developed in connection with preparation of an NHLD amendment as outlined in Recommendation 1. We further recommend incorporating recommendations for interpretation outlined in the 2010 *CLR* and in previous agreement documents including the 2011 Guam Buildup PA. The intent is to minimize negative impacts on tourism and interpretation by generating increased public interest in and engagement with the NHLD.

<u>Recommendations addressing specific elements of the proposed undertaking</u>

6. **Relocate and/or significantly reduce Range Complex A, the High Hazard Impact Area, which overlaps with the current NHLD boundary and which contains numerous NHLD associated resources and character defining features.** The goals are: (1) to preserve a unique portion of the historic landscape that contributes to the NHLD's overall significance and integrity; and (2) to ensure that the area remains open for public access and interpretation to the maximum extent possible. We recommend that the DON provide an alternative that would:

    a. *Avoid or substantially minimize damage caused by the impact and/or detonation of ordnance and other activities associated with live-fire training on NHLD associated resources and character defining features located in the proposed High Hazard Impact Area.* Special attention should be given to: the American Memorial Hinode Shrine, Broadway Avenue and the Broadway roundabout, the NKK Shrine, the Okinawan Farm House Remains, historic plantings, and Japanese defensive fortifications, rock shelters, and modified cave systems associated with the US invasion.

    b. *Avoid or substantially minimize potential risks of resource damage resulting from inadvertent impacts of ordnance on NHLD associated resource located outside the designated High Hazard Impact Area*. As noted in Part 3, the DEIS does not specifically address these types of impacts.

    c. *Preserve public access to Broadway Avenue, the Broadway roundabout, and the NKK Shrine.* The Broadway roundabout has been described in Navy sponsored cultural resource documentation as the primary entry to the airfield. The NKK Shrine forms part of the historic setting of the NHLD and is a significant tourist site. Keeping these areas open to the public would minimize negative impacts on tourism and allow for a more complete and nuanced interpretation of the events and experiences that define the significance of the NHLD.

    d. *Avoid or substantially minimize new construction associated with live-fire training within the present NHLD and adjacent areas containing NHLD associated resources and character defining features.* This includes fencing and gates, utility lines, observation posts, surface radar sites, and mortar and artillery firing positions that would diminish the NHLD's integrity of setting, materials, association, and feeling. We further recommend substantially limiting new construction outside the NHLD area that would obstruct historic character defining viewsheds. This includes fencing, observation towers, and mortar firing positions in Range Complex A, and artillery firing positions and surface radars proposed for the northeastern tip of the island.

7. **Eliminate or significantly reduce proposed new construction associated with ground combat and aviation training activities in Range Complex D.** The purpose is to preserve the NHLD's present high degree of integrity of setting, materials, feeling and association which, as noted in Part 1, derives in large part from the absence of any substantial development post-dating the period of significance. Compatible adaptive reuse of existing ruins, airfield and road surfaces, and landscape features for training purposes may be an acceptable alternative, provided it does not harm the qualifying characteristics of the NHLD and conforms to the Secretary of Interior's Standards for the treatment of Historic Properties. We further recommend that no storage of construction materials, supplies, and equipment associated with the training occurs within the NHLD or adjacent areas containing associated resources.

8. **Eliminate the proposed amphibious landing plan or modify it to avoid or substantially minimize adverse effects on the two NHLD contributing landing beaches, Unai Chulu and Unai Babui.** The purpose is to avoid or significantly minimize adverse effects on the beaches, the offshore reefs, and the bordering inland terraces. We specifically recommend that the DON eliminate the proposal for an underwater tactical amphibious beach landing ramp at Unai Chulu. This is necessary to prevent a significant adverse effect on a core contributing resource to the NHLD. The proposed pile-armored ramp would also adversely affect characteristics that qualify the Unai Chulu beach and coral reef as a potential Traditional Cultural Property (TCP) associated with traditional Chamorro fishing practices. Construction and use of the ramp would also limit public access and likely detract from the recreational appeal of the presently undeveloped beach, creating significant negative effects on the local tourism economy and interpretation of the NHLD. We also recommend eliminating the proposal to construct a surface radar site within the *latte* site at Unai Babui. In addition to avoiding a major adverse impact on a national register eligible archeological site, this would also avoid introduction of a visual element that would substantially diminish the integrity of the NHLD.

9. **Modify the proposed Convoy and Tracked Vehicle Driver's Courses to ensure that historic airfield and road surfaces, circulation patterns, viewsheds and other NHLD associated resources and character defining features are preserved in their present condition to the maximum extent possible.** This involves avoiding or substantially minimizing construction of new roads and tracked vehicle surfaces within the NHLD and in adjacent areas that contain associated resources. The preferred action would be to locate the courses entirely outside the NHLD and adjacent areas that contain associated resources and character defining features. The purpose is to avoid or substantially minimize adverse effects on character defining features and integrity of setting, materials, feeling, and association. Compatible adaptive reuse of historic road and airfield surfaces may be an acceptable alternative, provided it does not harm the qualifying characteristics of the NHLD and conforms to the Secretary of Interior's Standard for the Treatment of Historic Properties.

APPENDIX A: PHOTOS & MAPS for SECTION 1

Location Map (*CLR*, 1-6.)

Tinian North Field, aerial view from the north, December 1944

APPENDIX A: PHOTOS & MAPS for SECTION 1

Tinian North Field, existing conditions, landscape overview (*CLR*, 3-7).

North Field, aerial view from the east, 2008. Runway Able is the most clearly visible airfield surface on the right. The *Enola Gay* and *Bockstar* took off from this runway on their missions to deploy the atomic bombs (*CLR*, 4-19).

Character defining view down Runway Able, facing west (*CLR*, 3-27).

Atomic Bomb Loading Pit with non-historic protective glass structure (*CLR*, 3-43).

Atomic bomb loading apron. Loading pit protective glass structures are visible on the right and left. The NHL marker is also visible in the center, backed by an area of non-historic ornamental plantings (*CLR*, 4-19).

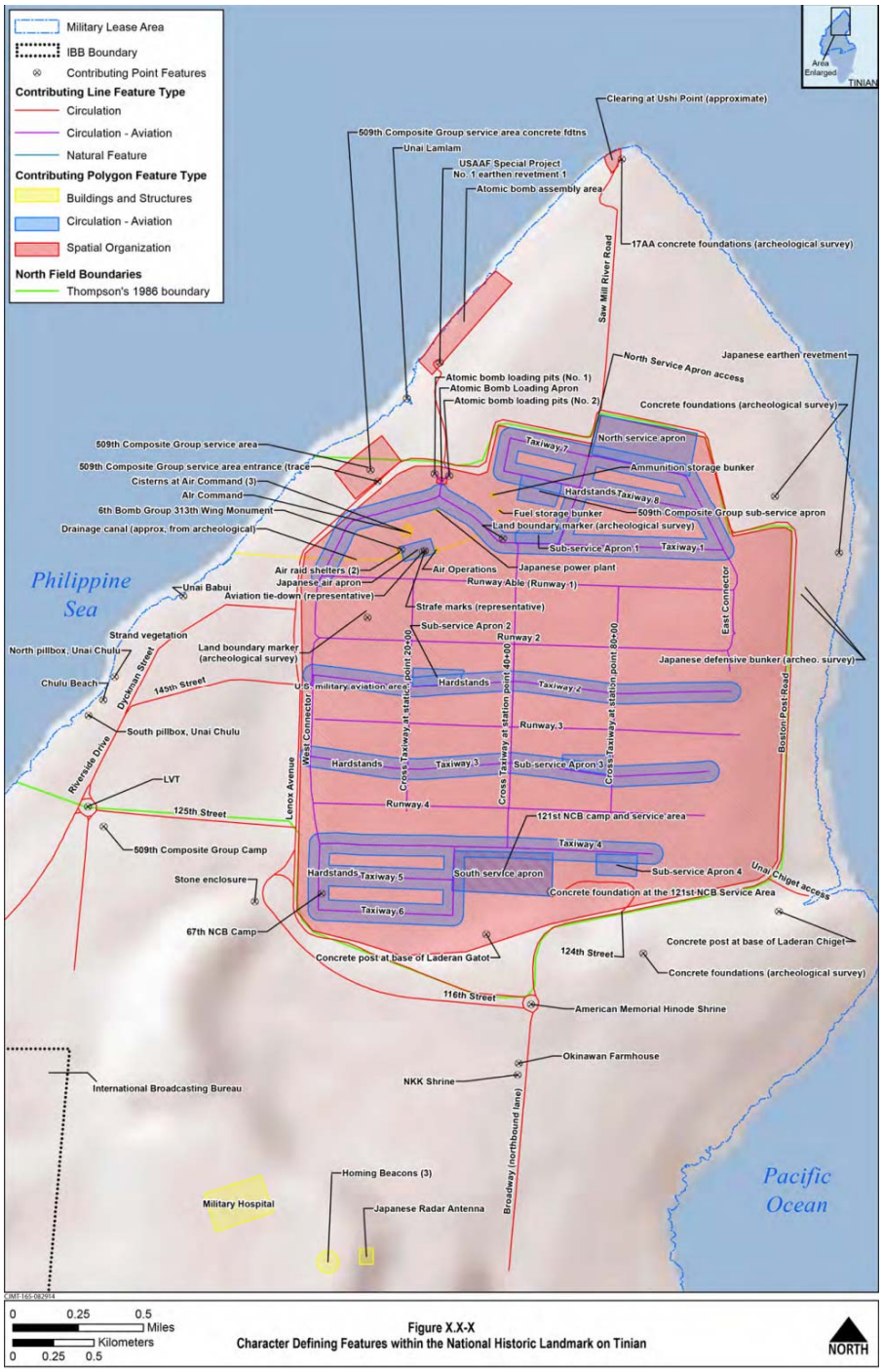
Japanese air raid shelters on the Japanese air apron. Character defining strafe marks are visible (*CLR*, 3-40).

Example of a Quonset hut foundation covered with vegetation, at the site of the 121st NCB Group Service Area (*CLR*, 3-44).

North Field as of 1946. Red line (added) is the NHLD boundary (approximate). Note the extent of US military development outside the boundary line (*CLR*, 2-39).

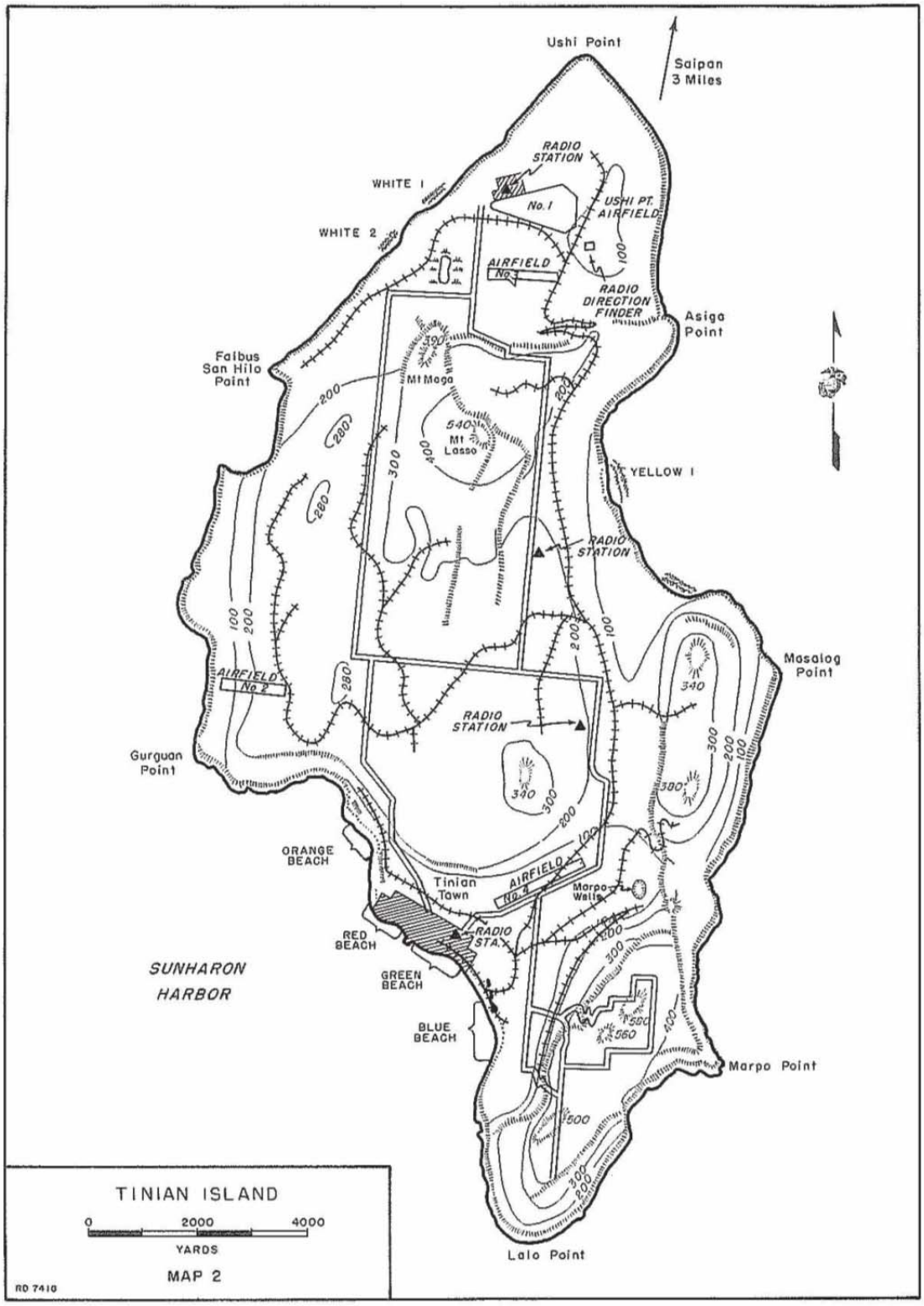
509th Composite Group Camp, 1945 (*CLR*, 2-50)

Japanese earthen revetment outside the eastern boundary of the NHLD (*CLR*, 3-44).

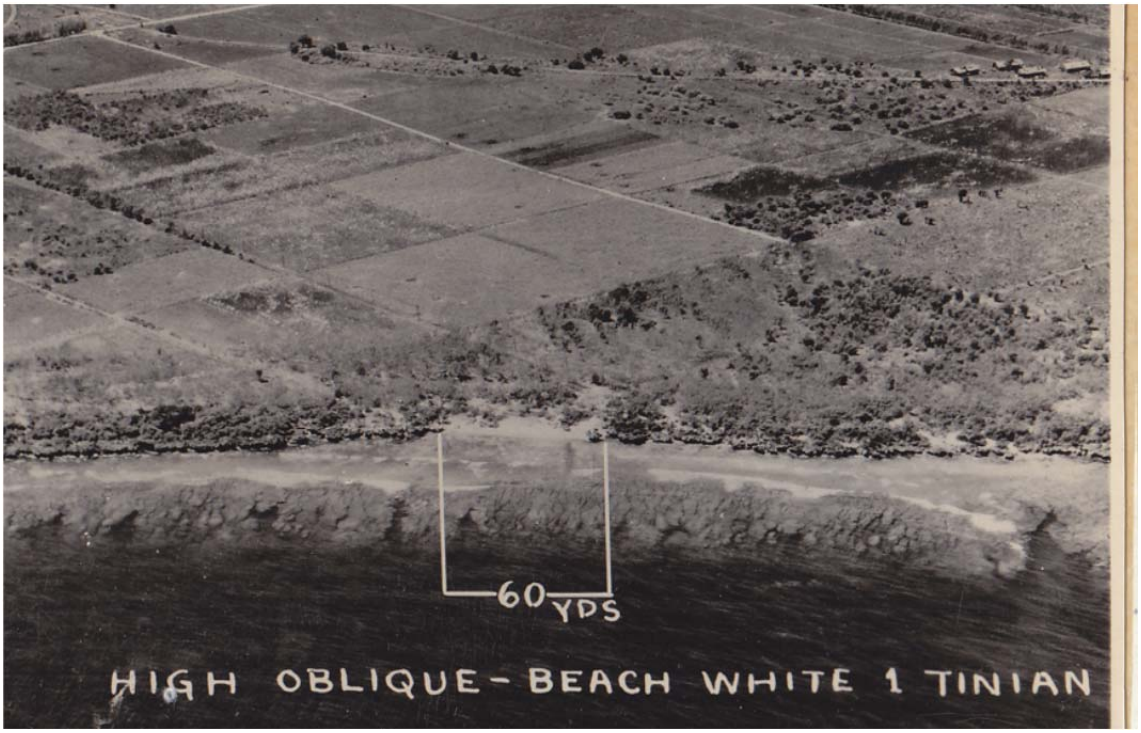


Map of "Character Defining Features within the National Historic Landmark on Tinian" showing the location of resources defined as "contributing point features" for the purpose of Section 106 consultation. Note that some non-military features dating to the Japanese colonial period are identified including the NKK Shrine and the Okinawan farmhouse remains, both of which are located within the proposed Range Complex A/ High Hazard Impact Area. (*Reference Documents for Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/ Overseas Environmental Impact Statement, Section 106 Consultation*, 44.

1944 US aerial reconnaissance photo of northern Tinian, depicting approximately the conditions that existed at the time of the US invasion. “Coffin-shaped” Ushi Point Airfield is visible on the left. Note the extent of the sugar cane plantings, the grid patterned agricultural land divisions, and the road network. The forested limestone ridgeline which later served as an important Japanese defensive position during the invasion is also clearly visible. (*CLR*, 4-16).



Japanese infrastructure prior to the US invasion. Note the grid pattern of roads. (*CLR*, 2-26)



Unai Babui (White Beach 1) prior to the US invasion, February 1944. Note the agricultural grid field pattern, and the lack of development or visible defensive fortifications at the beach. (*CLR*, 2-30.)

Unai Babui (White Beach 1), 2009. The rocky character of the beach is similar to the character at the time of the 1944 invasion. (*CLR*, 4-20)

Unai Chulu (White Beach 2) prior to the US invasion, February 1944. Note the lack of development or visible defensive fortifications. (http://web.mst.edu/~rogersda/umrcourses/ge342/Tinian%20Island.pdf)

Unai Chulu (White Beach 2), looking north, 2009. Although some narrowing of the beach has occurred due to regrowth of strand vegetation, the beach and offshore reef retain a high degree of integrity from the historic period (*CLR*, 4-20).

Character defining strafe marks on the Japanese air apron (*CLR*, 3-30)

Character defining concrete covers on Japanese drainage canal, on the edge of the Japanese air apron (*CLR*, 3-43).

NKK Shinto Shrine *torii*. Note the mature flame trees (*CLR*, 3-45)

Character defining Kapock Trees along Dyckman Street (*CLR*, 3-52)

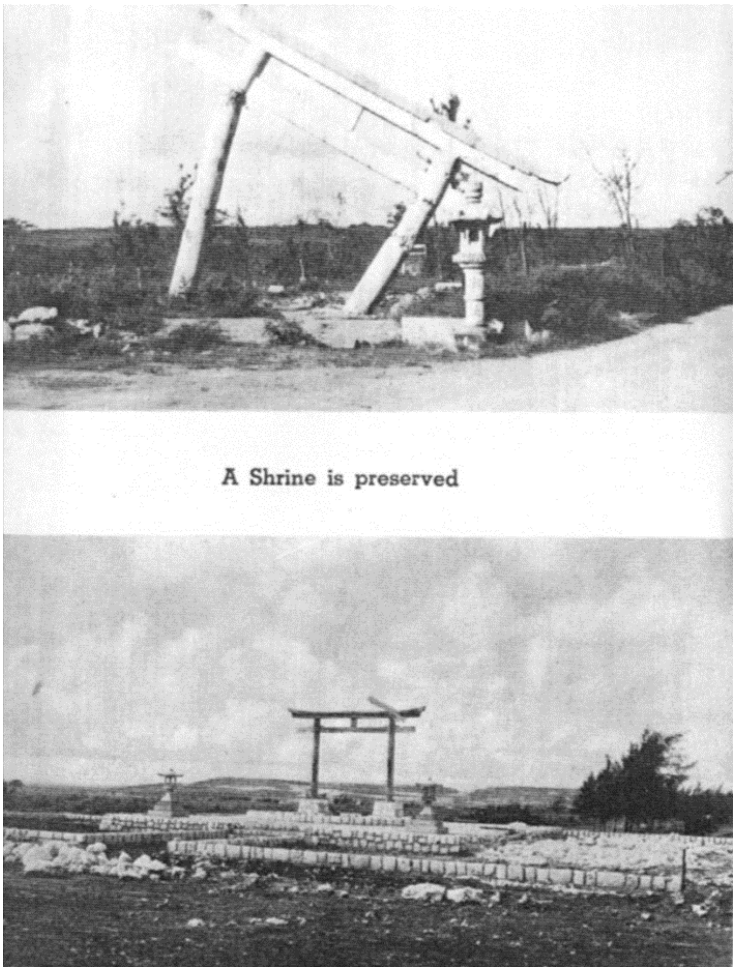
Landing Vehicle Tracked (LVT) in the Eighth Avenue Roundabout (*CLR*, 3-52)

View toward historic quarry (Pit # 15). Quarries are heavily concealed by vegetation and are difficult to discern from the ground and the air (*CLR*, 3-55).

Character defining view down Broadway, facing north (*CLR*, 3-32).

View of North Field, likely from Mount Lasso with Saipan visible in the distance, undated but likely before 1945 (*CLR*, 4-36).

Character defining view from the summit of Mount Lasso, facing north, with Saipan visible in the distance. Note that while non-historic vegetation partially obscures the view, no non-historic development is visible (*CLR*, 3-57).



These photos depict the American Memorial Hinode Shrine shortly after the invasion and then later, after it was relocated, rebuilt, and reconfigured by the 13th Seabees. (*CLR*, 4-27).

American Memorial Hinode Shrine, 2009. Although the *torii* is no longer extant, the site retains a high degree of integrity from the historic period (*CLR*, 4-27)

Japanese Air Administration Building in 1944 shortly after the US invasion (*CLR*, 4-28)

Japanese Air Administration Building, 2009. Note the similarity to the 1944 appearance (*CLR*, 4-28)

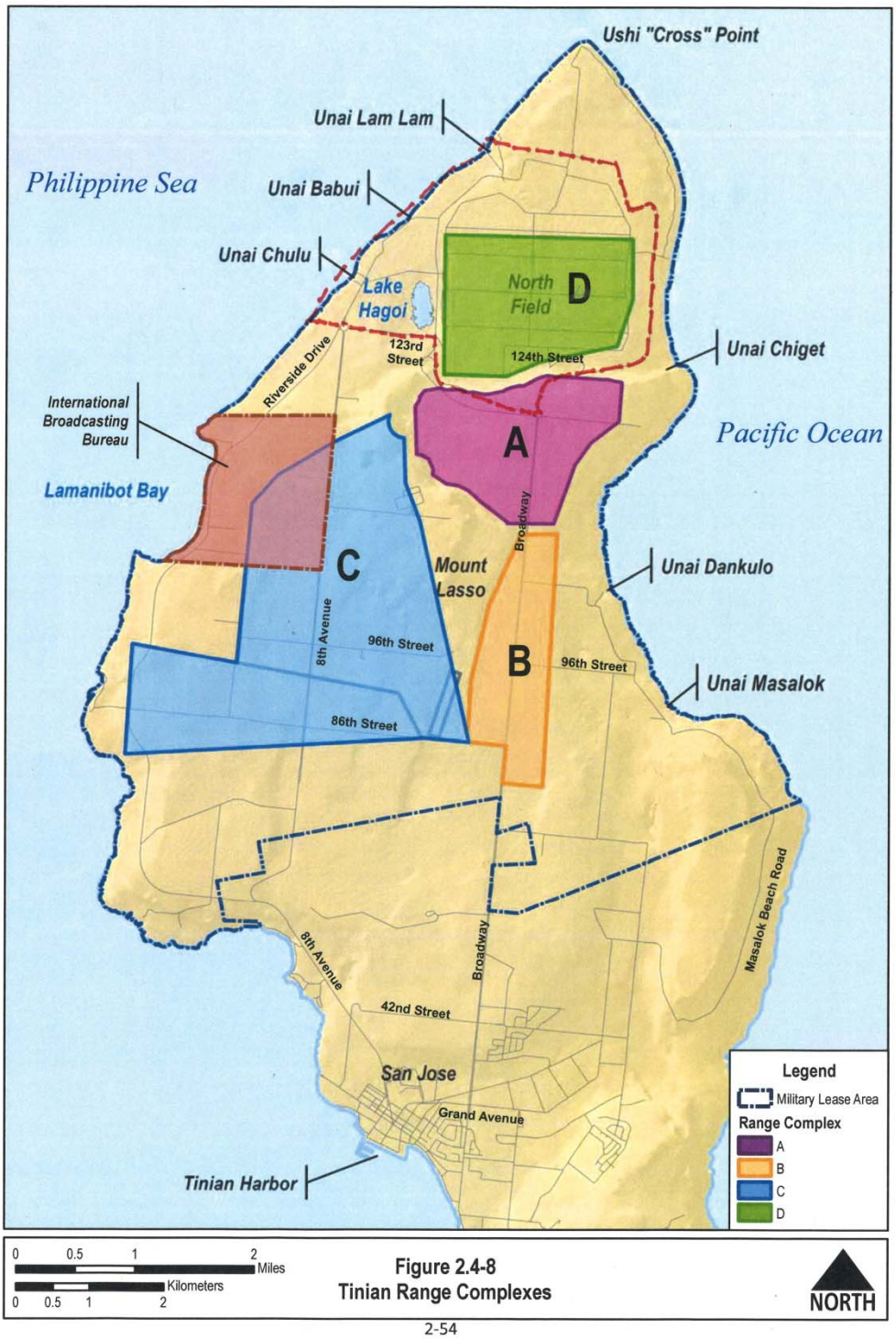


Figure 2.4-8
Tinian Range Complexes

2-54

NHL Boundary

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

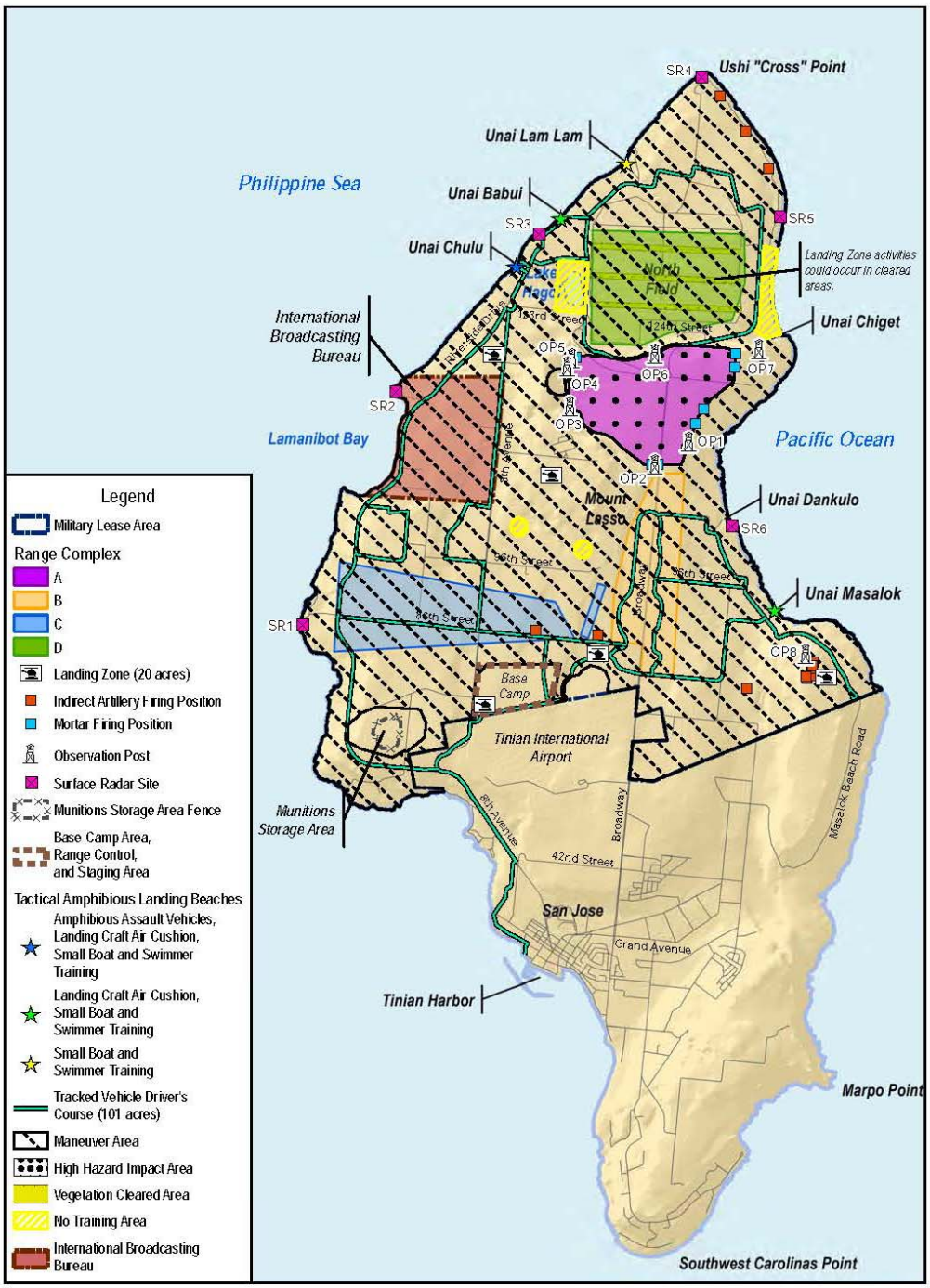


Figure 2.4-13
Tinian All Action Alternatives
Military Lease Area-Wide Training Assets

2-61

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

Figure 2.4-21
Tinian Alternative 1 Range Complexes

2-91

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

Figure 2.4-24
Tinian Alternative 2 Range Complexes

2-96

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

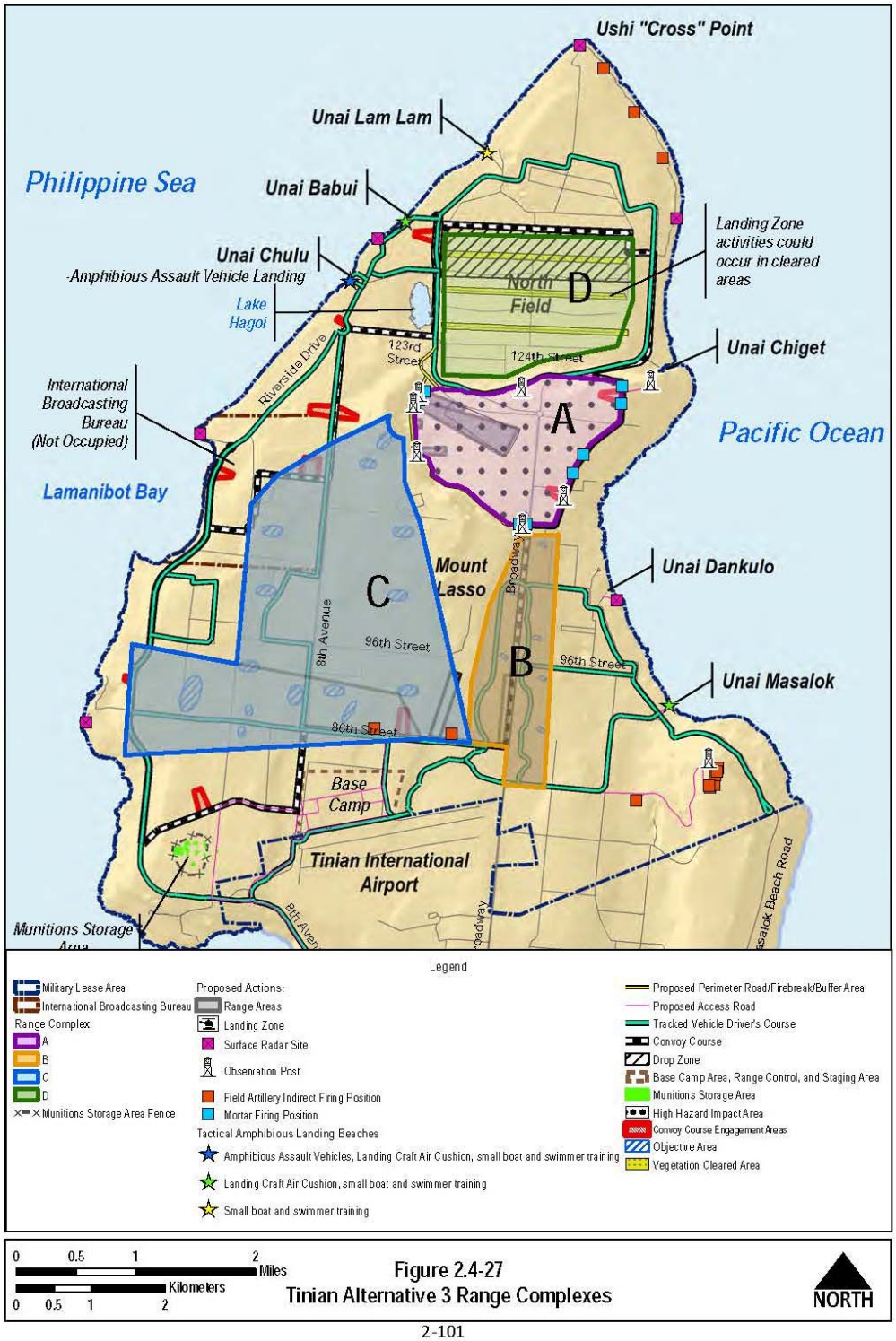


Figure 2.4-27
Tinian Alternative 3 Range Complexes

2-101

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

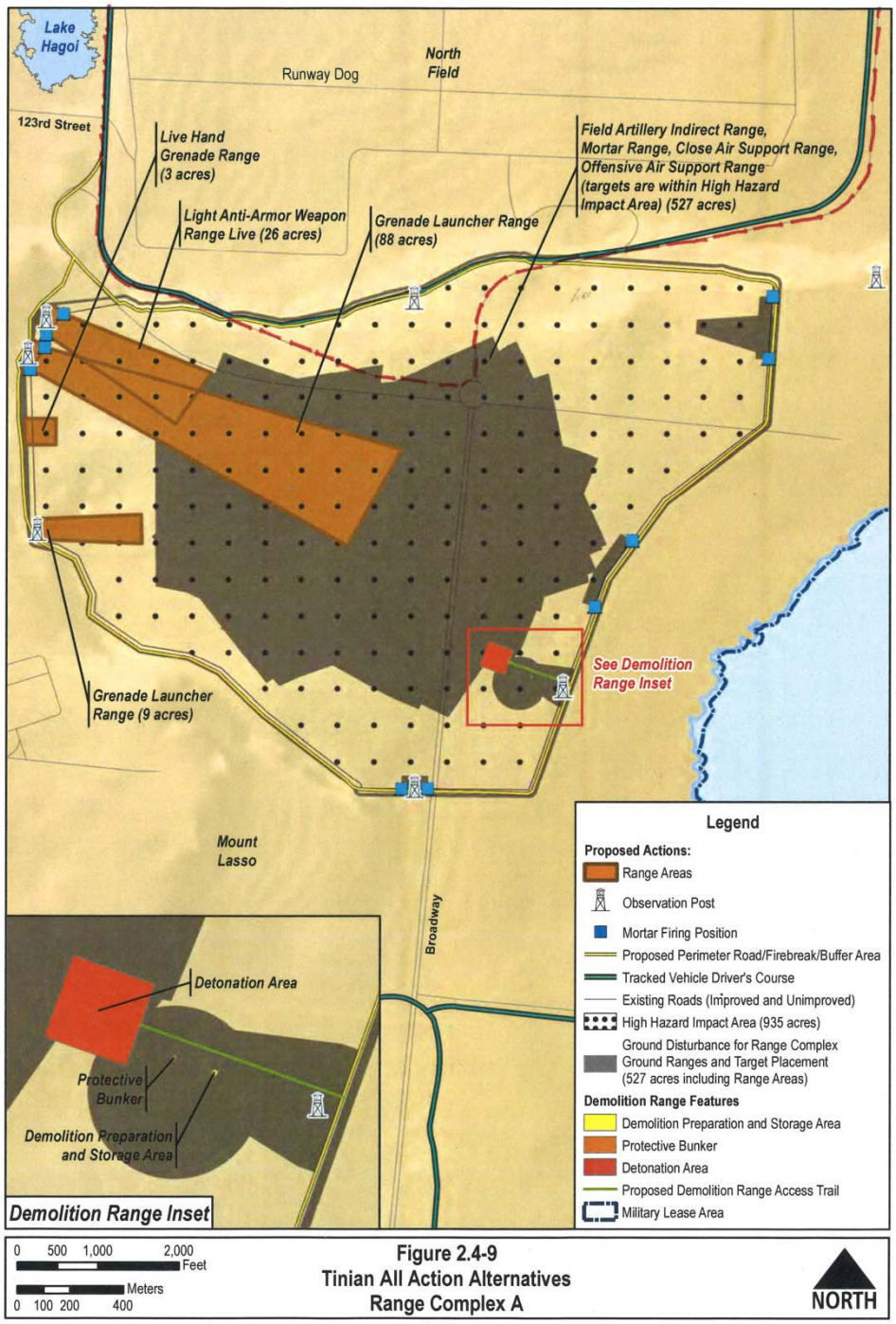


Figure 2.4-9
Tinian All Action Alternatives
Range Complex A

2-55

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

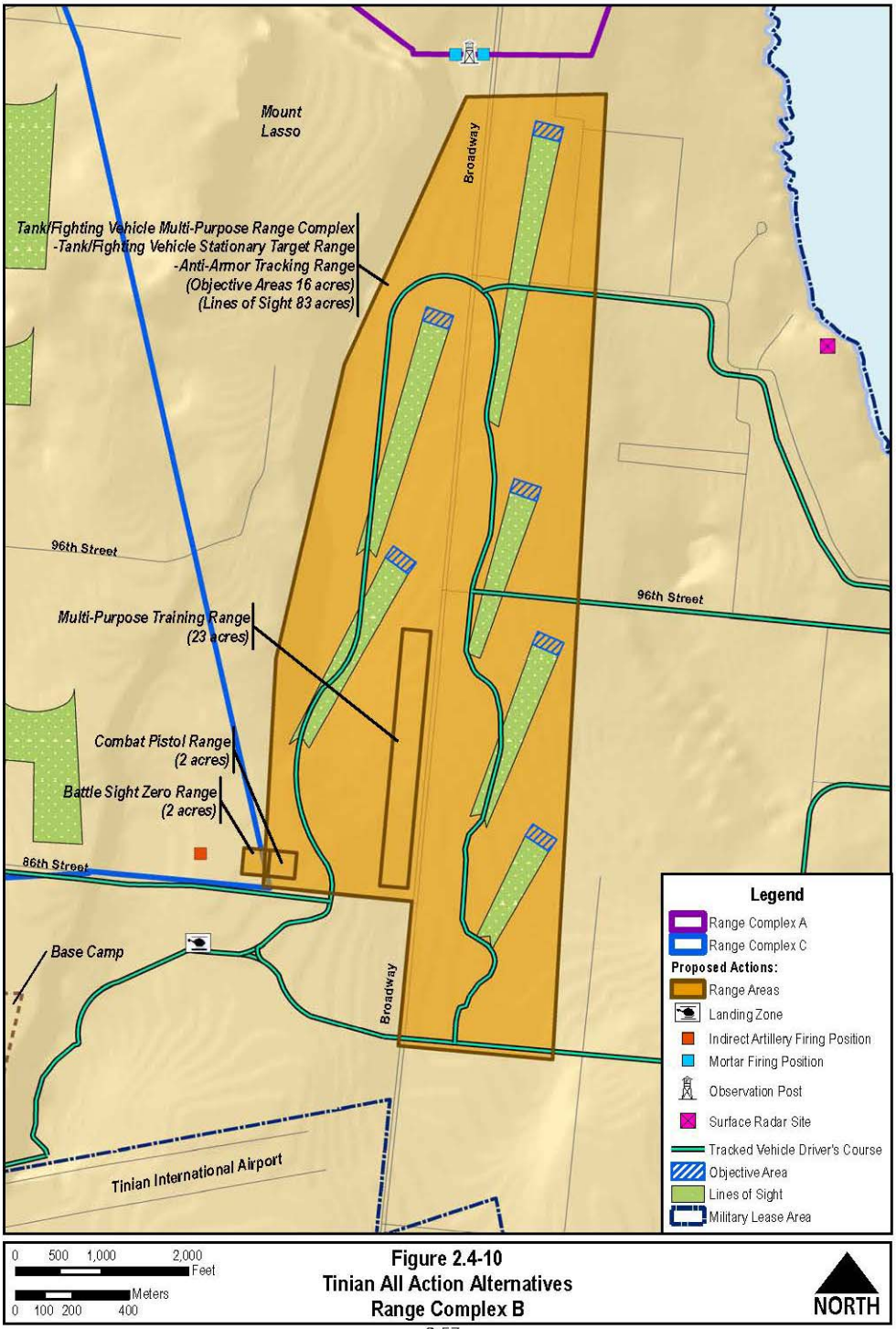


Figure 2.4-10
Tinian All Action Alternatives
Range Complex B

2-57

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

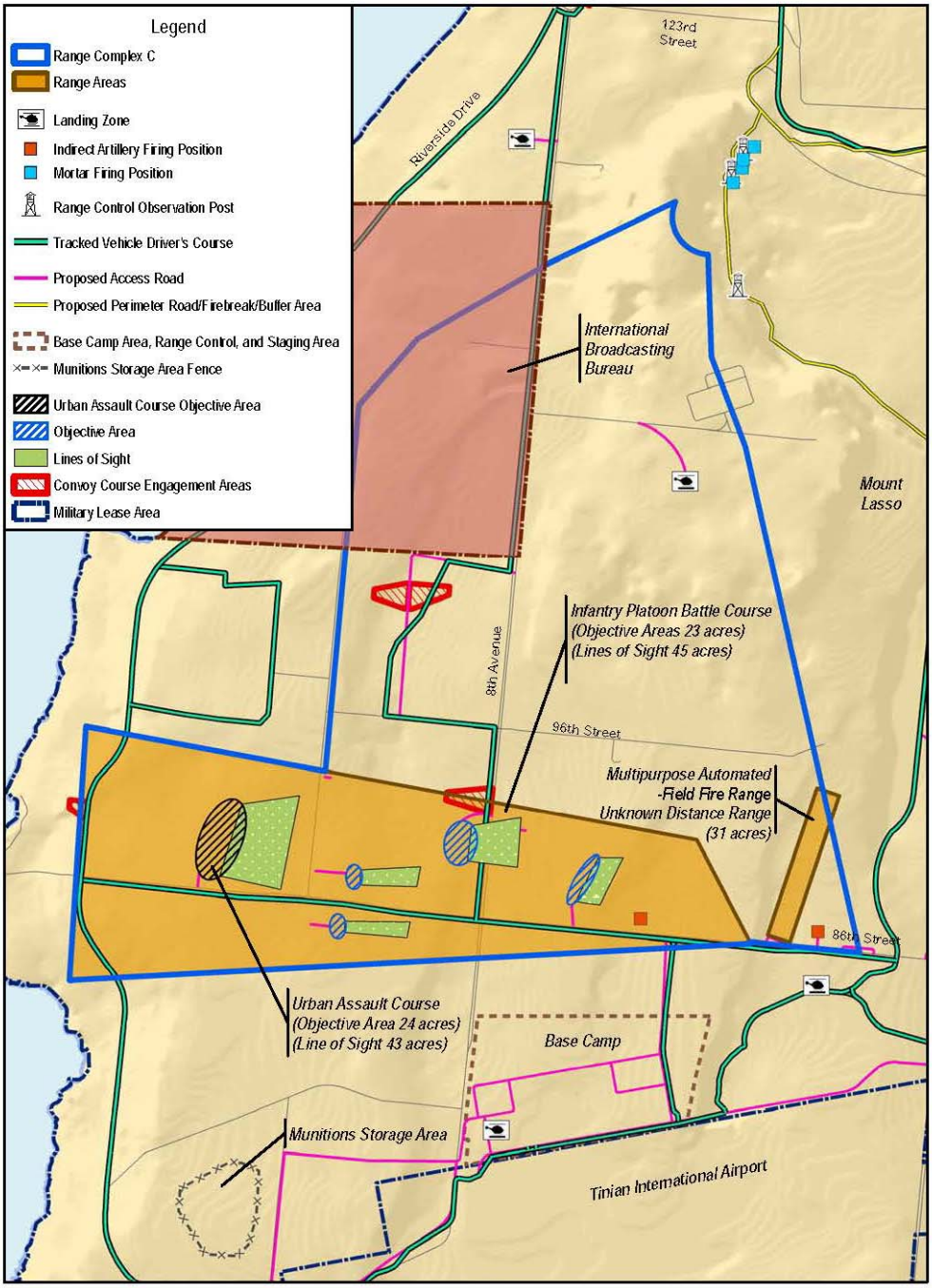


Figure 2.4-11
Tinian All Action Alternatives Range Complex C
2-59

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

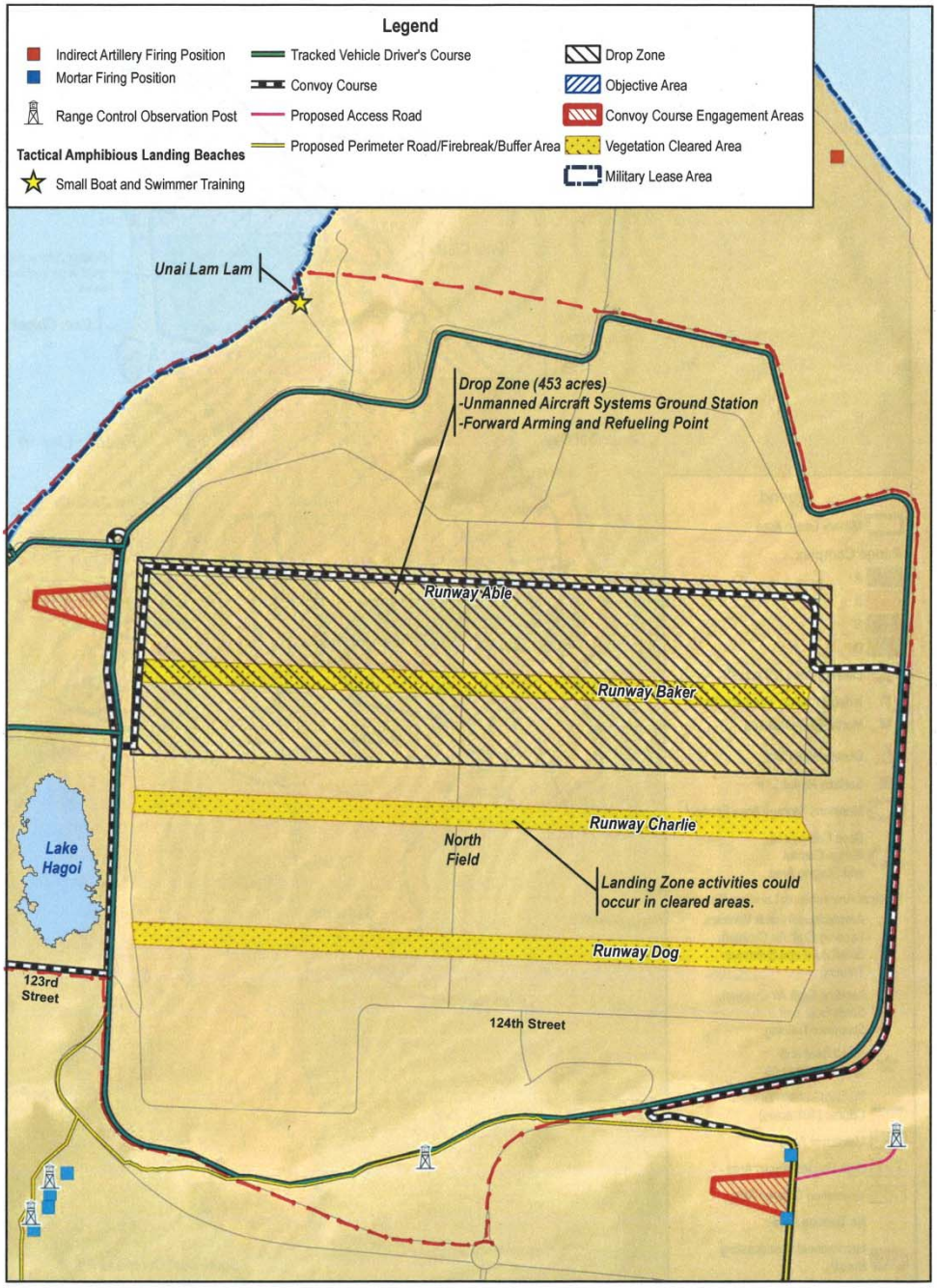


Figure 2.4-12
Tinian All Action Alternatives Range Complex D
2-60

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

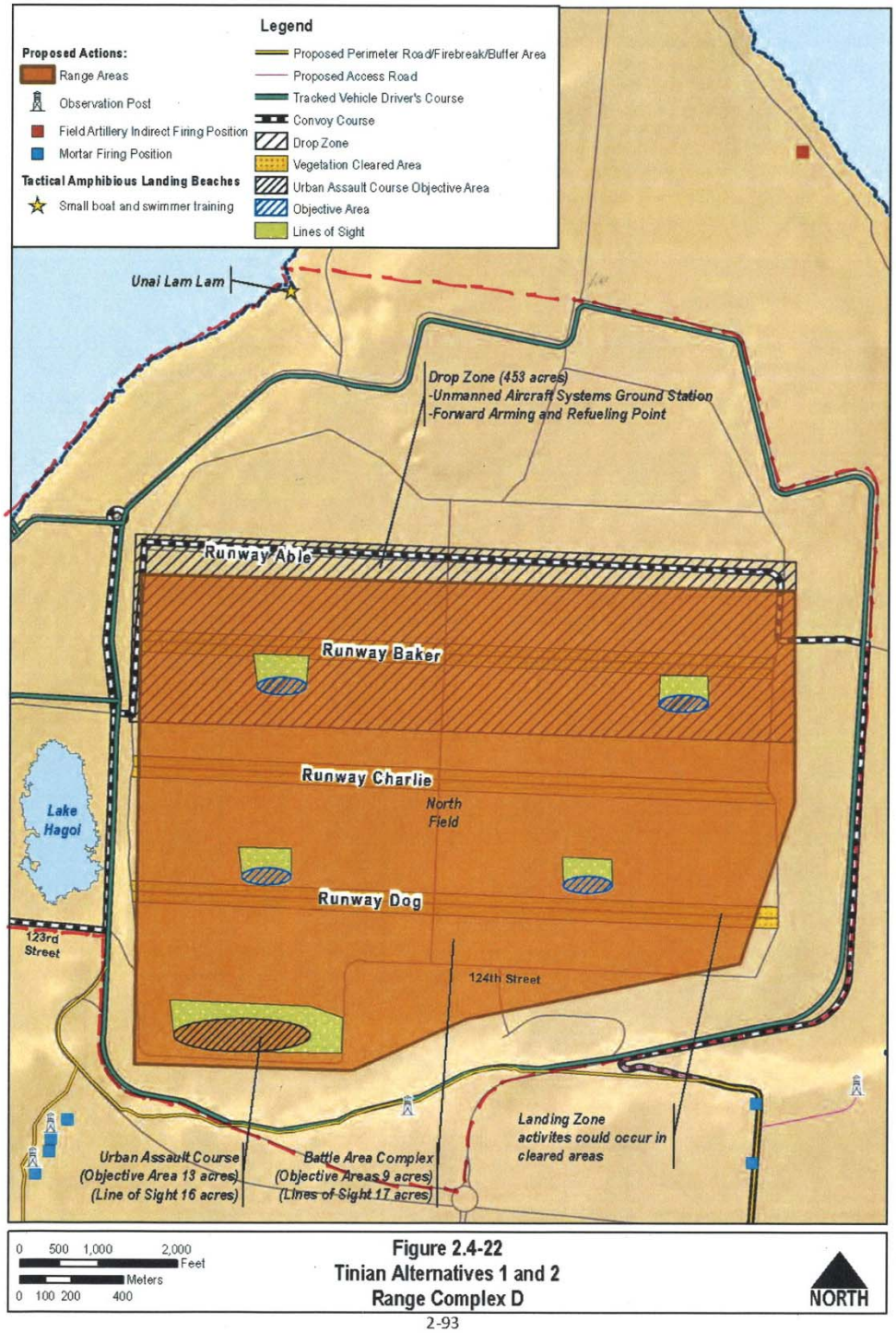


Figure 2.4-22
Tinian Alternatives 1 and 2
Range Complex D

2-93

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

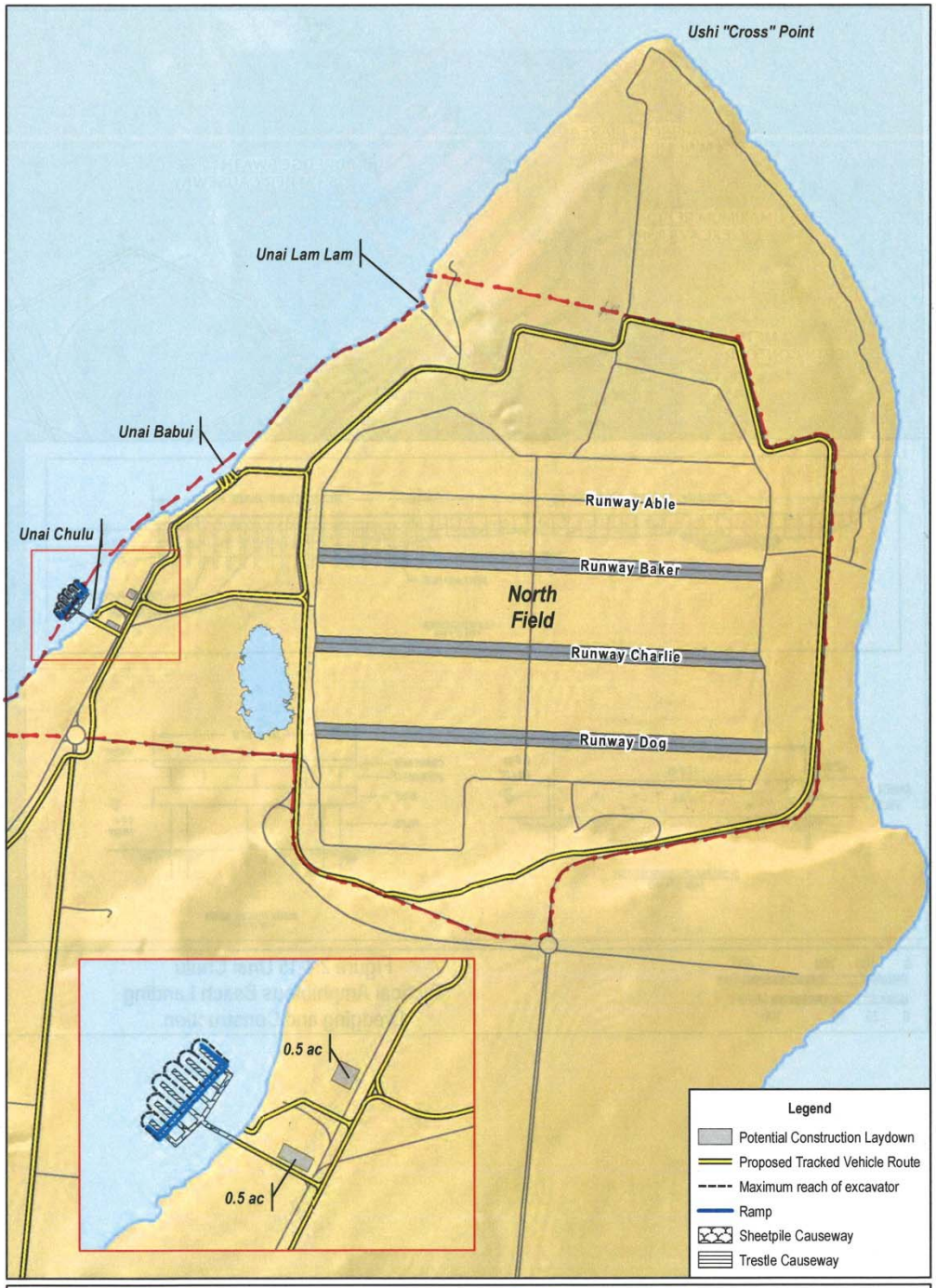


Figure 2.4-14
Tinian Tactical Amphibious
Beach Landing Laydown Area and Access

2-63

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

NHL Boundary

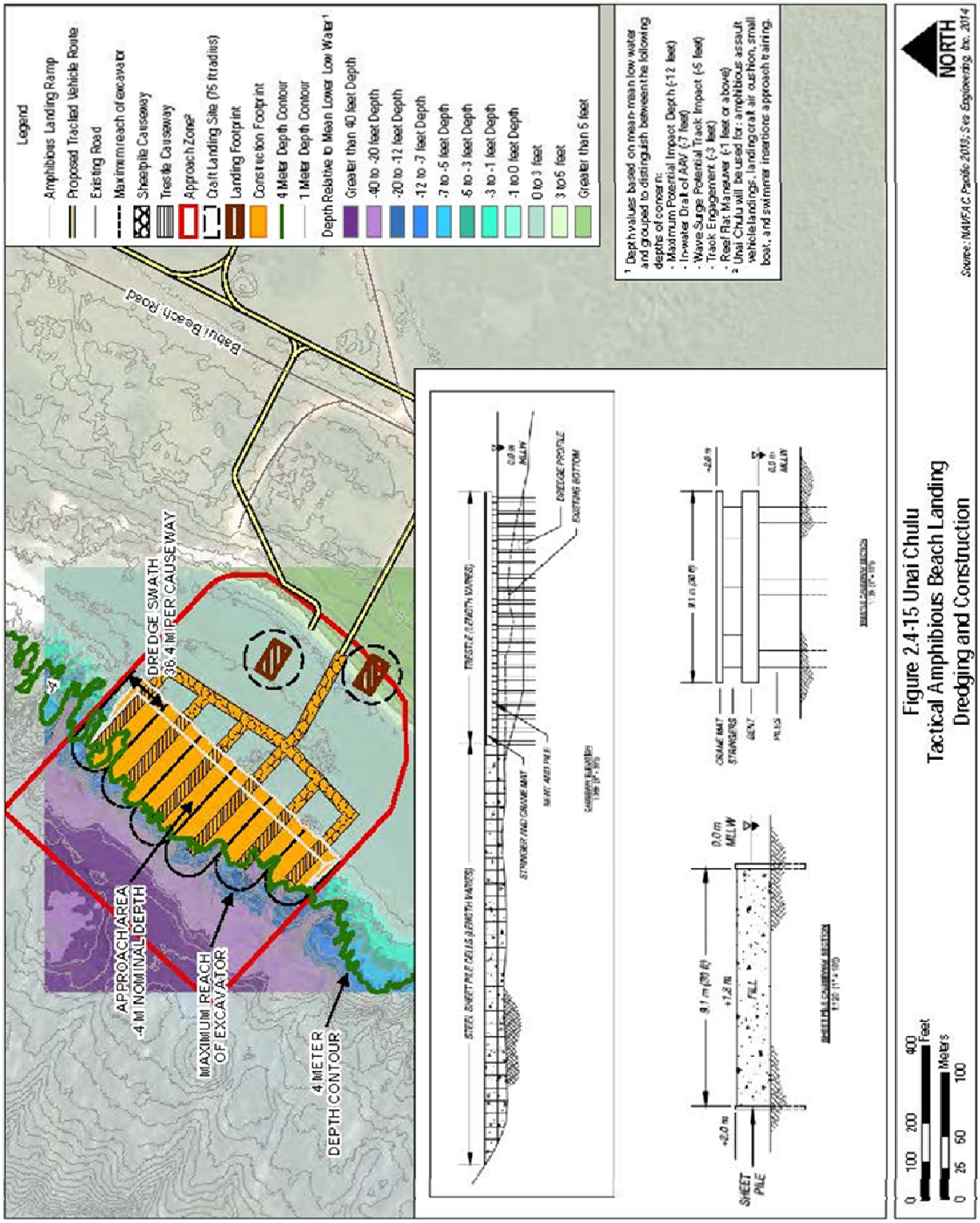


Figure 2.4-15 Unai Chulu
Tactical Amphibious Beach Landing
Dredging and Construction

2-64

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

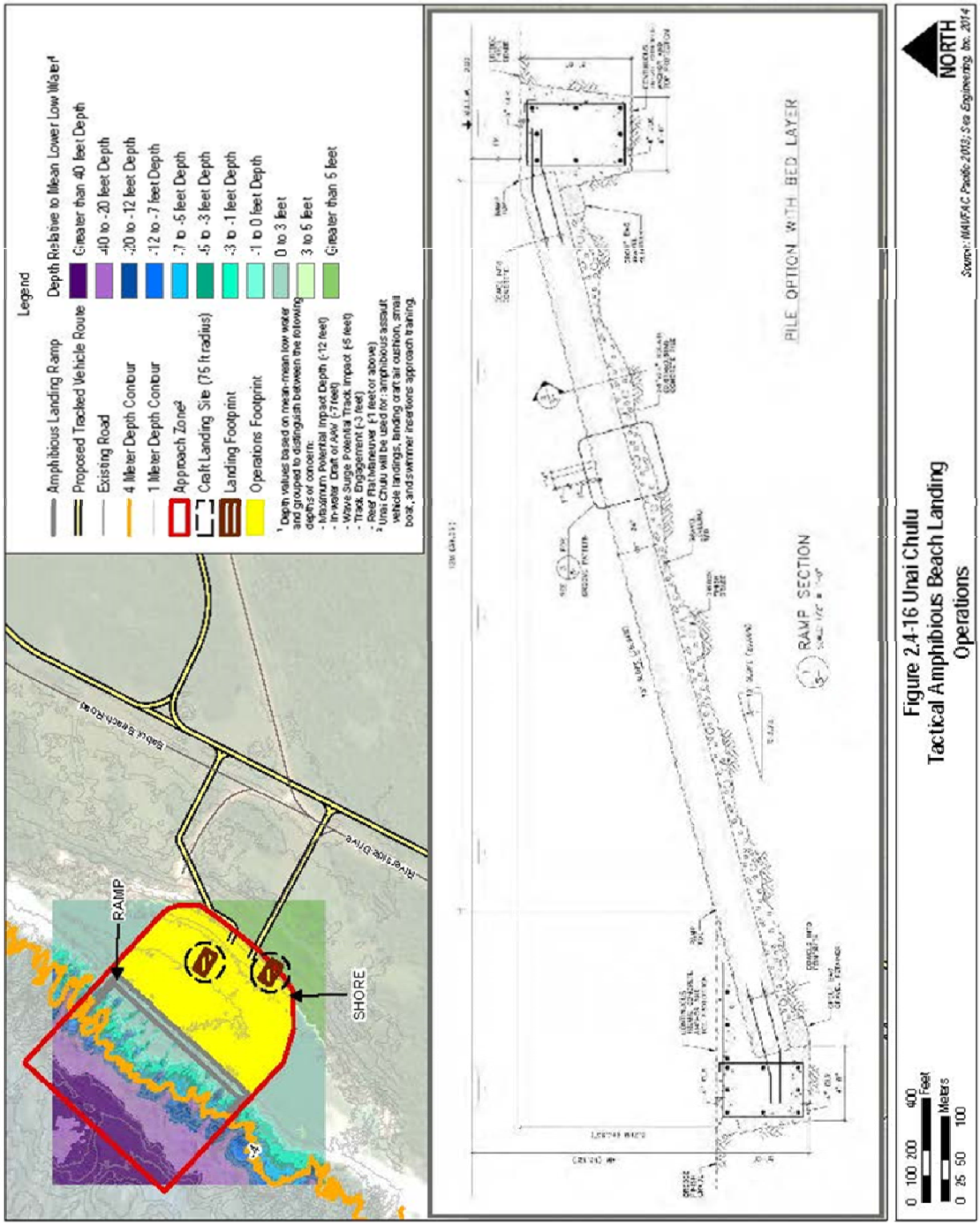


Figure 2.4-16 Unai Chulu
Tactical Amphibious Beach Landing
Operations

2-65

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

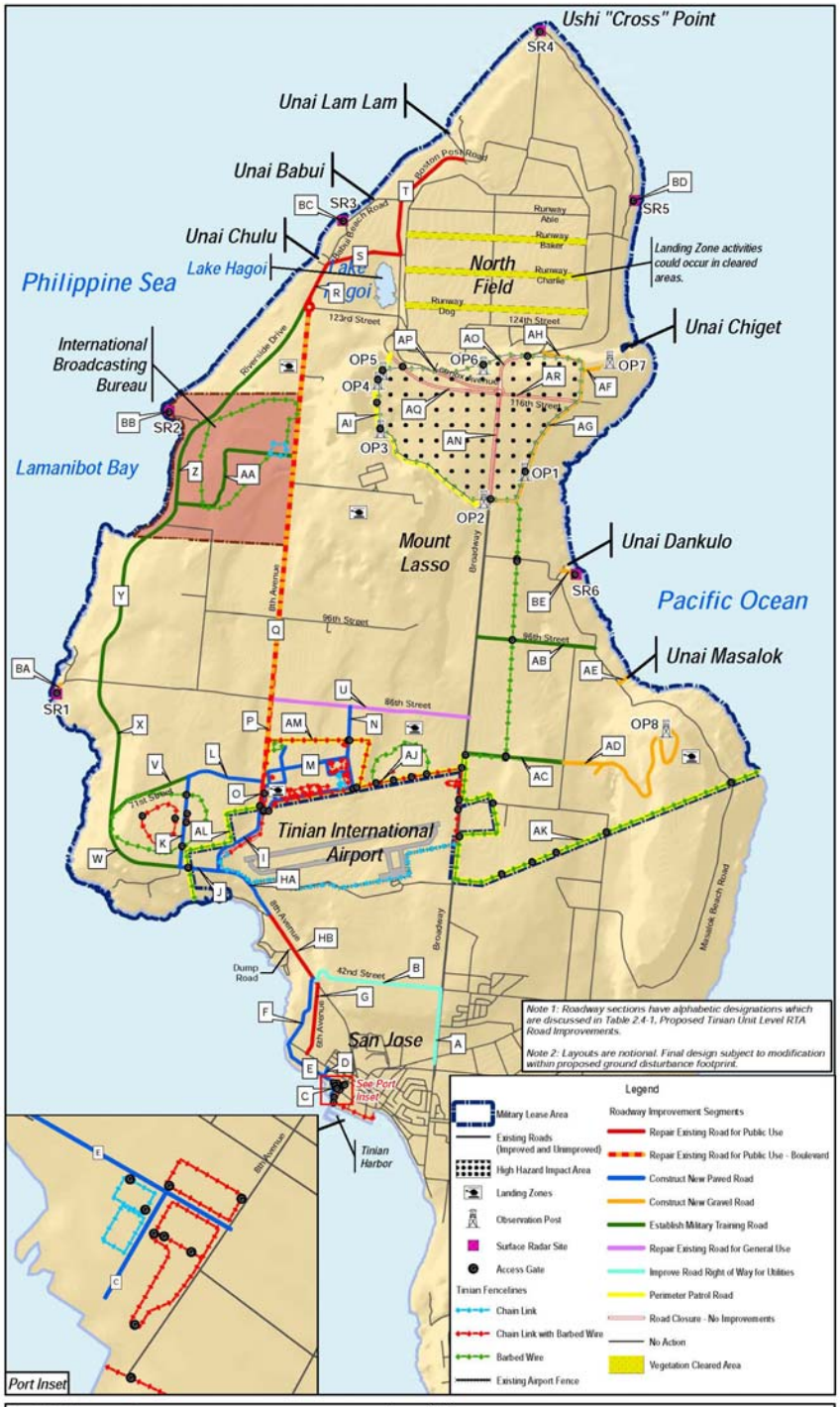


Figure 2.4-6
Tinian All Action Alternatives
Range Access Improvements, Fence Lines, and Gates
2-41

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

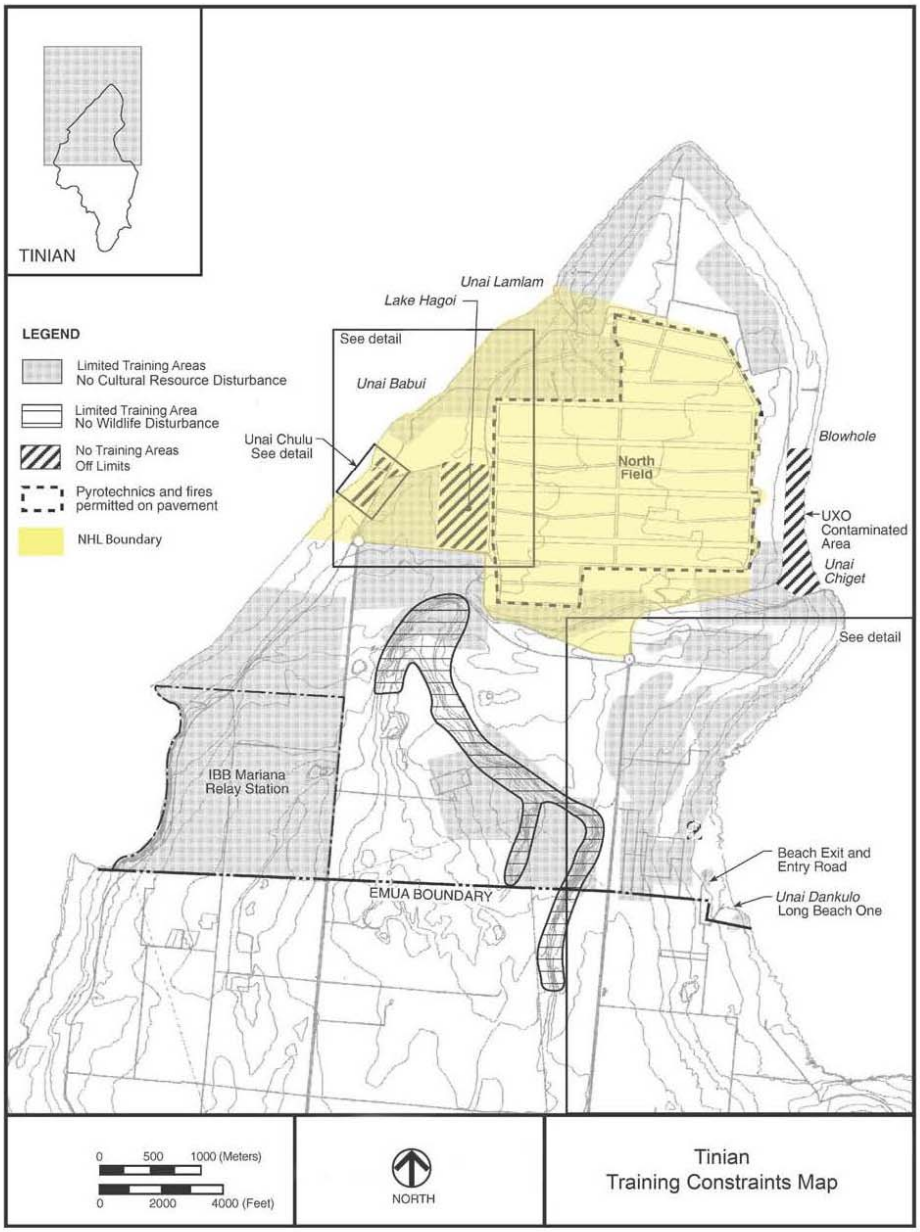


Figure 3.13-6: Tinian Training Constraints Map and NHL

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*

Figure 2.4-28
Tinian No-Action Alternative
(Four Ranges in 2010 Record of Decision)

2-106

Source: *Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement*