



Final Environmental Impact Statement Commonwealth of the Northern Mariana Islands Joint Military Training



Appendices A through H



June 2026
EISX-007-17-XMC-1747255459



The appendices of this Final EIS are compliant with Section 508 of the Rehabilitation Act. This allows assistive technology to be used to obtain the available information from the document. However, accessibility is limited to a descriptive title for some graphics, figures, tables, images, and attachments. Individuals who require assistance may submit a request through the Section 508 link on the project website at CNMIJointMilitaryTrainingEIS.com

Final Environmental Impact Statement

Commonwealth of the Northern Mariana
Islands

Joint Military Training

APPENDICES A THROUGH H

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June 2026

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**APPENDIX A
COOPERATING AGENCY, REGULATORY AGENCY,
AND ELECTED OFFICIALS CORRESPONDENCE**

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UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

Mr. Richard Lobo
Director
International Broadcasting Bureau
330 Independence Avenue, SW, Room 4069
Washington, DC 20237

Dear Mr. Lobo:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
IMPACT STATEMENT

On 25 August 2010, United States Pacific Command (PACOM) appointed Marine Forces Pacific (MARFORPAC) as the Executive Agent to conduct studies and complete appropriate environmental planning documentation in support of identifying a solution(s) for existing training deficiencies in the PACOM area of responsibility. After conduct of a Training Needs Assessment and a Requirements and Siting Study, MARFORPAC and PACOM concluded that the greatest number of training deficiencies occurred in the CNMI. The CNMI Joint Military Training Environmental Impact Statement (CJMT EIS)/Overseas EIS (OEIS) will develop and analyze range and training area alternatives to satisfy PACOM Service Components' unfilled unit-level and combined-level military training requirements in the CNMI. The proposed action is to improve existing and develop new live-fire military ranges and training areas in the CNMI; specifically the islands of Tinian and Pagan.

MARFORPAC requests International Broadcasting Bureau formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

- a. Participating in scoping, review, and hearing processes;
- b. Assuming responsibility, upon request, for developing information and preparing environmental analyses, including portions of the environmental impact statement for which the Cooperating Agency has special expertise;
- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether International Broadcasting Bureau accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable International Broadcasting Bureau to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact International Broadcasting Bureau staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.



CRAIG B. WHELDEN
Executive Director
U.S. Marine Corps Forces Pacific

Copy to:
Mr. Mark Filipek



UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

LTC Thomas D. Asbery
District Engineer
U.S. Army Corps of Engineers, Honolulu District
Building 230
Fort Shafter, Hawaii 96858-5440

Dear LTC Asbery:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
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MARFORPAC requests U.S. Army Corps of Engineers formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

- a. Participating in scoping, review, and hearing processes;
- b. Assuming responsibility, upon request, for developing information and preparing environmental analyses, including portions of the environmental impact statement for which the Cooperating Agency has special expertise;
- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether U.S. Army Corps of Engineers accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable U.S. Army Corps of Engineers to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact U.S. Army Corps of Engineers staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.


CRAIG B. WHELDEN
Executive Director
U.S. Marine Corps Forces Pacific

Copy to:

Ms. Katherine Hammack

Mr. Ryan Wynn

Mr. George P. Young, P.E.

LTC Douglas B. Guttormsen



UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

Mr. Dan Ashe
Director
U.S. Fish and Wildlife Service
1849 C. Street, NW
Washington, DC 20240

Dear Mr. Ashe:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
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MARFORPAC requests U.S. Fish and Wildlife Service formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

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- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether U.S. Fish and Wildlife Service accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable U.S. Fish and Wildlife Service to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact U.S. Fish and Wildlife Service staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.



CRAIG B. WHELDEN
Executive Director
U.S. Marine Corps Forces Pacific

Copy to:
Mr. Earl Campbell
Dr. Loyal Meyerhoff



UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

Mr. Michael P. Huerta
Administrator
Federal Aviation Administration
800 Independence Ave., S.W.
Washington, DC 20591

Dear Mr. Huerta:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
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MARFORPAC requests Federal Aviation Administration formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

- a. Participating in scoping, review, and hearing processes;
- b. Assuming responsibility, upon request, for developing information and preparing environmental analyses, including portions of the environmental impact statement for which the Cooperating Agency has special expertise;
- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether Federal Aviation Administration accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable Federal Aviation Administration to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact Federal Aviation Administration staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.



CRAIG B. WHELDEN
Executive Director
U.S. Marine Corps Forces Pacific

Copy to:
Mr. Tim Cornelison



UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

Ms. Eileen Sobek
Acting, Deputy Assistant Secretary for Insular Areas
Office of Insular Affairs
1849 C Street, NW
Washington, DC 20240

Dear Ms. Sobek:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
IMPACT STATEMENT

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MARFORPAC requests Office of Insular Affairs formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

- a. Participating in scoping, review, and hearing processes;
- b. Assuming responsibility, upon request, for developing information and preparing environmental analyses, including portions of the environmental impact statement for which the Cooperating Agency has special expertise;
- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether Office of Insular Affairs accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable Office of Insular Affairs to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact Office of Insular Affairs staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.



CRAIG B. WHELDEN
Executive Director
U.S. Marine Corps Forces Pacific

Copy to:
Mr. Nikolao Pula



UNITED STATES MARINE CORPS

COMMANDER, U.S. MARINE CORPS FORCES, PACIFIC
CAMP H. M. SMITH, HI 96861-4139

Mr. Samuel Rauch III
Acting, Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration, National Marine Fisheries Service
1315 East West Highway
Silver Spring, MD 20910

Dear Mr. Rauch:

Subj: COOPERATING AGENCY REQUEST FOR THE COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS (CNMI) JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEA ENVIRONMENTAL
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On 25 August 2010, United States Pacific Command (PACOM) appointed Marine Forces Pacific (MARFORPAC) as the Executive Agent to conduct studies and complete appropriate environmental planning documentation in support of identifying a solution(s) for existing training deficiencies in the PACOM area of responsibility. After conduct of a Training Needs Assessment and a Requirements and Siting Study, MARFORPAC and PACOM concluded that the greatest number of training deficiencies occurred in the CNMI. The CNMI Joint Military Training Environmental Impact Statement (CJMT EIS)/Overseas EIS (OEIS) will develop and analyze range and training area alternatives to satisfy PACOM Service Components' unfilled unit-level and combined-level military training requirements in the CNMI. The proposed action is to improve existing and develop new live-fire military ranges and training areas in the CNMI; specifically the islands of Tinian and Pagan.

MARFORPAC requests National Marine Fisheries Service formal participation as a Cooperating Agency in preparation of its CJMT EIS, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6 Cooperating Agencies. Cooperating Agency responsibilities are explained in 40 CFR § 1501.6 and include, but are not limited to, the following:

- a. Participating in scoping, review, and hearing processes;
- b. Assuming responsibility, upon request, for developing information and preparing environmental analyses, including portions of the environmental impact statement for which the Cooperating Agency has special expertise;
- c. Making available staff, at the lead agency's request, to support and enhance the latter's interdisciplinary capability; and,
- d. Adherence to the overall schedule as set forth by MARFORPAC.

Please provide your response within 30 days of receipt of this letter indicating whether National Marine Fisheries Service accepts our request to serve as a Cooperating Agency and the point of contact for all EIS/OEIS matters. To avoid unnecessary delays in the NEPA process, MARFORPAC must have timely support from the cooperating agencies. In turn, MARFORPAC will ensure it provides necessary information and related materials in a timely fashion to enable National Marine Fisheries Service to complete review and respond promptly.

Ms. Sherri Eng is the Environmental Planning Program Team Lead for MARFORPAC and will contact National Marine Fisheries Service staff to address specific details of this Cooperating Agency relationship. In the meantime, should there be any questions; Ms. Eng can be reached at (808) 477-5814, or email at sherri.eng@usmc.mil.



CRAIG B. WHELDEN

Executive Director

U.S. Marine Corps Forces Pacific

Copy to:

Mr. Michael Tosatto

Ms. Kitty Simonds



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850



In Reply Refer To:
2013-TA-0153

MAR 13 2013

Mr. Craig B. Whelden
Executive Director
United States Marine Corps Forces, Pacific
Camp H.M. Smith, HI, 96861

Subject: Cooperating Agency Request for the Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement (CJMT EIS)/ Oversea Environmental Impact Statement (OEIS)

Dear Mr. Whelden:

This is in response to your letter dated March 8, 2013, requesting the U.S. Fish and Wildlife Service (Service) to participate as a cooperating agency on the preparation of the subject EIS/OEIS. We appreciate the offer to be a cooperating agency. However, current staffing and workload constraints preclude our ability to accept this request; therefore, we respectfully decline cooperating agency status.

The Service recognizes the importance of our collaboration in the development of the EIS/OEIS and in the section 7 consultation required under the Endangered Species Act of 1973 (ESA), as amended. The Service will continue to provide technical assistance regarding aspects of draft EIS/OEIS documents as requested and will respond to Marine Corps requests for information. The Service also will continue to work collaboratively with the Marine Corps and assist you with ensuring that the best available scientific information is used in the EIS/OEIS, and the impacts to ESA-listed species and other natural resources are avoided and minimized.

If you have questions regarding this letter, please contact Leilani Takano, Fish and Wildlife Biologist (phone: 671-355-5096; email: leilani_takano@fws.gov).

Sincerely,



Loyal Mehrhoff
Field Supervisor



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East-West Highway
Silver Spring, Maryland 20910
THE DIRECTOR

MAR 19 2013

Commander Craig B. Whelden
Executive Director
U.S. Marine Corps Forces Pacific
Camp H.M. Smith, HI 96861-4139

Dear Commander Whelden:

Thank you for your letter requesting that NOAA's National Marine Fisheries Service (NMFS) be a cooperating agency in the preparation of the Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS). NMFS supports the Marine Forces Pacific (MARFORPAC) decision to prepare this EIS/OEIS and agrees to be a cooperating agency, due, in part, to our responsibilities under section 101(a)(5)(A) of the Marine Mammal Protection Act and section 7 of the Endangered Species Act.

We will make every effort to support the Navy in the specific ways described in your letter. Therefore, NMFS, to the maximum extent practicable, will:

- Participate in scoping, review, and hearing processes, as necessary.
- Respond to MARFORPAC requests for information, in particular those related to the acoustic effects analysis and the evaluation of the effectiveness of protection and mitigation measures, in a timely manner.
- Make staff available to the maximum degree possible, at the lead agency's request, to support and enhance the latter's interdisciplinary capability.
- Adhere to the overall schedule as agreed upon by NMFS and MARFORPAC.

If you need any additional information, please contact Ms. Jolie Harrison, NMFS Office of Protected Resources, at (301) 427-8420.

Sincerely,

Samuel D. Rauch III
Deputy Assistant Administrator
for Regulatory Programs,
performing the functions and duties of the
Assistant Administrator for Fisheries





U.S. Department
of Transportation

**Federal Aviation
Administration**

MAR 22 2013

Mr. Craig B. Wheldon
Executive Director
Commander, U.S Marine Corps Forces, Pacific
Camp H.M. Smith. HI 96861-4139

Dear Mr. Wheldon:

Thank you for your letter requesting the Federal Aviation Administration (FAA) participate as a cooperating agency in the Environmental Impact Statement (EIS) to evaluate the potential environmental consequences for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training.

Since the proposal potentially involves special use airspace (SUA), the FAA will cooperate following the guidelines described in the Memorandum of Understanding (MOU) between the FAA and the Department of Defense Concerning SUA Environmental Actions, dated October 4, 2005, and in accordance with 40 CFR § 1501.6, NEPA regulations regarding cooperating agencies.

Modification of SUA resides under the jurisdiction of the Western Service Center, Operations Support Group, 1601 Lind Ave. SW, Renton, Washington. The Western Service Center will be the primary focal point for matters related to airspace and associated environmental matters. Mr. Clark Desing is the Manager of the Operations Support Group. FAA Order 7400.2, Procedures for Handling Airspace Matters, Chapter 32, indicates the airspace and environmental processes should be conducted in tandem as much as possible; however, they are separate processes. Approval of either the aeronautical process or the environmental process does not automatically indicate approval of the entire proposal. I have enclosed Appendix 2, 3, and 4 of FAA Order 7400.2 for additional details.

A copy of the incoming correspondence and this response is being forwarded to Mr. Desing of the Western Service Center, Operations Support Group. Mr. Desing can be contacted at 425-203-4500 for further processing of your proposal.

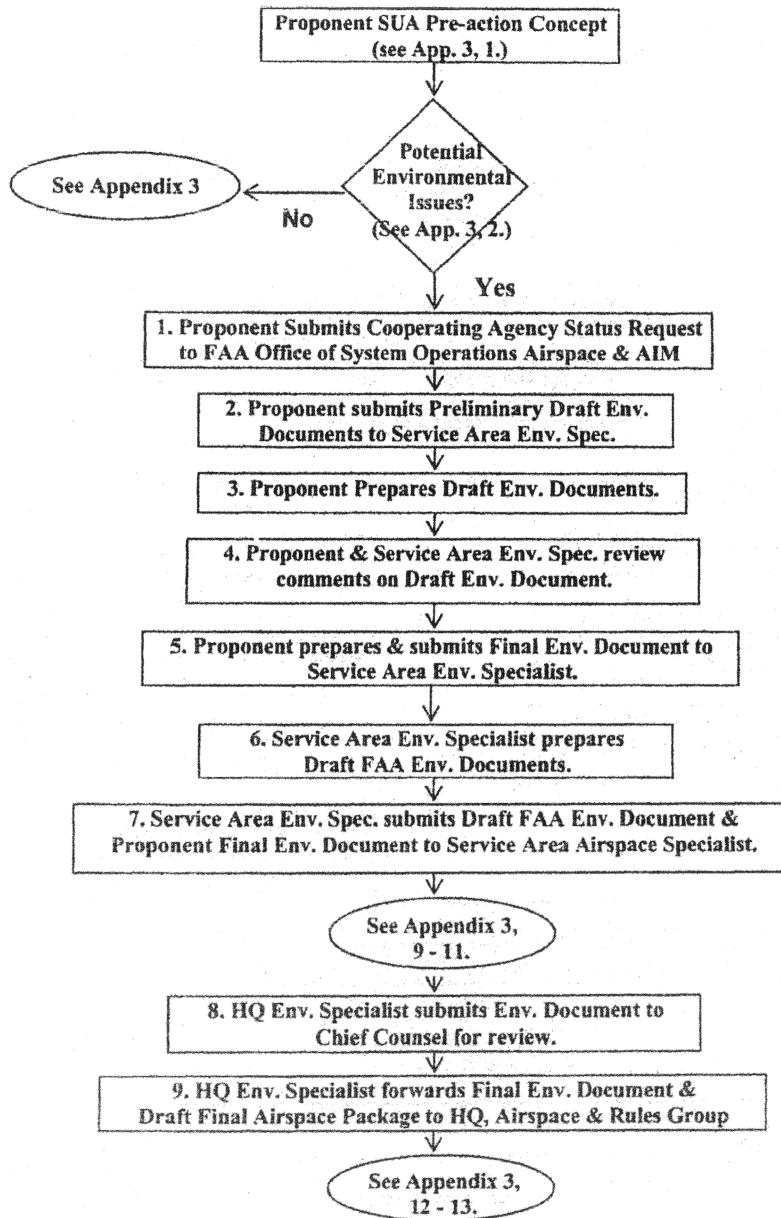
Sincerely,

Dennis E. Roberts
Director, Airspace Services
Air Traffic Organization

3 Enclosures

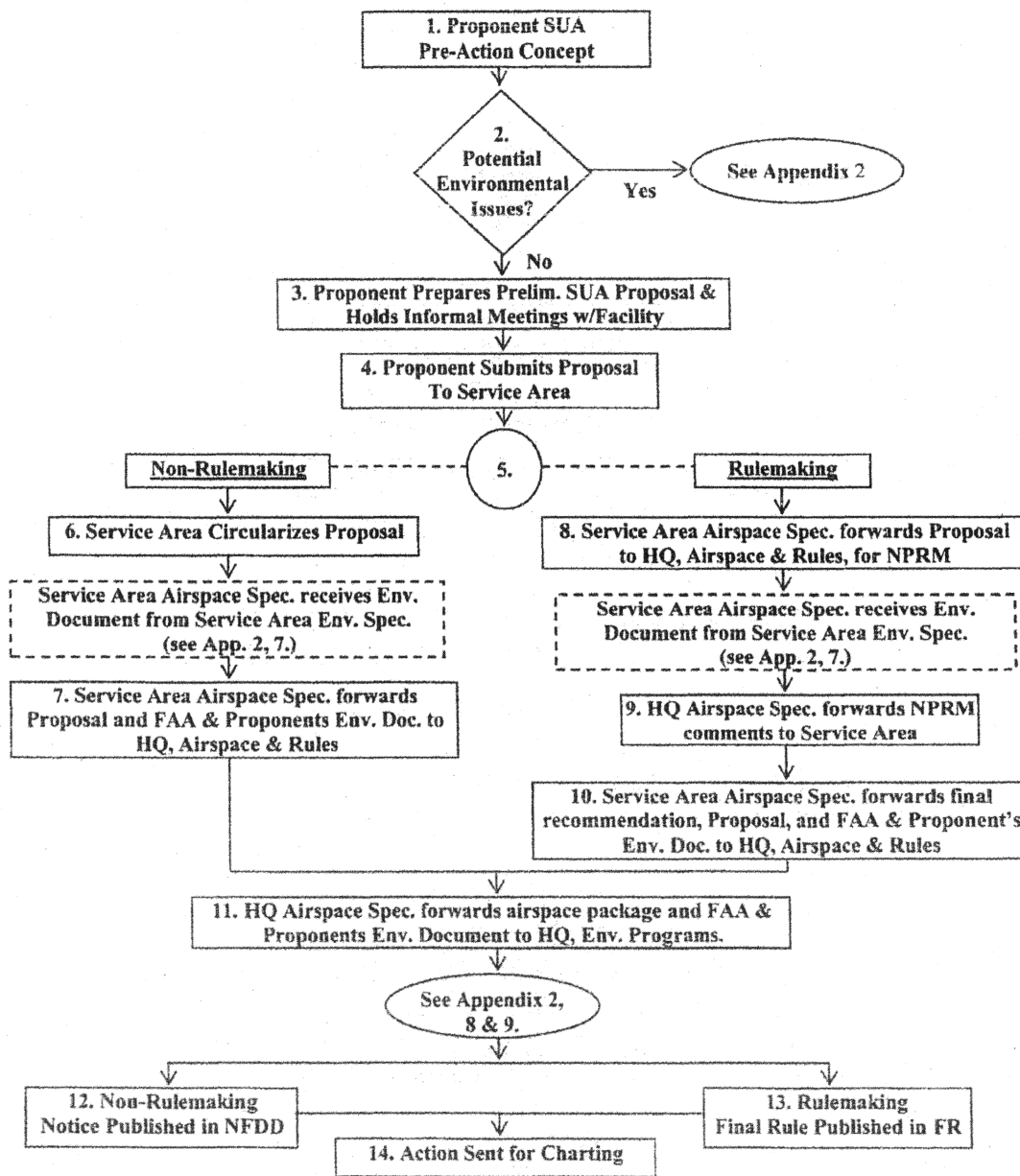
Appendix 2. Procedures For Processing SUA Actions Environmental Process Flow Chart

(This Chart is for use with Appendix 4 and the numbers correlate to the numbers in the Environmental column of that table.)



Appendix 3. Procedures For Processing SUA Actions Aeronautical Process Flow Chart

(This Appendix is for use with Appendix 4 and the numbers correlate to the numbers in the Aeronautical column of that table.)



Appendix 4. FAA Procedures for Processing SUA Actions Aeronautical and Environmental Summary Table

(The aeronautical and environmental processes may not always occur in parallel.)

(This Appendix is for use with Appendix 2 and Appendix 3, and the numbers correlate to numbers on those charts.)

(See note below.)

AERONAUTICAL	ENVIRONMENTAL
1. Proponent shall present to the Facility a Pre-draft concept (i.e., new/ revisions to SUA needed or required).	1. Proponent shall discuss with the Service Area, at the earliest time, the potential for environmental impacts associated with the proposal.
	2. If there is the potential for environmental impacts, Proponent shall make a request to the FAA for a Cooperating Agency (CA) status when Proponent decides to initiate the environmental process. Proponent shall forward the request to the Director of the System Operations Airspace and AIM. The Director will transmit the request to the Environmental Programs Group who prepares and forwards the response to Proponent. The Environmental Programs Group will send a courtesy copy of the response to the responsible Service Area. The Service Area environmental specialist works as the FAA point of contact throughout the process in development of any required environmental documentation.
	3. Proponent submits a Preliminary Draft EA or EIS to the Service Area environmental specialist. The Service Area environmental specialist shall provide comments, in consultation with the airspace specialist and the Environmental Programs Group, back to Proponent.

<p>2. Proponent forwards the aeronautical proposal to the FAA Service Area for review and processing by the airspace specialist.</p>	<p>4. Proponent prepares a Draft EA or EIS with a 45-day public comment period. As the FAA CA point of contact, the Service Area environmental specialist reviews the associated draft environmental documentation to ensure that the Proponent addressed adequately all environmental concerns submitted on the Preliminary Draft. If required, the Service Area environmental specialist forwards the draft environmental documentation to the Environmental Programs Group for review and comment by the headquarters environmental specialist and the Office of Chief Counsel.</p>
<p>3. The Service Area airspace specialist, in accordance with this order, determines the type of airspace action(s) necessary, either Non-Rulemaking or Rulemaking. FAA Service Area and Proponent determine if informal Airspace Meetings are required.</p>	
<p>For Non-Rulemaking:</p>	
<p>4. The Service Area airspace specialist sends out a circularization with a 45-day public comment period. The Service Area airspace specialist reviews and prepares, in consultation with the Proponent, responses to the aeronautical comments from the study and circularization in accordance with Chapter 21 of this order.</p>	<p>5. The Proponent reviews comments received on their Draft EA/FONSI or EIS and prepares their responses to the comments, in consultation with the FAA and other cooperating agencies, if necessary, and in accordance with Chapter 32 of this order.</p>
	<p>6. Proponent prepares and submits their Final EA/FONSI or EIS/ROD to the Service Area environmental specialist.</p>
	<p>7. The Service Area environmental specialist prepares a Draft FAA FONSI/ROD or Draft FAA Adoption Document/ROD.</p>
	<p>8. The Service Area environmental specialist submits the Draft FAA FONSI/ROD or Draft FAA Adoption Document/ROD and the Proponent's Final EA/FONSI or EIS/ROD to the Service Area airspace specialist for inclusion with the airspace proposal package.</p>
<p>5. The Service Area airspace specialist then sends the completed package containing the aeronautical proposal, response to comments, Proponent's Final EA/FONSI, and the Draft FAA FONSI/ROD to the Headquarters Airspace and Rules Group with their recommendation.</p>	

For Rulemaking:	
<p>6. The Service Area airspace specialist sends the proposal to the Airspace and Rules Group who prepares a Notice of Proposed Rulemaking (NPRM). The Headquarters Airspace and Rules Group submits the NPRM for publication in the Federal Register with a 45-day comment period in accordance with Chapter 2 of this order.</p>	
<p>7. The Headquarters airspace specialist sends comments received on the NPRM to the Service Area airspace specialist for resolution.</p>	
<p>8. The Service Area airspace specialist then sends the completed package containing the response to comments, final service area recommendation, the proposal, Proponent's Final EA/FONSI or EIS/ROD, and the Draft FAA FONSI/ROD or Draft FAA Adoption Document/ROD to the Headquarters Airspace and Rules Group for preparation of the Final Rule.</p>	
<p>9. The Headquarters airspace specialist forwards the draft final rule package or draft non-rulemaking case summary (NRCS) with all supporting documentation to the Headquarters Environmental Programs Group for review (after all aeronautical comments have been resolved).</p>	<p>9. The Headquarters environmental specialist reviews the package for environmental technical accuracy; then submits the environmental documentation to the Office of the Chief Counsel, Airports and Environmental Law Division, for legal sufficiency review (having collaborated throughout the process).</p>
	<p>10. The Chief Counsel's environmental attorney's comments are incorporated into the final FAA environmental decision and signed by Headquarters Environmental Programs Group Manager.</p> <p>The package is then returned to the Headquarters Airspace and Rules Group.</p>
<p>10. For Non-rulemaking: The non-rulemaking action is published in the National Flight Data Digest.</p>	
<p>11. For Rulemaking: The Final Rule is published in the Federal Register. The Final Rule will contain a reference to the decision rendered and location of documentation for the associated environmental process.</p>	

Consult the following documents throughout the process for further information:

- Council on Environmental Quality Regulations for Implementing the National Environmental Policy Act (NEPA), 40 CFR Parts 1500-1508
- FAA Order 1050.1E, "Environmental Impacts: Policies and Procedures"
- FAA Order 7400.2, "Procedures for Handling Airspace Matters," Part 5
- FAA Order 7400.2, Chapter 32, "Environmental Matters" and the associated appendixes (for specific SUA environmental direction)

NOTE: The time periods below are for a non-controversial aeronautical proposal and its associated environmental process. The time periods are for FAA review/processing only. Times for proponent and/or environmental contract support processing must be added.

ENVIRONMENTAL: The estimated time of completion for EA processing is 12 to 18 months or, for EIS processing, 18 to 36 months.

AERONAUTICAL (Non-Rulemaking): A minimum 4 months is required from submission of the Formal Airspace Proposal by the Proponent to the Service Area through completion of the circularization process. Additionally, a minimum of 6 months is required from submission of the Formal Airspace Proposal by the Service Area to Headquarters through completion of the charting process.

AERONAUTICAL (Rulemaking): A minimum 6 weeks for Service Area processing, and a minimum of 9 months to complete rulemaking once the formal package is received at Headquarters.



APR 11 2013

Craig B. Whelden
Executive Director
U.S. Marine Corps Forces Pacific

Subject: Cooperating Agency Request for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training Environmental Impact Station/Overseas Environmental Impact Statement

Dear Mr. Wheldon:

Thank you for your letter on the above subject. I understand that in-house staff from the International Broadcasting Bureau (IBB), Office of Technology, Services and Innovation has been working closely with representatives from the U.S. Marine Corps (USMC), and the Naval Facilities Command (NAVFAC) on aspects of the planned Environmental Impact Statement (EIS) that will involve operations at the (IBB) transmitter site on the island of Tinian.

The IBB confirms that it will serve as a cooperating agency and the point of contact for EIS matters that pertain to the IBB transmitter site on Tinian. However, program commitments and budgetary constraints could limit the degree of the IBB's involvement pursuant to 40 C.F.R. Section 1501.6. The IBB is prepared to support this initiative with its in-house staff and to the extent it does not interfere with the Agency's mission. Furthermore, the IBB has not budgeted for any specialized services that might necessitate the use of contractors or consultants for the EIS matters described in your letter. Any specialized services required will need to be funded and arranged by the appropriate Department of Defense entity.

We look forward to working closely with the USMC and NAVFAC on preparation of the EIS. Mark Filipek, Director of the IBB's Operations and Stations Division, will be your primary point of contact on this initiative. Mr. Filipek can be reached at (202) 382-7359, or by email at mfilipek@bbg.gov.

Sincerely,


for Richard M. Lobo
Director



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

Regulatory Branch
Engineering and Construction Division

14 May 2013

Mr. Craig B. Whelden, Executive Director
U.S. Marine Corps Forces Pacific
United States Marine Corps
Camp H. M. Smith, HI 96861-4139

Dear Mr. Whelden:

This is in response to your letter, received on March 5, 2013, requesting the U.S. Army Corps of Engineers (USACE) to participate as a Cooperating Agency in the Marine Forces Pacific preparation of the Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement (CJMT EIS)/Overseas EIS (OEIS). As stated, the CJMT EIS/OEIS will develop and analyze alternatives to improve existing and develop new live-fire military ranges and training areas in the CNMI islands of Tinian and Pagan.

As a Federal agency with jurisdiction by law over elements of the proposed action, the USACE accepts your request to serve as a Cooperating Agency, in accordance with National Environmental Policy Act (NEPA) Regulations, 40 CFR § 1501.6, during the EIS/OEIS process. Based on our initial understanding of the proposed actions, our applicable statutory authorities may include Section 10 of the Rivers and Harbors Act of 1899, Section 7 of the Rivers and Harbors Act of 1917, Chapter XIX of the Army Appropriations Act of 1919, and Section 404 of the Clean Water Act.

Thank you for your request and cooperation with the DA Regulatory Program. I have designated Mr. Ryan Winn of our Guam Field Office to act as your point of contact for all EIS/OEIS matters. Mr. Winn may be reached at PSC 455, Box 188, FPO AP 96540-1088; by phone at (671) 339-2108; or by email at ryan.h.winn@usace.army.mil, should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "George P. Young".

George P. Young, P.E.
Chief, Regulatory Branch



United States Department of the Interior

OFFICE OF INSULAR AFFAIRS
1849 C Street, NW
Washington, DC 20240

Assistant Secretary

May 23, 2013

Craig B. Whelden
Executive Director
U.S. Marine Corps Forces Pacific
Camp H.M. Smith, HI 96861 - 4139

Dear Director Whelden:

Thank you for your letter dated March 13, 2012, concerning the appointment of Marine Forces Pacific (MARFORPAC) as the Executive Agent to conduct studies and complete appropriate planning documentation in support of identifying a solution(s) for existing training deficiencies in the United States Pacific Command area of responsibility. We very much appreciate the update and information you provided regarding this recent development.

Our Office of Insular Affairs accepts your invitation to serve as a cooperating agency in the preparation of its Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement (CJMT EIS)/Overseas EIS (OEIS) that will develop and analyze range and training area alternatives. We look forward to working with your office to assist in the preparation of the CJMT EIS/OEIS.

Our staff point of contact for CNMI EIS/OEIS is Ms. Kristen Oleyte, Senior Policy Advisor to the Assistant Secretary of the Interior Office of Insular Areas and Senior Policy Advisor to US Pacific Command (PACOM). She can be reached at Kristen_H_Oleyte@ios.doi.gov or 808.477.7642.

Sincerely,

Eileen Sobeck
Acting Assistant Secretary
Insular Areas

MEMORANDUM OF UNDERSTANDING

FOR

**THE CNMI JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL
IMPACT STATEMENT**

BETWEEN

U.S. MARINE CORPS FORCES, PACIFIC

AND

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MOU for the CJMT EIS/OEIS between MARFORPAC and National Oceanic and Atmospheric Administration

I. Purpose

- A. This Memorandum of Understanding (MOU) sets forth the roles and responsibilities as agreed to among the U.S. Marine Corps Forces, Pacific (MARFORPAC) and National Oceanic and Atmospheric Administration (NOAA) for the purpose of preparing the CNMI Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement (CJMT EIS/OEIS).
- B. This MOU encourages early and continuing coordination and collaboration of the participants to support the development of the CJMT EIS/OEIS with a target for a Record of Decision (ROD) in April 2016.
- C. This MOU emphasizes the importance for MARFORPAC and NOAA to provide specific support and information to foster efficient and timely review and development of documentation that will meet National Environmental Policy Act (NEPA) and other statutory requirements.
- D. CJMT EIS/OEIS Key Milestone Dates

Milestone	Anticipated Review Period
Review of pre-final version of Draft EIS/OEIS	July 2014
Notice of Availability of the Draft EIS/OEIS published	November 2014
Public Hearings/Public Meetings	December 2014
Review of pre-final version of Final EIS/OEIS	October 2015
Notice of Availability of the Final EIS/OEIS published	March 2016
Record of Decision	April 2016

- E. This MOU includes the following attachments:
 - 1. USPACOM - DOD Training in the Pacific Study Environmental Impact Statement (EIS) Executive Agent Appointment (25 Aug 10)
 - 2. MARFORPAC – Cooperating agency request for the CNMI Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement (26 Feb 13)
 - 3. NOAA – Cooperating agency acceptance letter

MOU for the CJMT EIS/OEIS between MARFORPAC and National Oceanic and Atmospheric Administration

II. Applicable Laws and Regulations

- National Environmental Policy Act of 1969, 42 USC § 4321 *et seq.*
- Title 40, Code of Federal Regulations (CFR), Parts 1500-1508, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (1978, unless otherwise noted)
- Environmental Policy and Conflict Resolution Act of 1998, P. L. 105-156
- Executive Order 11514, Protection and Enhancement of Environmental Quality, as amended by EO 11991, dated May 24, 1977
- Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, dated January 4, 1979
- Executive Order 12372, as amended by EO 12416, Intergovernmental Review of Federal Programs, dated April 8, 1983)

III. Roles and Responsibilities

A. MARFORPAC: As the Executive Agent (EA) appointed by USPACOM to accomplish the CJMT EIS/OEIS, responsibilities are as follows:

1. Maintain Lead Agency responsibility for all aspects of the CJMT EIS/OEIS preparation and analysis, including preparation of the draft and final EIS, the ROD, and all supporting documents;; release of all public information and the scheduling and conduct of public meetings; coordination and scheduling for the completion of all work items; document distribution; management of the budget; and ensuring appropriate coordination among the parties to this MOU.
2. Release of NEPA documents, i.e., Draft EIS (DEIS), Final EIS (FEIS) and ROD.
3. Provide a framework for collaboration and manage that collaboration among the Cooperating Agencies to ensure timely compliance with and completion of the NEPA process.
4. Provide leadership to ensure consistent cooperation, the timely issuance of concurrence, and continuing coordination to achieve a complete and justifiable EIS/OEIS.
5. Maintain a list and ensure coordination among lead points of contact (POCs) within each Cooperating Agency.
6. After coordination with Cooperating Agencies, maintain Lead Agency responsibility for all regulatory consultations.

MOU for the CJMT EIS/OEIS between MARFORPAC and National Oceanic and Atmospheric Administration

7. Provide regular EIS/OEIS progress updates to Cooperating Agencies and inform them of significant developments affecting the proposed action at the earliest possible opportunity.
8. Coordinate the overall design of the administrative record (AR) and organize, prepare, and maintain the AR for the CJMT EIS/OEIS.
9. Ensure Cooperating Agencies have reasonable opportunities to review and comment on EIS/OEIS versions, and provide updates on the EIS/OEIS and time estimates of document availability for review.
10. Receive all comments resulting from either agency or public review and comment periods. Coordinate with the Cooperating Agencies and request assistance, as needed, on those comments that concern their respective agencies' areas of expertise and jurisdictional responsibilities.

B. Cooperating Agency NOAA:

1. Provide a lead POC to represent NOAA in the CJMT EIS/OEIS effort.
2. Ensure timely review, to the extent practical, of all NEPA documents; provide timely comments, consistent cooperation, concurrence, and continuing coordination to achieve a complete and justifiable EIS/OEIS.
3. Participate, as available, in developing information and preparing environmental analyses, including portions of the EIS/OEIS for which the Cooperating Agency has special expertise.
4. Make staff available, to the extent practical and at the lead agency's request, to support and enhance MARFORPAC's interdisciplinary capability.
5. Adhere to the overall schedule as set forth by MARFORPAC.
6. Inform the EA for the CJMT EIS/OEIS on any projects the Cooperating Agency is conducting, has recently completed, or plans to conduct in the USPACOM AOR for purposes of cumulative effects analysis.

IV. Effective Date: This MOU is effective on the last date of signature below.

MOU for the CJMT EIS/OEIS between MARFORPAC and National Oceanic and Atmospheric Administration

V. Effect of Agreement: Nothing in this MOU will be construed as affecting the authority of any signatory beyond the understanding contained within this MOU. This MOU in no way restricts any of the signatories from participating in similar activities with other agencies and organizations.

This MOU shall be referenced in the Draft and Final EIS for public review so that each signatory's respective roles may be understood.

VI. Review/Changes: Signatories (or their successors) will review this MOU annually. Any signatory may request modification and amendment of this MOU at any time. Both signatories will consider the proposed changes, and upon mutual agreement, adopt the modifications by amendment to this MOU. The signatory proposing the changes shall provide copies of the modified MOU to MARFORPAC or NOAA for signature approval. The effective date of an amendment is the date on which MARFORPAC and NOAA have signed the amended MOU.

VII. Term: This MOU will remain in effect for the time period beginning with the effective date of the MOU and ending with issuance of the CJMT EIS/OEIS ROD. MARFORPAC or NOAA may terminate its participation in this MOU at any time before the date of expiration, with 30 days written notice to the other parties.

VIII. Statement of No Financial Obligation: This MOU cannot be cited as the basis for any reimbursement of costs incurred by a signatory to collaborate throughout the EIS development process. Nothing in this MOU will be construed as affecting the authorities of the signatories to act as provided by statute or regulation, or as binding signatories beyond their respective authorities or to require the signatories to obligate or expend funds in excess of appropriations. All funding mechanisms related to the CJMT EIS/OEIS shall be executed separately.

IX. Dispute Resolution: A dispute shall be deemed to have arisen when MARFORPAC or NOAA notifies the other in writing of a dispute. The issues shall be clearly identified in a memorandum. The lead POCs shall work together to resolve disputes. It is the intention of the lead POCs that all disputes shall be resolved expeditiously at the lowest possible level of authority. In the event a dispute is not resolved within fifteen (15) calendar days, the dispute will be elevated for resolution as follows:

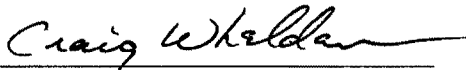
- A. The lead MARFORPAC or NOAA POC shall elevate an unresolved dispute within their respective chain-of-command. A formal communication describing the issue will be provided to senior leadership. The senior leadership of the signatory making the formal complaint shall convene a meeting to resolve the dispute within 30 calendar days after issuing the formal communication to the other signatory senior leadership.

**MOU for the CJMT EIS/OEIS between MARFORPAC and National Oceanic
and Atmospheric Administration**

- B. If signatory senior leadership is unable to resolve the dispute, the issue will be referred to the Deputy Commander, USPACOM, whose decision will be final.

X. Signatures

In witness whereof, the parties to this MOU through their duly authorized representatives for MARFORPAC and NOAA have executed this MOU, and certify that they understand and agree to support the purpose and provisions of this MOU, as set forth herein.



Craig B. Whelden
Executive Director
U.S. Marine Corps Forces, Pacific



Samuel D. Rauch III
Deputy Assistant Administrator
for Regulatory Programs performing the
functions and duties of the Assistant
Administrator for Fisheries,
National Oceanic and Atmospheric
Administration

RECEIVED
10/18/13



U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Air Traffic Organization
Western Service Area

1601 Lind Avenue Southwest
Renton, Washington 98057

JAN 8 2014

Mr. Craig B. Whelden
Executive Director
U.S. Marine Corps Forces Pacific
Camp H. M. Smith, HI 96861-4139

RE: Request approval for the cooperating agency Memorandum of Understanding (MOU) for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS)

Dear Mr. Whelden,

The Federal Aviation Administration (FAA) received your request to enter into a Memorandum of Understanding (MOU) for the preparation of the CNMI EIS/OEIS. The FAA understands the need to have continuity between the Marine Forces Pacific (MARFORPAC) and the FAA throughout the National Environmental Policy Act process. We believe this relationship is thoroughly described in existing orders and the signed MOU per FAA Order 7400.2J Appendix 7, "FAA/DOD Memorandum of Understanding", and Appendix 8, "FAA Special Use Airspace Environmental Processing Procedures". These documents clearly describe the relationship and formalize the cooperative relationship between MARFORPAC and the FAA.

The FAA believes existing FAA Order 7400.2J and MOU are adequate for accomplishing the EIS/OEIS process and don't believe an additional MOU is needed. The FAA appreciates your patience in this matter. If you have any questions or require further information, please contact the FAA environmental specialist, Marina Landis, at (425) 203-4561.

Sincerely,

for Clark Desing
Manager
Operations Support Group
Western Service Center

MEMORANDUM OF UNDERSTANDING

FOR

**THE CNMI JOINT MILITARY TRAINING
ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL
IMPACT STATEMENT**

BETWEEN

U.S. MARINE CORPS FORCES, PACIFIC

AND

U.S. ARMY CORPS OF ENGINEERS

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

I. Purpose

- A. This Memorandum of Understanding (MOU) sets forth the roles and responsibilities as agreed to among the U.S. Marine Corps Forces, Pacific (MARFORPAC) and U.S. Army Corps of Engineers (USACE) for the purpose of preparing the CNMI Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement (CJMT EIS/OEIS).
- B. This MOU encourages early and continuing coordination and collaboration of the participants to support the development of the CJMT EIS/OEIS with a target for a Record of Decision (ROD) in April 2016.
- C. This MOU emphasizes the importance for MARFORPAC and USACE to provide specific support and information to foster efficient and timely review and development of documentation that will meet National Environmental Policy Act (NEPA) and other statutory requirements.
- D. CJMT EIS/OEIS Key Milestone Dates

Milestone	Anticipated Review Period
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Public Hearings/Public Meetings	December 2014
Review of pre-final version of Final EIS/OEIS	October 2015
Notice of Availability of the Final EIS/OEIS published	March 2016
Record of Decision	April 2016

- E. This MOU includes the following attachments:
 - 1. USPACOM - DOD Training in the Pacific Study Environmental Impact Statement (EIS) Executive Agent Appointment (25 Aug 10)
 - 2. MARFORPAC – Cooperating agency request for the CNMI Joint Military Training Environmental Impact Statement/Overseas Environmental Impact Statement (26 Feb 13)
 - 3. USACE – Cooperating agency acceptance letter

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

II. Applicable Laws and Regulations

- National Environmental Policy Act of 1969, 42 USC § 4321 *et seq.*
- Title 40, Code of Federal Regulations (CFR), Parts 1500-1508, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (1978, unless otherwise noted)
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- Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, dated January 4, 1979
- Executive Order 12372, as amended by EO 12416, Intergovernmental Review of Federal Programs, dated April 8, 1983)

III. Roles and Responsibilities

A. MARFORPAC: As the Executive Agent (EA) appointed by USPACOM to accomplish the CJMT EIS/OEIS, responsibilities are as follows:

1. Maintain Lead Agency responsibility for all aspects of the CJMT EIS/OEIS preparation and analysis, including preparation of the draft and final EIS, the ROD, and all supporting documents;; release of all public information and the scheduling and conduct of public meetings; coordination and scheduling for the completion of all work items; document distribution; management of the budget; and ensuring appropriate coordination among the parties to this MOU.
2. Release of NEPA documents, i.e., Draft EIS (DEIS), Final EIS (FEIS) and ROD.
3. Provide a framework for collaboration and manage that collaboration among the Cooperating Agencies to ensure timely compliance with and completion of the NEPA process.
4. Provide leadership to ensure consistent cooperation, the timely issuance of concurrence, and continuing coordination to achieve a complete and justifiable EIS/OEIS.
5. Maintain a list and ensure coordination among lead points of contact (POCs) within each Cooperating Agency.
6. After coordination with Cooperating Agencies, maintain Lead Agency responsibility for all regulatory consultations.

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

7. Provide regular EIS/OEIS progress updates to Cooperating Agencies and inform them of significant developments affecting the proposed action at the earliest possible opportunity.
8. Coordinate the overall design of the administrative record (AR) and organize, prepare, and maintain the AR for the CJMT EIS/OEIS.
9. Ensure Cooperating Agencies have reasonable opportunities to review and comment on EIS/OEIS versions, and provide updates on the EIS/OEIS and time estimates of document availability for review.
10. Receive all comments resulting from either agency or public review and comment periods. Coordinate with the Cooperating Agencies and request assistance, as needed, on those comments that concern their respective agencies' areas of expertise and jurisdictional responsibilities.

B. Cooperating Agency USACE:

1. Provide a lead POC authorized to expend the level of effort necessary to support the USACE role in the CJMT EIS/OEIS effort.
2. Ensure timely review of all NEPA documents; provide timely comments, consistent cooperation, concurrence, and continuing coordination to achieve a complete and justifiable EIS/OEIS.
3. Assume responsibility, upon request, for developing information and preparing environmental analyses, including portions of the EIS/OEIS for which the Cooperating Agency has special expertise.
4. Make available staff, at the lead agency's request, to support and enhance MARFORPAC's interdisciplinary capability.
5. Adhere to the overall schedule as set forth by MARFORPAC.
6. Inform the EA for the CJMT EIS/OEIS on any NEPA projects or other projects the Cooperating Agency is conducting, has recently completed, or plans to conduct in the USPACOM AOR.

IV. Effective Date: This MOU is effective on the last date of signature below.

V. Effect of Agreement: Nothing in this MOU will be construed as affecting the authority of any signatory beyond the understanding contained within this MOU. This MOU in no way restricts any of the signatories from participating in similar activities with other agencies and organizations.

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

This MOU shall be referenced in the Draft and Final EIS for public review so that each signatory's respective roles may be understood.

VI. Review/Changes: Signatories (or their successors) will review this MOU annually. Any signatory may request modification and amendment of this MOU at any time. Both signatories will consider the proposed changes, and upon mutual agreement, adopt the modifications by amendment to this MOU. The signatory proposing the changes shall provide copies of the modified MOU to MARFORPAC or USACE for signature approval. The effective date of an amendment is the date on which MARFORPAC and USACE have signed the amended MOU.

VII. Term: This MOU will remain in effect for the time period beginning with the effective date of the MOU and ending with issuance of the CJMT EIS/OEIS ROD. MARFORPAC or USACE may terminate its participation in this MOU at any time before the date of expiration, with 30 days written notice to the other parties.

VIII. Statement of No Financial Obligation: This MOU cannot be cited as the basis for any reimbursement of costs incurred by a signatory to collaborate throughout the EIS development process. Nothing in this MOU will be construed as affecting the authorities of the signatories to act as provided by statute or regulation, or as binding signatories beyond their respective authorities or to require the signatories to obligate or expend funds in excess of appropriations. All funding mechanisms related to the CJMT EIS/OEIS shall be executed separately.

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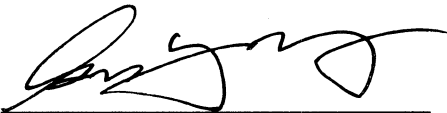
- A. The lead MARFORPAC or USACE POC shall elevate an unresolved dispute within their respective chain-of-command. A formal communication describing the issue will be provided to senior leadership. The senior leadership of the signatory making the formal complaint shall convene a meeting to resolve the dispute within 30 calendar days after issuing the formal communication to the other signatory senior leadership.
- B. If signatory senior leadership is unable to resolve the dispute, the issue will be referred to the Deputy Commander, USPACOM, whose decision will be final.

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

X. Signatures

In witness whereof, the parties to this MOU through their duly authorized representatives for MARFORPAC and USACE have executed this MOU, and certify that they understand and agree to support the purpose and provisions of this MOU, as set forth herein.

William Febuary
Deputy Director
U.S. Marine Corps Forces, Pacific



George Young
Chief of Regulatory Branch, Honolulu
U.S. Army Corps of Engineers

MOU for the CJMT EIS/OEIS between MARFORPAC and U.S. Army Corps of Engineers

X. Signatures

In witness whereof, the parties to this MOU through their duly authorized representatives for MARFORPAC and USACE have executed this MOU, and certify that they understand and agree to support the purpose and provisions of this MOU, as set forth herein.



William February
Deputy Director
U.S. Marine Corps Forces, Pacific

Ryan Winn
U.S. Army Corps of Engineers

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**U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric
Administration**

NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1845 Wasp Blvd., Bldg. 176
Honolulu, Hawai'i 96818
(808) 725-5000 · Fax: (808) 725-5215

April 16, 2026

Todd Armsworth
Department of the Navy
Headquarters United States Marine Corps
3000 Marine Corps Pentagon
Washington, Dc 20350-3000

RE: Request for Informal ESA Consultation and Conference, and Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat Response on Commonwealth of the Northern Mariana Islands Joint Military Training, Tinian Island (PIRO-2026-00575/ INQ-2026-00063/ I-PI-26-2632-DG)

Dear Mr. Armsworth:

On February 20, 2026, NOAA's National Marine Fisheries Service (NMFS) received your written request for informal Endangered Species Act (ESA) consultation on the U.S. Marine Corps' (USMC) proposed action for the installation of the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training (CJMT) activities on Tinian Island. The ESA requires federal action agencies to consult with NMFS when the action may affect a listed species or its designated critical habitat under our jurisdiction (50 CFR 402.14(a)). The proposed action may affect the endangered or threatened species and/or designated critical habitat under our jurisdiction, as identified below in Table 3. On February 24, 2026 NMFS requested additional technical information on species located in the action area and project related activities. On February 26, 2026, NMFS sent an additional request for information related to stressors. On March 10, 2026, USMC responded to our request for additional information. On March 19, 2026 USMC requested a meeting to help resolve any outstanding issues. On March 23, 2026, NMFS and USMC met to resolve the outstanding request for technical information and we received all necessary information to evaluate the proposed action and initiated section 7 consultation.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. NMFS initiated the EFH consultation on March 23, 2026, when all necessary information to evaluate the proposed action was received. NMFS conducted this review pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920. NMFS has



concluded that the action may have adverse effects to EFH. We are providing a conservation recommendation (CR) pursuant to the EFH provision within Section 305(b)(4)(A) of the MSA. Adherence to the CR along with the Best Management Practices (BMPs) and mitigation plan you provided will help ensure that most adverse effects to EFH are avoided, minimized, or offset.

Under section 7(a)(4) of the ESA, each Federal agency shall confer with the Secretary on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. While consultations are required when the proposed action may affect listed species, a conference is required only when the proposed action is likely to jeopardize the continued existence of a proposed species or destroy or adversely modify proposed critical habitat. However, Federal action agencies may request a conference on any proposed action that may affect proposed species or proposed critical habitat (USFWS and NMFS 1998).

We prepared this response to your request pursuant to section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §1531 *et seq.*), implementing regulations at 50 CFR 402, and agency guidance for the preparation of letters of concurrence. This letter also underwent pre-dissemination review using standards for utility, integrity, and objectivity in accordance with applicable guidelines issued under the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). A complete record of this consultation is on file at the Pacific Island Regional Office, Honolulu, Hawaii.

Under section 7(a)(4) of the ESA, each Federal agency shall confer with the Secretary on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. While consultations are required when the proposed action may affect listed species, a conference is required only when the proposed action is likely to jeopardize the continued existence of a proposed species or destroy or adversely modify the proposed critical habitat. However, Federal action agencies may request a conference on any proposed action that may affect proposed species or proposed critical habitat (USFWS & NMFS 1998).

Proposed Action

The USMC proposes to conduct CJMT activities on Tinian. The proposed action consists of the USMC constructing new training infrastructure to support two live-fire ranges: a Multi-Purpose Maneuver Range (MPMR) and an Explosives Training Range (ETR) where military personnel will train for combat operations for the foreseeable future. These activities are separate and not considered in the Mariana's Training and Testing Activities (MITT; NMFS 2020). Other construction actions would include two surface radar towers, improvements to the North Field, development of Landing Zones and a drop zone between runways Able and Baker; and the construction of two ammunition holding areas. This proposed action includes a Surface Danger Zone (SDZ) which extends over a broad expanse of ocean where projectiles are expected to land.

The USMC does not expect any effects to occur from the following activities:

- Non-live fire ground training in the Military Lease Area (MLA),
- MPMR construction,
- ETR construction and training,

- Landing Zones construction and training,
- North Field Improvements construction and training,
- Expeditionary Base Camp construction,
- Aircraft shelter construction and training operations,
- Terrestrial biosecurity facilities at Tinian Port and,
- Infrastructure improvements to roads.

Therefore, these activities are not included in our analyses and will not be discussed further.

Multi-Purpose Maneuver Range Training

The MPMR will be constructed for conducting offensive and defensive training to include live-fire and non-live-fire training. Live-fire training at the MLA will be limited to the MRPR. The MRPR occupies approximately 200 acres at the northern tip of Tinian (Figure 1).



Figure 1. Military Lease Area (MLA) and the location for various components of the proposed action on Tinian.

On the MPMR, training units will use live fire with small arms (i.e., 5.56-millimeter (mm), 7.62 mm, and .50 caliber) ammunitions to engage fixed, portable, and robotic targets spread out across four engagement or objective areas with the purpose of training in offensive and defensive operations. The USMC expects the four objective areas to be between 5 and 15 acres each and will be fully contained within the 200 acres MPMR (Figure 2; NAVFAC 2025). Explosive breaching of an obstacle will also be conducted on the MPMR. Thus, the USMC expects the MPMR to function as a maneuver range, where troops move to engage targets rather than firing from a static line. Targets and other training equipment are not permanent placements, military personnel will position them prior to training events, and store them when not in use. The USMC will select target materials to deform projectiles and minimize rebound energy. Limited areas of vegetation will be cleared within the MPMR. Objective areas will be cut and maintained at approximately six inches in height, as would the vegetation around designated firing positions. The remainder of the vegetation on the MPMR will remain as is, allowing for training in a realistic jungle environment. The USMC expects the thick vegetation will also serve the purpose of a berm or natural buffer, to impede any munitions from exiting the MPMR.

The USMC Training and Education Command designed and will manage the MPMR in accordance with USMC range safety and the USMC Policies and Procedures for Range and Training Area Management (refer to MCO 3570.1 C and MCO 3550.10 for more information). To guide the management, use, and scheduling of the MLA for training, military personnel will develop a set of Standard Operating Procedures to:

- specify roles and responsibilities for Range Control and training units,
- give descriptions of the ranges and training areas,
- provide instructions on how to schedule training,
- define safety regulations for all live fire, maneuver, and air operations, and
- identify environmental compliance and regulatory management requirements.



Figure 2. Objective areas (orange) inside of the MPMR (green area with black lines; NAVFAC 2025).

The USMC will establish three surface danger zones (SDZ) that are over coastal waters to provide for safe separation of non-participating personnel and the public from live-fire training at the MPMR (Figure 3 below). SDZs are three-dimensional areas consisting of the ground, sea, and airspace within which the USMC expects a potential ricochet or fragmentation associated with live-fire activities to be contained. Only one SDZ would be active at a time and only during live-fire training. The SDZs are designed for a one in one million (1:1,000,000) escapement probability standard. As per the USMC this SDZ represents the minimum safety requirements for every weapon system and its associated ammunition that is expected to be used on the MPMR. The sea space section of the SDZ will be open to the public when no live-fire training is occurring on the range. The surface radars and/or spotters will monitor the sea space and will notify the Officer in Charge or Range Safety Officer to immediately cease training should a non-participating human entity enter the SDZ and only continue training after the entity is outside the safety area.

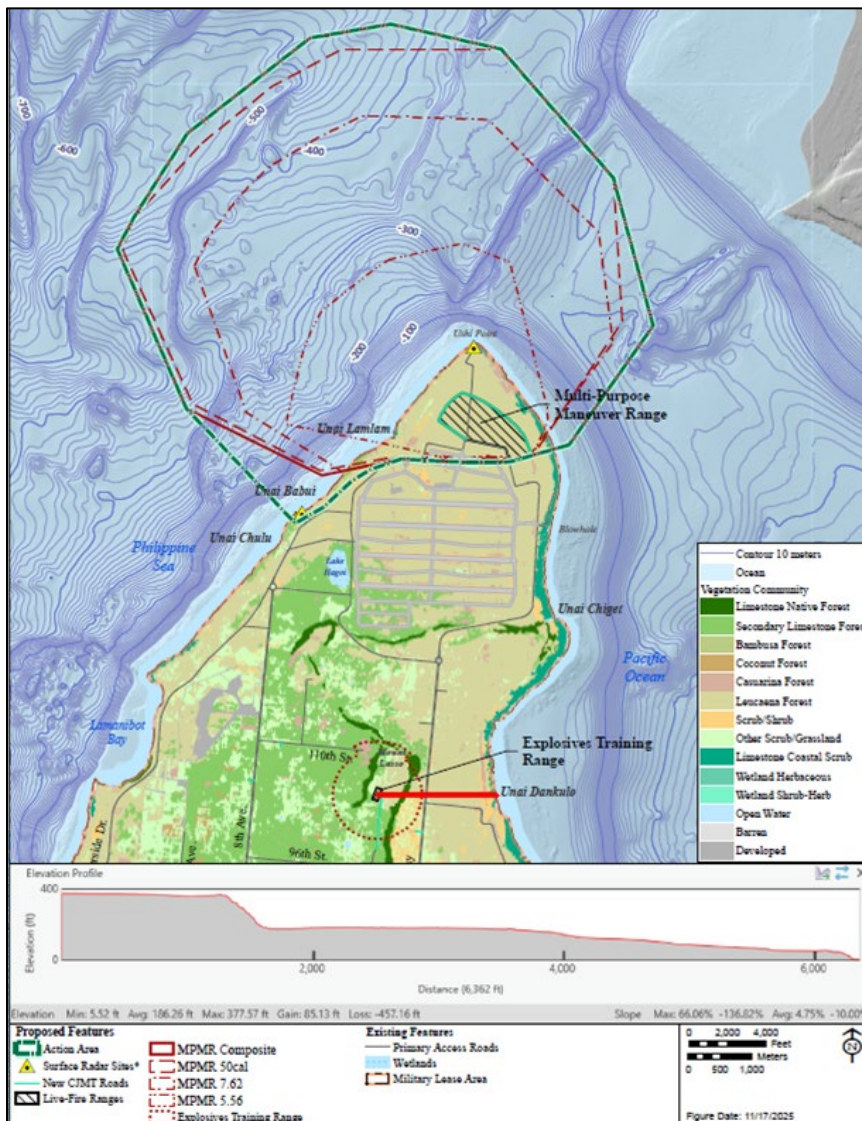


Figure 3. Surface Danger Zone associated with MPMR (maximum depths of 560 m). (USMDC 2026)

In accordance with the USMC’s probabilistic modeling, they created three SDZs for the small arms munitions that would be employed at the MPMR (Table 1). During live-fire activities, one SDZ would be activated at a time and based on the ammunition type used. Proposed weapons authorized for use in the MPMR will include small arms, training rounds, and practice rounds (NAFAC 2025). As can be seen in Table 1 below, 5.56 mm would be the small arms munition that will be employed the most at the MPMR. The SDZ for this munition will extend 1.1 miles over the ocean surface to the north and northwest of the MPMR boundary. The least-used, small arms munition would be 0.50 caliber. Thus for 70% of the training, the smallest SDZ of 1.1 miles will be activated and the largest SDZ of 3.2 miles would be activated for only 10% of training.

Table 1. Munitions to be used at the MPRM for live-fire trainings, associated SDZs, and percent of training time expected (USMC 2026)

Small Arms Munition	Length of Bullet and Casing	Bullet length and Weight	SDZ Distance Offshore	Percent of Training Expected at this Munition Size
5.56 mm	1.7 inches (in)	0.5 in/ 4 grams (g)	1.1 miles	70%
7.62 mm	2 in	0.75 in/ 10 g	2.5 miles	20%
0.50 caliber	4 in	1 inch/ 45 g	3.2 miles	10%

As discussed in the Marine Range standards (MC0 3550.10, p 2-5), the USMC standard for range availability is 242 days per calendar year. This number is determined by subtracting all weekends (104 days) and Federal holidays (10 days) and includes an additional 9 days (10 days during leap years) for range maintenance or inclement weather. The Marine Corps’ annual goal is to utilize each range for at least 70 percent of the available days per year or 169 days if range is available the entire 242 days.

Training events at the MPMR will vary in duration and size and could range from hours within a day involving a small squad or unit (e.g., approximately 15 to 40 personnel) to a large-scale joint exercise with multiple U.S. Armed Forces participating over a longer period (e.g., up to four weeks). Table 2 presents the small, medium, and large training event categories with the anticipated number of personnel, duration, and frequency (NAVFAC 2025). Training schedules are highly variable as they are dependent on individual and collective unit readiness requirements, deployment cycles, and resource availability. Small, medium, and large training events may overlap, with up to 1,000 service members participating in training on Tinian at any one time.

Before, during, and following completion of training, Range Control will inspect the training areas to verify compliance with exercise plans, agreements, and environmental requirements. The training unit will be responsible for ensuring that all military equipment maintained on Tinian for training purposes is accounted for and returned to Range Control, and that all trash, debris, and ammunition dunnage (including bullet casings, packaging, etc.) have been removed and the land restored to its original state to the maximum extent possible. Post-training inspections will verify that all munitions functioned as intended and that no unexploded or partially detonated ordnance remains. Additionally, the USMC will conduct a Range

Environmental Vulnerability Assessment (REVA) one year after each live-fire range begins operations and reassess every five years. The REVA program serves as the USMC’s proactive and comprehensive approach to ensure the environmental sustainability of USMC operational ranges. The USMC uses the REVA process to mitigate environmental impacts from active ranges.

Table 2. Training event size categories and frequency (NAFAC 2025)

Size Of Training Event	Approximate Number Of Personnel	Approximate Training Duration ¹	Approximate Training Frequency ²
Small	Up to 100	1 to 2 weeks	Routinely through the year
Medium	Up to 250	1 to 2 weeks	Once per quarter (4 times)
Large	Up to 1,000	2 to 4 weeks	2 to 4 times a year

¹ Includes time before and after training events for logistics (e.g., set up and turnover activities).

² Small, medium, and large training events could overlap, but the number of personnel on Tinian for training at any one time would be up to 1,000.

Surface Radar Tower Construction

The proposed activity includes the construction of two surface radar towers (Figure 1). Each tower includes a metal lattice tower, observation platform, radio transmitter, and receiver equipment. There will be a dedicated access road for each site. Project personnel will clear approximately 0.6 acres of vegetation and install a security perimeter fence and gate at each site. Construction near Unai Babui (Figure 1, site 1) will take place approximately 120 ft. from the shoreline and at an elevation of 10 ft.; while construction near Ushi Point (Figure 1; site 2) will take place approximately 220 ft. from the shoreline at an elevation of 36 ft. Existing vegetation will remain between the surface radar sites and the ocean, which prevents runoff to the marine environment.

The USMC will implement BMPs to help avoid, minimize, or reduce adverse effects from the action on ESA-listed species and EFH. These measures include:

1. Prepare and implement a stormwater prevention plan which will include;
 - a. Soil stabilization (such as mulch and erosion control blankets).
 - b. Perimeter and sediment control (such as silt fences, fiber rolls, gravel bag berms, and sediment traps).
 - c. Management and covering of material, waste, and soil stockpiles when not in use.
 - d. Storage of fuels and hazardous materials with proper secondary containment, and establishment of designated vehicle and equipment maintenance and fueling areas.
 - e. Management of spills and leaks from vehicles and equipment through inspections and use of drip pans, absorbent pads, and spill kits.
 - f. Development of a contingency plan to control petroleum products accidentally spilled during the project.
2. Minimize the ground disturbance area.
3. Provide erosion control through the site approval process and implement control measures such as retention ponds, swales, silt fences, fiber rolls, gravel bag berms,

- mulch, and erosion control blankets during construction and operations to eliminate and/or minimize nonpoint source pollution in surface waters due to sediment.
4. Cover soil piles and exposed slopes during times of inclement weather.
 5. Re-vegetate as soon as possible after any ground disturbance or grading and stabilize loose soils using vegetation/mulch (i.e., apply coarse plant residue to cover soil surface). The vegetation/mulch should be free of invasive species viable reproductive parts, such as rhizomes, seeds, and plants.
 6. Prepare and implement a Hazardous Materials Management plan that describes procedures for the transportation, storage, use, and disposal of hazardous materials. Procedures will also include waste minimization plans that provide protocols designed to encourage and promote the efficient use of hazardous materials, substitute products that are less toxic whenever feasible, minimize their use, and promote recycling and reuse of hazardous materials. Procedures include:
 - a. Utilize hazardous materials spill/release control (use of secondary containment and leak detection methods in operations involving liquid hazardous substances).
 - b. Ensure construction materials and all construction-related materials are free of leachable pollutants.
 - c. Ensure U.S. military personnel are trained as to proper labeling, container storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.
 - d. Ensure that all personnel and contractors store, handle, and dispose of all petroleum, oil, and lubricants per all applicable local and federal laws, regulations, and requirements.
 - e. Ensure contaminated topsoil removed from the site is properly disposed of in an approved landfill in accordance with applicable regulatory requirements.
 - f. Ensure that soils to be excavated are well characterized, properly handled, and disposed of to minimize dispersal of any contaminants that may be present.
 7. Manage live-fire ranges in accordance with MCO 3550.10, Policies and Procedures for Range and Training Area Management and update the existing training area management plans to include the new live-fire ranges. The MCO 3550.10 addresses range management practices including removing expended rounds from the ranges and transport to an appropriate recycling contractor or smelter in accordance with appropriate regulations.
 8. The USMC will conduct a baseline survey before the MPMR is approved for use. After the live-fire ranges have been in use for a minimum of 1 year, an operational REVA assessment will be conducted. REVA assessments will occur at least every 5 years after.

Action Area

The action area is defined by regulation as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). The action area for the proposed activities encompasses the full extent of the action's modifications to land, water, and air. For this action, the full extent of direct and indirect effects is the disturbance from human activity associated with nearshore radar construction and live-fire training and disturbance from mutations entering the water in the Surface Danger Zone (SDZ) associated with MPMR (Figure 3).

The USMC will conduct live fire training in the north eastern portion of Tinian Island (Figure 2), with a SDZ extending up to 3.2 miles off shore (maximum depths of 560 m) to the north and northwest of the island (Figure 3). Therefore, the action area encompasses all areas that are part of the MPMR, all areas included within the SDZ and both surface radar construction areas, which total approximately 0.6 acres (Figure 2).

Endangered Species Act

Listed Species in the Action Area

We are reasonably certain the ESA-listed species and designated critical habitat under our jurisdiction listed in Table 1 occur in the action area, and may be affected by the proposed activities. Detailed information about the biology, habitat, and conservation status of the animals listed in Table 1 is available in their status reviews, recovery plans, federal register notices, and other sources at <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>.

Table 3. Common name, scientific name, ESA status, effective listing date, critical habitat designation, and recovery plans, with Federal Register reference for ESA-listed species considered in this consultation.

Species/ common name	ESA Status	Effective Listing Date/ FR Notice	Critical Habitat	Recovery Plan
<i>Chelonia mydas</i> Central West Pacific Green Sea Turtle	Endangered	05/06/2016 81 FR 20057	Proposed 07/19/2023 88 FR 46572	5/22/1998 63 FR 28359
East Indian-West Pacific Green Sea Turtle	Threatened	05/06/2016 81 FR 20057	Proposed 07/19/2023 88 FR 46572	5/22/1998 63 FR 28359
<i>Eretmochelys imbricata</i> Hawksbill Sea Turtle	Endangered	06/03/1970 35 FR 8491		5/22/98 63 FR 28359
<i>Caretta caretta</i> North Pacific Loggerhead Sea Turtle	Endangered	10/24/2011 76 FR 58868		5/22/98 63 FR 28359
<i>Lepidochelys olivacea</i> Olive Ridley Sea Turtle	Threatened	08/28/1978 43 FR 32800		5/22/98 63 FR 28359
<i>Dermochelys coriacea</i> Leatherback Sea Turtle	Endangered	06/03/1970 35 FR 8491		5/22/98 63 FR 28359
<i>Balaenoptera musculus</i> Blue Whale	Endangered	12/02/1970 35 FR 18319		Proposed 10/12/18 83 FR 51665
<i>Balaenoptera physalus</i> Fin Whale	Endangered	12/02/1970 35 FR 18319		8/06/10 75 FR 47538
<i>Balaenoptera borealis</i> Sei Whale	Endangered	12/02/1970 35 FR 18319		7/22/11 76 FR 43985
<i>Physeter macrocephalus</i> Sperm Whale	Endangered	12/02/1970 35 FR 18319		12/28/10 75 FR 81584
<i>Megaptera Novaeangliae</i> Western North Pacific Humpback Whale	Endangered	09/08/2016 81 FR 62259	4/21/2021 86 FR 21082	
<i>Sphyrna lewini</i> Scalloped Hammerhead Shark Indo West Pacific	Threatened	09/02/2014 79 FR 38213		
<i>Carcharhinus longimanus</i> Oceanic Whitetip Shark	Threatened	03/01/2018 83 FR 4153		7/11/2024 89 FR 56865

Species/ common name	ESA Status	Effective Listing Date/ FR Notice	Critical Habitat	Recovery Plan
<i>Manta birostris</i> Giant Manta Ray	Threatened	02/21/2018 83 FR 2916		Proposed 10/15/2024 89 FR 82991
Corals <i>Acropora globiceps</i>	Threatened	10/10/2014 79 FR 53852	7/15/2590 FR 31800	
<i>Hippopus hippopus</i> Horse's Hoof Clam	Proposed Threatened	7/25/2024 89 FR 60498		
<i>Tridacna derasa</i> Smooth Giant Clam	Proposed Endangered	7/25/2024 89 FR 60498		
<i>Tridacna gigas</i> True Giant Clam	Proposed Endangered	7/25/2024 89 FR 60498		

Critical Habitat in the Action Area

Corals. We designated critical habitat for five species of Indo-Pacific corals (July 15, 2025; 90 FR 31800). On Saipan and the southern part of Tinian, we described critical habitat for *A. globiceps*, however, we did not identify critical habitat for any other listed corals in the action area. Major threats to habitat include ocean warming, ocean acidification, trophic effects of reef fishing, nutrient enrichment, contaminants, and sedimentation. Coral critical habitat consists of substrate and water column habitat characteristics essential for the listed corals' reproduction, recruitment, growth, and maturation. Sites that support the normal function of all life stages of the corals are natural, consolidated hard substrate or dead coral skeletons free of algae and sediment at the appropriate scale at the point of larval settlement or fragment reattachment, and the associated water column. Several attributes of these sites determine the quality of the area and influence the value of the associated feature to the conservation of the species:

1. Substrate with the presence of crevices and holes that provide cryptic habitat, the presence of microbial biofilms, or the presence of crustose coralline algae;
2. Reefscape (all the visible features of an area of reef) with no more than a thin veneer of sediment and low occupancy by fleshy and turf macroalgae;
3. Marine water with levels of temperature, aragonite saturation, nutrients, and water clarity that have been observed to support any demographic function; and
4. Marine water with levels of anthropogenically-introduced (from humans) chemical contaminants that do not preclude or inhibit any demographic function.

Analysis of Effects

Under the ESA (50 CFR 402.02), “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action but that are not part of the action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

The applicable standard to find that a proposed action is “not likely to adversely affect” listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial (USFWS & NMFS 1998). Discountable effects are those

extremely unlikely to occur. Insignificant effects relate to the size of the impact and should never reach the scale where take¹ occurs. Beneficial effects are contemporaneous positive effects without any adverse effects.

Despite the USMC's use of all BMPs, we identified the following stressors remain, and have the potential to affect listed marine species and/or critical habitat in the action area:

- Direct physical impact
- Exposure to sedimentation and turbidity
- Exposure to waste and discharges

To assess the effects of proposed actions, we use an exposure-response assessment framework. Effects are discountable if exposure is extremely unlikely to occur. For this reason, we first determine the probability of stressors co-occurring with individuals from the listed species, or features of critical habitat. For stressors where exposure is not discountable, we discuss the significance of the species' response.

Direct physical impact

The action could affect all ESA-listed species as described in Table 3, through direct physical impacts including accidental contact with equipment, munitions, and personnel during MPMR activities, construction and other training activities. Small arms training, ricochet, or fragmentation associated with live-fire activities could cause sharp and blunt force injuries, and lethal effects can occur immediately upon impact.

Sea turtles: The risk of munition, equipment and/or personnel contacting a sea turtle within the action area depends on the number of individuals present, the time spent at the surface, in-water activities, and the probability of a bullet striking the water at a given moment. The majority of sea turtles described in Table 3 are pelagic and are not expected to occur in nearshore waters. Hawksbill sea turtles may occur in nearshore areas but show a preference for deeper offshore waters. Only green sea turtles are expected to occupy the area immediately surrounding the MPMR where the majority of activities will not affect the water. We are reasonably certain that motile ESA-listed individuals will, at worst, swim away to avoid the majority of the construction related activities and associated impacts.

We anticipate approximately 28 green sea turtles, primarily juveniles, in the area around the firing range (Cross Point and Northwest Tinian; Kolinski et al. 2004). Green sea turtles in the Mariana Islands spend approximately 6% of their time within the top 2 m of the water column (Martin et al. 2019). Therefore, much less than 6% of the approximately 28 green sea turtles will be near the surface of the water at any given time. At 6%, we would expect one or two individuals to be within the first 2 m of the water column at any given time. We would therefore anticipate that no more than one would be within the first 0.5 m of the water column and susceptible to harm from a round hitting the water.

In addition, we anticipate up to 18 rounds of ammunition will hit the water per year, or approximately 0.1 per day. If no more than one round hit the water in one day, one round can be

¹ Under the ESA, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. § 1532). We further define "harass" as to create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (Wieting 2016).

anticipated to hit the water 10 days out of the year. Moreover, live ammunition will lose lethal velocity within the first few feet of hitting the water.

Given that 1) we expect no more than 18 rounds hitting the water in any given year, 2) fewer than 30 green sea turtles are expected to be present in the waters near the firing range, and 3) sea turtles have a less than 6% chance of being near the surface when a round hits; we are reasonably certain the likelihood of exposure of a green sea turtle to direct physical impact is extremely unlikely and, therefore discountable.

Marine Mammals: The blue, fin, and sei whales described in table 3 are mostly migratory species who rarely frequent nearshore waters. Humpback whales utilize the waters surrounding the CNMI as a winter breeding and calving area, and may be found resting or taking care of young in nearshore shallow waters, particularly from late winter to early spring. Humpback whale distributions around Tinian are unknown, but the most current population estimate for the Western North Pacific Distinct Population segment (WNP DPS) is approximately 1,007 (Young et al. 2023). Given the total estimated population and the total size of the SDZs we would expect no more than 0.003 whales to occur within this area. Only sperm whales can be found within CNMI year-round. However, sperm whales mostly inhabit areas with water depths exceeding 600 m, and are considered uncommon in waters less than 300 m in depth. We are reasonably certain that motile ESA-listed individuals will, at worst, swim away to avoid the majority of the construction related activities and associated impacts.

The USMC has designed their SDZs for a one in one million (1:1,000,000) escapement probability and expect that the 3.2 miles 0.50 caliber SDZ would only be used for 10 % of all training days, or approximately 45 days per year. Furthermore, this SDZ reaches a depth of 560 m which is shallower than the expected distributions for sperm whales. The SDZ expected to be used routinely extends 1.1 miles from shore and to an approximate depth of 275 m, at this depth we would not expect a sperm whale to occur. Therefore, we do not have any reason to believe the risk of a munition striking a whale would be higher than for sea turtles as described above. Based on the low likelihood of an ESA-listed marine mammal to be in the area and the unlikely event of a munition entering the water, we are reasonably certain the probability of any appreciable exposure to direct physical impact to the ESA-listed species as described in Table 3, is extremely unlikely and, therefore discountable.

Elasmobranchs: Indo-Pacific Scalloped Hammerhead shark, oceanic whitetip sharks (OWT) and giant manta rays (GMR) are primarily pelagic species that may occur in offshore waters around CNMI. OWT prefer waters at least 200 m deep while GMR and Indo-Pacific Scalloped Hammerhead shark may use estuarine waters, oceanic inlets, and bays as nursery habitat. While the SDZs will overlap with the expected distributions of these species, elasmobranch abundances are generally low and widely distributed and these species rarely spend time at the water's surface. Moreover, we do not have any evidence to suggest that the Indo-Pacific Scalloped Hammerhead shark occurs near Tinian. Therefore, we do not have any reason to believe the risk of a munition striking an elasmobranch would be higher than for sea turtles as described above. Based on the low likelihood of an ESA-listed elasmobranch to be in the area and the unlikely event of a munition entering the water, we are reasonably certain the probability of any appreciable exposure to direct physical impact to the ESA-listed elasmobranchs as described in Table 3, is extremely unlikely and, therefore discountable.

Corals and mollusks: ESA-listed corals may occur within the nearshore areas surrounding the MPMR including within the SDZ expected to be routinely used (1.1 mile). Colonies of *A. globiceps* were noted in various locations during Navy surveys in areas including Unai Babui, Puntan Diablo, Unai Chulu, Puntan Lamanibot, Atgidon, and Barcinas Bay (Navy 2017b as cited in USMC 2026). The proposed *H. hippopus*, *T. derasa*, and *T. gigas*, are all native to CNMI, but all are very rare or extirpated (Rippe et al.2024), and are therefore not expected within the action area.

While we properly assume for listed vertebrate species that physical contact of munitions with an individual constitutes an adverse effect due to high potential for harm or harassment, the same assumption does not hold for listed corals due to two key biological characteristics:

1. All corals are simple, sessile invertebrate animals that rely on their stinging nematocysts for defense, rather than predator avoidance via flight response. Whereas it is logical to assume that physical contact with a vertebrate individual results in stress that constitutes harm or harassment, the same does not apply to corals because they have no flight response.
2. Most reef-building corals, including all the listed species, are colonial organisms, such that a single larva settles and develops into the primary polyp, which then multiplies into a colony of hundreds to thousands of genetically identical polyps that are seamlessly connected through tissue and skeleton. Corals achieve colony growth mainly by adding more polyps, and colony growth is indeterminate. The colony can continue to exist even if numerous polyps die, or if the colony is broken apart or otherwise damaged. In the final coral listing rule, we define the individual of these listed species as the colony, not the polyp (79 FR 53852). Thus, affecting some polyps of a colony does not necessarily constitute harm to the individual.

In addition, we anticipate up to 18 rounds of ammunition will hit the water per year, or approximately 0.1 per day. If no more than one round hit the water in one day, one round can be anticipated to hit the water 10 days out of the year. Moreover, live ammunition will lose lethal velocity within the first few feet of hitting the water and given the low occurrence of *A. globiceps* expected it is extremely unlikely that a munition would contact a coral. Although coral species may reproduce around Tinian Island, the densities of coral larvae in the action area are likely to be very low except during peak spawning when density may be high over reef areas for a short period of time. Since the proposed activities are primarily land-based it is extremely unlikely to overlap with peak spawning densities and will occur well away from the reef, the impacts would have discountable effects on coral larvae concentrations of ESA-listed species. Therefore, we are reasonably certain the probability of any appreciable exposure to direct physical impact on the ESA-listed corals or mollusks species as described in Table 3 is extremely unlikely and, therefore, discountable.

Exposure to Sedimentation and Turbidity

The proposed surface radar construction activities have the potential to introduce temporary and localized increases in water column turbidity and sedimentation. Exposure to turbidity and sedimentation may temporarily affect the species as described in Table 3. Corals and mollusks are vulnerable to smothering, reduced light and forage, and increased energy expenditures for sediment shedding while the expected effect on motile species like turtles, marine mammals and elasmobranch is a temporary behavioral response, such as avoidance or increased respiration.

Elevated turbidity can also reduce a species ability to detect predators and could have negative effects on prey resources. For motile species the effects will be minimal because they are highly agile and possess the ability to avoid turbid areas. Behavioral responses, such as temporary avoidance, are expected to be short-lived and recoverable. For sessile species, like corals, who are more likely to be adversely affected by the resuspended sediments and rubble, exposure is mitigated by multiple protective measures. The USMC will implement BMPs that require the use of mitigating engineering controls, such as silt fences, fiber rolls, gravel bag berms, mulch, and erosion control blankets and implement a stormwater prevention plan. Assuming USMC will effectively implement the above-mentioned measures, we expect ESA-listed species will experience relatively low levels of increased turbidity and/ or sedimentation above baseline levels. Therefore, given the implemented BMPs and protective measures employed by USMC and their contractors, we are reasonably certain the effects of turbidity and sedimentation on the UES-listed species as described in Table 3 will not reach the scale where harm or harassment occur, and are therefore insignificant.

Exposure to waste and discharges

All ESA-listed species described in Table 3 may be exposed to waste and discharge. Project waste and debris, including plastic bags and other items, may enter the water, and equipment can cause accidental spills of petroleum-based products (lubricants, oil, and fuel). Some residual hazardous chemicals are likely to be introduced in the marine environment however, the area affected by the dissolution of chemicals would be relatively small because of the size of the components and the minimal amount of residual materials they would contain. Any chemicals introduced to the water column would be quickly diluted and dispersed by wave action, ocean currents, and the large volume of water. BMPs establish that the project will maintain a Hazardous Materials Management plan to control and properly dispose of hazardous waste. The USMC will maintain a contingency plan to control and clean spilled petroleum products, and equipment and vehicles are checked daily before commencing work to reduce the risk of leaks and discharge. Activities will cease if leaks are detected from equipment operations and will not proceed until repaired. If any accidental spill occurs, it is anticipated to be small in size, contained, and quickly cleaned up before entering the aquatic environment. Based on the low likelihood of an ESA-listed species in the vicinity, the unlikely event of a spill, and the adherence to the BMPs that will prevent or minimize potential exposure from spills and hazardous chemicals, we are reasonably certain the probability of any appreciable exposure to the ESA-listed species as described in Table 3, is extremely unlikely and, therefore discountable.

Critical Habitat

The proposed activities may overlap with the critical habitat of *A. globiceps*. Physical and biological features of the critical habitat that may be affected by the action include; areas from 0 to 20 m in depth with substrate with the presence of crevices and holes that provide cryptic habitat, the presence of microbial biofilms, or the presence of crustose coralline algae; reefscape with no more than a thin veneer of sediment and low occupancy by fleshy and turf macroalgae; marine water with levels of temperature, aragonite saturation, nutrients, and water clarity that have been observed to support any demographic function, and with levels of anthropogenically-introduced chemical contaminants that do not preclude or inhibit any demographic function. Potential stressors that may affect the critical habitat and will not occur but for the proposed action include the exposure to wastes and discharge, and exposure to increased turbidity.

Land-based construction activities may cause temporary, localized, and short-term turbidity and disruptions of food distribution in the foraging area. We expect that turbidity may temporarily affect water quality but do not expect significant changes to sediment characteristics, water quality, or changes in prey quality. As discussed in the exposure to increased turbidity section, any disruption will be too small to be measured. Based on the implemented BMPs, we are reasonably certain that the probability of appreciable exposure to elevated turbidity to essential features of *A. globiceps* critical habitat is extremely small and therefore insignificant.

Exposure to the essential features of the critical habitat for *A. globiceps* to waste and discharge may occur due to accidental leaks or spills from equipment associated with the action. As discussed in the exposure to *waste and discharges section* above, the implemented BMPs will prevent any discharge into the marine environment and manage leaks or spills. As a result, we are reasonably certain the probability of exposure to waste and discharge in the critical habitat *A. globiceps* critical habitat is extremely unlikely and is therefore discountable.

Conclusion

Considering the information and assessments presented in the consultation request and available reports and information, and in the best scientific information available about the biology and expected behaviors of the ESA-listed marine species considered in this consultation, all effects of the proposed action are either discountable or insignificant. Accordingly, we concur with your determination that the proposed action is not likely to adversely affect the following ESA-listed species and designated critical habitats: endangered sperm, fin, blue, sei, and Western North Pacific humpback whales; endangered Central West Pacific green turtles; threatened East Indian-West Pacific green turtles; endangered hawksbill turtles; endangered North Pacific loggerhead turtles; threatened olive ridley turtles; endangered leatherback turtles; threatened Indo-West Pacific scalloped hammerhead sharks; threatened oceanic whitetip sharks; threatened giant manta rays; 1 threatened Indo-Pacific coral; three giant clam candidate species; and designated critical habitat for *A. globiceps*. This concludes informal consultation under section 7 of the ESA for species under our jurisdiction.

Magnuson Stevens Fisheries Conservation Act

Section 305(b) of the MSA directs federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.905(b)).

The marine water column from the surface to a depth of 3,281 ft from the shoreline to the outer boundary of the EEZ (200 nautical miles), and the seafloor from the shoreline out to a depth of 2,296 ft around each of the Mariana Islands, have been designated as EFH. As such, the water column and bottom and all surrounding waters and submerged lands around Tinian are designated as EFH and support various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Mariana Archipelago Fishery Ecosystem Plans and amendments (WPFMC 2009a, 2009b, 2018). The MUS and life stages found in these waters include eggs, larvae, juveniles, and adults of Bottomfish and Pelagic MUS. Specific types of habitat considered as EFH within, or adjacent to, the proposed project area include coral reef, patch reefs, hard substrate, artificial substrate, seagrass beds, soft substrate, lagoon, estuarine, surge zone, deep-slope terraces and pelagic/open ocean.

The ESA analysis of the effects of this action is sufficient to serve as the EFH analysis for this project. The stressors to the physical and biological features of the habitat, including sedimentation, physical abrasion, and water quality degradation, are sufficiently analyzed in the ESA section. The USMC determined that the proposed activities and their resulting impacts would result in minimal and temporary impacts to EFH. Small or minimal temporary reductions to the quantity or quality of EFH are considered adverse effects. NMFS has determined that the action may adversely affect EFH. Non-fishing effects that may adversely affect essential fish habitat in the Pacific Islands region are described by Minton (2017). NMFS has determined the proposed action would adversely affect EFH as follows:

1. Physical damage to EFH during training events (e.g., via munitions, or personnel that may enter nearshore waters while on or off duty).
2. Temporary degradation of habitat (water column, nearshore area, hard bottom, sandy bottom) for all life stages of Pelagic and Bottomfish Management Unit Species due to increased turbidity associated with nearshore construction activities.
3. Potential bioaccumulation of contaminants associated with munitions entering nearshore waters that could reduce the quality or quantity of EFH, and adversely affect MUS and their prey base.

Essential Fish Habitat Conservation Recommendations

Pursuant to Section 305(b)(4)(A) (as described by 50 CFR 600.920 and 600.925(b)) of the MSA, we provide the following CRs that, when implemented, will ensure that potential adverse effects to EFH at the proposed action areas are avoided, minimized, and offset.

EFH Conservation Recommendations:

1. NMFS recommends that the USMC conducts clean ups of the accessible SDZ areas once at least every 5 years to remove any spent munitions or fragments that may have entered the nearshore waters. This will limit environmental contamination and help ground truth the USMC SDZ modeling.
2. NMFS recommends that the USMC add sediment and water quality testing to the REVA process to ensure heavy metals are not contaminating the nearshore environment including EFH.
3. NMFS recommends that the USMC or Navy survey the nearshore areas near the MPMR to improve estimates of munitions entering nearshore waters and to inform cleanup

activities and protect EFH. Munitions estimates could potentially be integrated into the ongoing Integrated Natural Resources Management Plan (INRMP) marine survey projects on Tinian.

As required by section 305(b)(4)(B) of the MSA, USMC must provide a detailed response in writing to NMFS within 30 days after receiving an EFH CR. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH CR unless NMFS and the federal agency have agreed to use alternative time frames for the federal agency response (50 CFR 600.920(k)(1)). The response must include a description of the measures proposed by the agency for avoiding, minimizing, mitigating, or otherwise offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the CR, the federal agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)(1)).

Reinitiation Notice

The reinitiation of ESA section 7 consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law (50 CFR 402.16(a) [2023]) and if:

- a. Take occurs to an ESA-listed species;
- b. New information reveals effects of the action that may affect ESA-listed species or designated critical habitat in a manner or to an extent not previously considered;
- c. The identified action is subsequently modified in a manner that causes an effect to ESA-listed species or designated critical habitat that was not considered in this concurrence; or
- d. A new species is listed or a critical habitat is designated that may be affected by the identified action.

The USMC must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' effects determination (50 CFR 600.920(l)).

If you have further ESA related questions, please contact Kristina Dauterman at (808) 725-5136 or kristina.dauterman@noaa.gov. For additional EFH related questions, please contact Steven McKagan at (670) 234-0004 or steven.mckagan@noaa.gov. Thank you for working with us to protect our nation's living marine resources.

Sincerely,

Dawn Golden
Assistant Regional Administrator
Protected Resources Division

Cc: M. Bejder, NAVFAC
K. Barker, NAVFAC
W. Dauberman-Zerby, NAVFAC
A. Bostwick, NAVFAC
J. Rice, USMC
C. Imaki, USMC
D. Roderique, US Navy
NMFS File No.: PIRO-2026-00575/ INQ-2026-00063
PIRO Reference No.: I-PI-26-2632-DG

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND MARIANAS
PSC 455, BOX 195
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IN REPLY REFER TO:
5090
Ser EV25/
1 May 2026

From: Todd Armsworth, Director, Defense Policy Review Initiative (DPRI) Pacific Posture

To: Dawn Golden, Assistant Regional Administrator, Protected Resources Division, Pacific Islands Regional Office, National Marine Fisheries Service, 1845 Wasp Blvd., Bldg. 176, Honolulu, HI 96818

Subject: UNITED STATES MARINE CORPS' RESPONSE TO CONSERVATION RECOMMENDATIONS INCLUDED IN THE ESSENTIAL FISH HABITAT CONSULTATION ON THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS JOINT MILITARY TRAINING (PIRO-2026-00575/ INQ-2026-00063/ I-PI-26-2632-DG) PROPOSED ACTION

Dear Ms. Golden,

In accordance with the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 6 U.S.C. §1801 et seq.), the United States Marine Corps (USMC) is providing this letter as a response to the National Marine Fisheries Service's (NMFS) conservation recommendations that were included in the 16 April 2026 EFH consultation for the proposed Commonwealth of the Northern Mariana Islands Joint Military Training (CJMT) Environmental Impact Statement. USMC determined that the proposed action will result in minimal and temporary impacts to EFH in the EFH Assessment it submitted on 20 February 2026. USMC understands that conservation recommendations from NMFS are offered so that any potential adverse effects from the proposed action are avoided, minimized, offset for or otherwise mitigated.

NMFS EFH Conservation Recommendation 1: NMFS recommends that the USMC conducts clean ups of the accessible SDZ areas once at least every 5 years to remove any spent munitions or fragments that may have entered the nearshore waters. NMFS asserts that this will limit environmental contamination and help ground truth the USMC SDZ modeling.

USMC Response to Conservation Recommendation 1: This conservation recommendation does not consider the water depths nor the oceanographic conditions that commonly occur within the CJMT Surface Danger Zones (SDZs) northwest of Ushi Point. These waters quickly reach depths of 100 feet or more and are frequently subject to moderate to strong swells. There is no beach area along the northeast and northwest shoreline. Instead, it has rugged coral outcroppings along the shoreline edges and thick vegetation, extending close to and upward from the shoreline edge. Given these conditions, the USMC must consider safety when considering the feasibility of this conservation recommendation, especially

since it would be a very rare and infrequent occurrence for any munitions or fragments to enter the SDZs. Another consideration is the level of disturbance to ocean sediments that would occur with any removal of spent conditions. Also, given the history of activity on and around Tinian during World War II, it would be expected that there would be unexploded ordnance in this area, also posing a serious safety risk if any clean up were to be attempted. USMC expects that any fragment that may enter the nearshore waters of the SDZ would either be removed by the swift currents within the area, be buried by sand or settle within depressions in any hard substrate. Consequently, it is unlikely that any spent items would be detectable during surveys intended to locate munitions or fragments that could be attributable to CJMT activities that may occur on the Multipurpose Maneuver Range (MPMR). In addition, the high cost to mobilize marine surveys in Tinian would not be warranted nor commensurate with the unlikely impacts to the benthic habitat. Therefore, the USMC believes that future clean-up activities in the SDZ would be unfeasible and ineffective and it does not intend to adopt this conservation recommendation

NMFS EFH Conservation Recommendation 2: NMFS recommends that the USMC add sediment and water quality testing to the REVA process to ensure heavy metals are not contaminating the nearshore environment including EFH.

USMC Response to Conservation Recommendation 2: The same safety concerns cited for Recommendation 1 apply to Recommendation 2, especially considering the rare and infrequent nature over which munitions or fragments may enter the water. As described in Section 8.1.2 of the Revised Draft Environmental Impact Statement (June 2025), the MPMR will be managed as a USMC Range Complex by trained, on-island Range Control, and this management will comply with Marine Corps Order 3550.12A, Operational Range Clearance Program, and Department of Defense Instruction 4715.14, Operational Range Assessments (Range Environmental Vulnerability Assessment or REVA). This latter program is implemented to determine whether there has been any release or substantial threat of release of munitions constituents from an operational range or range complex to off-range areas that creates an unacceptable risk to human health and the environment. Consequently, water quality and sediment testing of offshore waters and sediments would not be warranted or commensurate with any expected impacts to benthic or water column EFH resulting from the proposed action, as well as be costly and implicate numerous safety concerns for those collecting samples. For these reasons, USMC does not intend to adopt this conservation recommendation.

NMFS EFH Conservation Recommendation 3: NMFS recommends that the USMC or Navy survey the nearshore areas near the MPMR to improve estimates of munitions entering nearshore waters and to inform cleanup activities and protect EFH. NMFS asserts that munitions estimates could potentially be integrated into the ongoing Integrated Natural Resources Management Plan (INRMP) marine survey projects on Tinian.

USMC Response to Conservation Recommendation 3: As stated above for Recommendations 1 and 2, the oceanographic and shoreline conditions of the nearshore waters off the north coast of Tinian, including the areas within the SDZs would preclude a safe and accurate survey of spent munitions, which we expect would only enter that area on a very rare and infrequent occurrence. Therefore, the USMC believes that future surveys of the nearshore areas near the MPMR would be unfeasible and ineffective, and it does not intend to adopt this conservation recommendation.

USMC appreciates NMFS's effort and careful deliberation invested in evaluating the proposed action and providing these EFH conservation recommendations. Should you have any questions, please contact Ms. Jacqueline Rice, Headquarters Marine Corps, at jacqueline.rice@usmc.mil.

Sincerely,

Todd Armsworth
Director
DPRI Pacific Posture

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APPENDIX B
2015 DRAFT EIS/OEIS COMMENT SUMMARY

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APPENDIX B

2015 Commonwealth of the Northern Mariana Islands Joint Military Training Draft Environmental Impact Statement/Overseas Environmental Impact Statement Comment Summary

On March 14, 2013, the Department of the Navy (DON) published a Notice of Intent to prepare an Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) for the construction and operation of training ranges on Tinian and Pagan in the Federal Register (FR) (78 FR 16257). The Notice of Intent announced a 45-day public scoping period; the dates, times, and locations for public scoping meetings; and the various methods available for submitting comments on the Proposed Action. In addition, the Notice of Intent stated the public scoping process would be used to satisfy National Historic Preservation Act (NHPA) Section 106 public engagement requirements in accordance with 36 C.F.R. section 800.8(c). The public scoping period was extended an additional 14 days on April 23, 2013 (78 FR 23920) and ended on May 12, 2013. Three public scoping meetings were held in the Commonwealth of the Northern Mariana Islands (CNMI) on April 10–12, 2013.

Collectively, the scoping comment submittals from government agencies, elected officials, business and commercial entities, interest groups, and individual citizens included 1,363 comments on 24 different topics. The six topics that received the most comments were the proposed use of Tinian and Pagan for military training, socioeconomics, land use, indirect/cumulative impacts, environmental justice, and biological effects. Commenters also questioned the need for live-fire training given the availability of computer simulation and existing training ranges on Farallon de Medinilla, Guam, and Hawaii.

On April 6, 2015, the DON published a Notice of Availability for the Draft EIS/OEIS in the Federal Register (80 FR 18385). The Notice of Availability announced a 60-day public review and comment period and identified locations where the Draft EIS/OEIS could be reviewed; the dates, times, and locations for public meetings; and indicated the National Environmental Policy Act (NEPA) process, including the Draft EIS/OEIS public meetings, would also satisfy NHPA Section 106 requirements. Advertisements containing similar information concerning the availability of the Draft EIS/OEIS were also placed in local newspapers. With three announced extensions, the public comment period lasted approximately six months, from April 6 through October 1, 2015. Three public meetings were held, two on Saipan and one on Tinian.

During the Draft EIS/OEIS public comment period, 28,527 comments were received. Commenters included the CNMI and federal government agencies, elected officials, business and commercial entities, interest groups, and individual citizens. Of the total number of comments received, 2,748 comments were unique, with the remaining comments consisting of petition signatures and form letters. The Proposed Action analyzed in the 2015 Draft EIS/OEIS included 14 live-fire ranges, an airfield, amphibious landings, permanent housing, and a High Hazard Impact Area on Tinian, as well as combined arms training with aerial and ship bombardment with a High Hazard Impact Area on the island of Pagan. The comments received on the 2015 Draft EIS/OEIS were critical of the Proposed Action.

After the Draft EIS release in 2015, CNMI Governors Inos and Torres requested a Section 902 consultation with the United States (U.S.) Government, with the CNMI Joint Military Training (CJMT) EIS being one of the topics of concern. The *Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America* (The Covenant) (Public Law 94-241) governs relations between the U.S. and the CNMI. Section 902 of the Covenant indicates that the Governments of the U.S. and the CNMI “will designate special representatives to meet and consider in good faith such issues affecting the relationship between the Northern Mariana Islands and the United States as may be designated by either Government and to make a report and recommendations with respect thereto.” These discussions are known as 902 Consultations. The latest 902 Consultation Report was produced in 2017 (U.S. 2017) and contains the following commitments:

- Both within and apart from the NEPA process, Department of Defense (DoD) will redouble its efforts to be transparent and consult with the CNMI political leadership on all issues of concern. DoD will strive to meet that commitment with engagements through the NEPA process and through separate engagements outside the NEPA process by Joint Region Marianas and U.S. Pacific Command. In addition, DoD will work with the CNMI to establish a consultative structure shortly after conclusion of the 902 Consultations. This consultative structure would be apart from the Section 902 process and provide another avenue and regular forum to address issues of mutual interest or concern.
- DoD agrees to share the new CJMT alternatives with CNMI leaders prior to publishing the Revised Draft EIS; these revised alternatives will seek to respond to public (including the CNMI) concerns while meeting DoD's joint training requirements.

The CNMI Government agreed to continue discussions on the proposed CJMT action in 2019. Engagements included a Live-fire Demonstration in Hawaii (October 2019), a site visit to Tinian (November 2019), and a discussion of “Current Thinking” (January 2020). However, the COVID-19 pandemic interrupted subsequent discussions, as a result of required government responses and health management actions. In December 2020, U.S. Indo-Pacific Command and CNMI agreed to resume discussion in January 2021 with a “Reconnect” meeting with staff officers.

At the CNMI’s request, from June to December 2016, the U.S. and CNMI governments held a series of virtual and in-person discussions pursuant to Section 902 of the 1976 Covenant (Section 902 Consultations). These discussions included, among other issues, concerns with the USMC expansive training proposal. Later, at the request of the CNMI governor, the USMC paused activity on CJMT to allow the CNMI to focus resources on the U.S. Air Force Divert proposal. During the global COVID-19 pandemic, the parties held small-group virtual meetings. The USMC re-engaged with the CNMI government on CJMT with an in-person meeting in January 2020, virtual meetings in January 2021 and June 2021, and in-person meetings in July 2021, March 2022, August 2022, March 2023, June 2023, September 2023, and December 2023 to discuss changes to the Proposed Action and the Revised Draft EIS. The USMC also held public information sharing meetings in August 2023 to share the revised training proposal with the public.

In response to the comments and input from the public, Table B-1 summarizes the 2015 comments and provides responses for how USMC made changes to the Proposed Action and environmental analysis.

Table B-1 Summary of Representative Comments Submitted on the 2015 Draft EIS/OEIS

<i>Issue</i>	<i>Comment Summary</i>	<i>How Comments Were Addressed</i>
Proposed Action and Alternatives	Commenters requested that additional alternatives outside the CNMI be considered and expressed the opinion the alternatives evaluated were too similar.	<p>USMC re-evaluated the alternatives including considering locations outside of CNMI. However, alternative locations do not meet the purpose and need. USMC made significant changes to the Proposed Action including:</p> <ul style="list-style-type: none"> • Removal of all training on Pagan. • Live-fire ranges reduced from 14 to 2 (multi-purpose maneuver and explosives training). • All fixed-wing aviation delivered ordnance on Tinian was removed and replaced by simulated close air support for fixed-wing aviation only (i.e., aviators talking with ground units). • Ordnance from helicopters was removed. • Field Carrier Landing Practice was removed to reduce impacts to airport infrastructure, aviation traffic, and aircraft-generated noise on Tinian. • Proposed expeditionary aviation training would be focused around the North Field “Baker runway.” • A forward arming and refueling point that would include expeditionary airfield development, sustainment, and airfield defense would be sited at Baker runway in accordance with National Park Service directives and the requirements of NHPA Section 110. • Tanks and tank trails were removed. • Additional Tactical Amphibious Landing Training was removed. • No Military Training areas were designated around wetlands and natural resources. • U.S. Agency for Global Media Communications (formerly International Broadcast Bureau) would not be relocated.
Geology and Soils	Commenters inquired about potential damage to coastal processes and beaches, potential impacts to prime farmland soils, and requested a description of how federal regulations would be applied to activities on Tinian and Pagan. Commenters also requested that baseline soil contamination data for sites on Pagan be collected for future comparison.	USMC re-evaluated the 2015 approach and eliminated additional in-water training and the beach ramp. USMC updated potential impacts to geology and soils, including farmland, related to the reduced Proposed Action footprint.
Water Resources	Commenters asked for additional details and data regarding potential impacts to groundwater, surface waters, wetlands and	USMC re-evaluated the Proposed Action to reduce impacts and site ranges away from sensitive resources. USMC eliminated

<i>Issue</i>	<i>Comment Summary</i>	<i>How Comments Were Addressed</i>
	<p>watershed processes resulting from munitions constituents, potential contamination from spills of hazardous materials, impacts to limestone formation, increased potable water demand, etc. Other areas of concern included aquifer capacity, potable water sourcing options, and water rights. Additionally, commenters asked about the effectiveness of the Range Environmental Vulnerability Assessment (REVA) program and requested more baseline data generation and analysis for sites on Pagan and more detailed descriptions of Best Management Practices.</p>	<p>training on Pagan and reduced live-fire ranges from 14 to 2. Ranges were sited in the Exclusive Military Use Area (EMUA) and away from wetlands.</p> <p>The Final EIS provides a more detailed analysis and development of site-specific management practices for groundwater to ensure that groundwater is managed in accordance with CNMI regulations and coordinated with the Bureau of Environmental and Coastal Quality.</p> <p>In response to public concerns and to evaluate the behavior of munitions constituents in the Tinian environment, USMC utilized SEVIEW© software, which contains a combination of models (SESOIL and ATD123D) to simulate the fate of munitions constituents that are present in both soil and groundwater. The results of the modeling over a 100-year timeframe found that munitions constituents did not infiltrate to groundwater for each of the pathways modeled.</p>
<p>Air Quality</p>	<p>Commenters requested additional detail regarding significance determinations, compliance with national air quality standards, quantification of live-fire operations and airborne chemicals, monitoring plans, adaptive management, and climate change considerations.</p>	<p>USMC significantly reduced proposed operations and development in the revised action. The Final EIS re-evaluates the potential air quality impacts related to the reduced Proposed Action footprint and would include an assessment of mobile sources or permitted stationary sources.</p>
<p>Noise</p>	<p>Commenters were concerned with increased noise, significance thresholds, and potential impacts to daily life. They also asked whether Federal Aviation Administration’s Part 150 funds would be available to soundproof affected homes and public resources.</p>	<p>USMC significantly reduced proposed air operations in the revised action and sited live-fire ranges in the EMUA away from the public to reduce noise impacts. The Final EIS re-evaluates the potential noise impacts related to the reduced Proposed Action footprint and would include any new aircraft.</p>
<p>Land Use</p>	<p>Commenters requested greater consistency in land use designations, inquired regarding military acquisition of lands and access to military acquired lands, and expressed concerns about the availability and application of remediation funds after the lease period.</p>	<p>In response to these community concerns, the USMC revised their training approach, moving from an exclusionary approach where the training areas would be gated and fenced, to a shared use model that seeks to allow the greatest possible civilian access to the Military Lease Area. USMC does not plan to acquire additional lands. USMC also created eight subdivided training areas and would establish Range Control to coordinate training with public access. Range control maintains the training schedule and would work with the community on scheduling and access planning, specifically to avoid training on days that are important to the community, such as traditional fiestas. USMC is working to prioritize public access to cultural and recreational</p>

<i>Issue</i>	<i>Comment Summary</i>	<i>How Comments Were Addressed</i>
		sites, and would limit access only when required for public health and safety or to comply with DoD safety requirements. Access to agricultural uses would be available 24/7. Live-fire ranges would be for military use only.
Recreation	Commenters requested additional information regarding access to recreational resources, compatibility of training with holidays and festivals, maintenance of recreational areas, and a system for monitoring and tracking visitor data. Commenters expressed concerns about the accuracy of baseline data relating to recreational sites and the potential degradation of offsite recreational areas and requested coordination between military and tour operators to maintain existing recreational resources in acknowledgement of increased demand.	The plan for eight subdivided training areas and Range Control to coordinate training with public access would be implemented as part of the revised Proposed Action. USMC would work to prioritize public access to recreational sites and would limit access only when required for public health and safety or to comply with DoD safety requirements.
Terrestrial Biology	Commenters expressed concerns about habitat loss, effects of munitions constituents on bird species, endangered species, invasive species, biosecurity, habitat protection, International Broadcast Bureau relocation, and unexploded ordnance (UXO) removal and questioned the adequacy of proposed avoidance and mitigation measures.	The new Proposed Action greatly reduces the area of habitat and terrestrial biological impacts. USMC proposes expeditionary airfield and a Base Camp with a greatly reduced footprint. The Final EIS includes an updated terrestrial biological survey and updated analysis of potential impacts from training and construction.
Marine Biology	Commenters expressed concerns about the effects of amphibious landings, invasive species, biosecurity, sedimentation effects, and munitions constituents. They also questioned the analysis of potential impacts to coral reefs, Special Status Species, marine mammals, sea turtles, intertidal habitat, and Essential Fish Habitat; measures to avoid or mitigate impacts; and analysis of data used for impact determinations.	In response to these community concerns, the USMC revised their training approach to eliminate additional in-water training and beach landings. Only those previously approved training events would take place. The revised Proposed Action is limited to land-based training and greatly reduces the footprint from the prior proposed training approach.
Cultural Resources	Commenters requested more information regarding the preservation of cultural resources, avoidance measures, and potential impacts to the National Historic Landmark at North Field. They also expressed concern about vibration effects to cultural sites, mitigation of construction impacts, and consistency with existing programmatic agreements.	In response to these community concerns, the USMC revised their training approach, moving from a heavily developed approach to an austere approach with a greatly reduced footprint. USMC actively sited the ranges, Landing Zones, Base Camp, and communication towers to avoid impacts to cultural resources. In addition, Range Control would work with the community on scheduling and access planning, specifically to avoid training on days that are important to the community. USMC is working to prioritize public access to cultural resources and would limit access only when required for public health and safety or to comply with DoD safety requirements. USMC would also assess impacts to historic properties from training events and the Proposed Action footprint.

<i>Issue</i>	<i>Comment Summary</i>	<i>How Comments Were Addressed</i>
Visual Resources	Commenters requested the EIS/OEIS account for a larger definition of visual resources (e.g., 360-degree view), and consider potential impacts to vegetation at landing beaches, potential visual impacts from fences/gates, and potential wildfires from live-fire training exercises.	USMCs proposed action was changed from heavy development with many fences to an expeditionary and austere approach with less structures that are sited as far from beaches and the public as possible. USMC prepared new visual simulations from key observation points to show potential impacts on the visual environment.
Transportation	Commenters expressed concerns about the compatibility between military airspace and commercial and civilian airport use, and whether the restriction of airspace and creation of SUA would impact commercial access during inclement weather. They also requested more information about the proposed ground transportation routes, the closure of Tinian Sea space, and potential impacts to commercial and recreational watercraft, potential future ferry service, port capacity, the condition of infrastructure, and joint use of project port facilities. Commenters also requested additional information regarding the storage and disposal of hazardous materials.	Roads inside the Military Lease Area within the current Lease Back Area are proposed to be leased from CNMI. The Federal Aviation Administration would advise the USMC whether there is a need to establish a controlled firing area airspace designation over either or both proposed ranges. In addition, USMC would utilize spotters to observe when a non-participating vehicle or persons approach the surface danger zone or an aircraft in the airspace. All training operations would cease until the non-participant is safely out of the area.
Utilities	Commenters questioned solid waste compliance, demand on the Commonwealth Utilities Corporation system, potable water quality, wastewater treatment level, management of wastewater from vehicle wash-down at the port and from portable toilets, and stormwater management at the port to protect nearshore resources.	The USMC reduced Proposed Action would have much less of an impact on utilities. USMC updated utility studies taking into consideration the current demand and potential demand of the reduced Proposed Action. Studies include electrical, potable water, wastewater, stormwater, and solid and hazardous waste.
Socioeconomics	Commenters requested additional information regarding potential impacts to the economy, tourism, fishing, ranching, subsistence living, traditional cultural practices, community character, and Pagan resettlement. They expressed concern about increased use of ports and wharf facilities, and the housing for construction personnel.	USMC revised analysis of socioeconomic impacts in a collaborative manner with CNMI. Specifically, USMC has shared and collaborated with CNMI on the revised training concepts, changes to the alternatives, and the basic economic analysis and framework.
Public Health and Safety	Commenters requested more information regarding public health and safety, including transportation of hazardous materials, munitions constituents, unexploded ordnance, and site remediation and restoration.	In response to public concerns, the USMC reduced the Proposed Action eliminating many of the ranges and greatly reducing the footprint. USMC environmental management of compliance and pollution prevention measures serve to protect public health and maintain or improve the environmental quality of training areas and adjacent communities. These standard operating policies and procedures apply to all USMC training and include: <ul style="list-style-type: none"> • REVA. • Annual Inspections.

<i>Issue</i>	<i>Comment Summary</i>	<i>How Comments Were Addressed</i>
Environmental Justice	Commenters questioned the environmental justice analysis methodology and suggested that impacts be considered disproportionate, in the context of the ethnic minority population and the low-income status of residents in comparison to the U.S.	USMC re-evaluated the environmental justice population and potential impacts related to the reduced Proposed Action footprint.
Cumulative Effects	Commenters questioned the cumulative impacts methodology, analysis, and mitigation.	USMC re-evaluated cumulative impacts considering the current and future project on Tinian combined with impacts from the reduced Proposed Action footprint.

Legend: CNMI = Commonwealth of the Northern Mariana Islands; DoD = Department of Defense; EIS/OEIS = Environmental Impact Statement/Overseas Impact Statement; NHPA = National Historic Preservation Act; U.S. = United States; USMC = United States Marine Corps; UXO = Unexploded Ordnance

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APPENDIX C
TRAINING AND CONSTRUCTION ASSUMPTIONS



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APPENDIX C

C.1 TRAINING AND WEAPONRY/EQUIPMENT DESCRIPTIONS

C.1.1 Training Structure and Tempo

This section presents general training groups and training requirements across the United States (U.S.) Armed Services for training on Tinian, which would involve ground combat and certain expeditionary aviation training.

Currently approved training on Tinian is supported and scheduled by Joint Region Marianas. The Commanding Officer of Camp Blaz provides base support functions on behalf of Joint Region Marianas.

As summarized in Chapter 2 of the Final EIS, training events are proposed to occur year-round on Tinian, as scheduled and managed by Range Control operations located within the Base Camp. For this analysis, training is divided into small, medium, and large training events. Small training events could occur throughout the year, while medium and large training events would occur less frequently, approximately 2-4 times per year as shown in Table C.1-1. The size of the units participating in an event would vary based on the type of training and events may overlap or occur simultaneously, with up to 1,000 service members participating in training at one time on Tinian under the Proposed Action.

Table C.1-1 Training Event Size Categories

<i>Size of Training Events</i>	<i>Approximate Number of Personnel</i>	<i>Approximate Training Duration¹</i>	<i>Approximate Training Frequency²</i>
Small	Up to 100 personnel	1-2 weeks	Routinely occurring throughout the year
Medium	Up to 250 personnel	1-2 weeks	Once per quarter
Large	Up to 1,000 personnel	2-4 weeks	2-4 times per year

Notes: ¹ Includes time before and after training events for logistics (e.g. setup, and turnover activities).

² Small, medium, and large training events could overlap but the number of personnel on island for training at one time would be up to 1,000.

Table C.1-2 provides the estimated peak population for the Proposed Action.

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Table C.1-2. Estimated Peak Population Increase on Tinian from Proposed Action

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Direct Population¹												
Within Military Lease Area												
Land-based Training – CJMT ²	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Land-based Training – MITT ³	0	0	0	0	0	0	0	0	0	0	0	0
Land-based training – Divert ⁴	0	0	0	0	0	0	0	0	0	0	0	0
Outside of Military Lease Area												
Off-island workers for CJMT Range Management ⁵	5-10	5-10	10-20	10-20	20	20	20	20	20	20	20	20
Off-island workers for CJMT construction ⁶	40	40	40	40	40	40	40	40	40	40	40	40
Indirect and Induced Population⁷												
Outside of Military Lease Area												
Dependents: CJMT Range Management	0	0	0	0	0	0	0	0	0	0	0	0
Dependents: CJMT construction	0	0	0	0	0	0	0	0	0	0	0	0
Total Population Increase⁸												
Direct, indirect, and induced, within and outside of the Military Lease Area	1,060	1,060	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070

Legend: CJMT = Commonwealth of the Northern Mariana Islands Joint Military Training; DoD = Department of Defense; EIS/OEIS = Environmental Impact Statement/Overseas Environmental Impact Statement; MIRC = Mariana Islands Range Complex; MITT = Mariana Islands Training and Testing; USMC = U.S. Marine Corps.

Notes: ¹ Direct population includes military personnel participating in training, DoD civilian workers and contractors, and construction workers.

² Training population would fluctuate throughout the year, with up to 1,000 people training within the Military Lease Area at one time. Includes land-based ground and aviation training activities on Tinian that may occur as part of other training events occurring simultaneously or concurrently in the MITT Study Area, which includes the MIRC.

- ³ Other approved training in-water and at on-land at locations other than Tinian (e.g., Guam, Saipan, Rota) would continue to occur as described in the 2020 MITT Supplemental EIS/OEIS and 2015 MITT EIS/OEIS. Land-based (ground and aviation) training that would occur on Tinian when scheduled as part of larger events within the MITT Study Area are reflected in the CJMT Land-based Training row.
- ⁴ The 2016 EIS for Divert Activities and Exercises (refer to page ES-7) states that Divert-related military training activities and exercises were analyzed in the 2010 MIRC EIS/OEIS and the 2015 MITT EIS/OEIS, and are thus reflected in the CJMT Ground-based Training row.
- ⁵ A total of approximately 30-50 government employees and contractors would be needed to support Range Control operations and management. The USMC intends to hire locally for these positions, wherever possible, based on labor availability and contracting requirements. Numbers above assume approximately 30 people formerly employed by the U.S. Agency for Global Media that ceased operations in August 2024 would provide an available local hiring pool. Hiring would be phased over the 10 to 15 year construction period as construction is completed and the training infrastructure becomes operational (i.e., expeditionary Base Camp and associated utilities, live-fire ranges, and Landing Zones). Initially, positions may be filled on a rotating basis (e.g., temporary duty assignment) from Marine Corps Base Camp Blaz Range Control staff or other federal civilians.
- ⁶ Construction projects would be phased and individual projects may not take an entire year to construct. Thus, the number of construction workers would fluctuate throughout the year but conservatively reflects the maximum number per year, assuming at least 20 percent of workers would be able to be hired locally. The construction workforce may be supplemented or offset by using military labor, when appropriate.
- ⁷ Population figures do not include Tinian residents who obtain employment as a result of the Proposed Action. Due to the phased nature of construction projects and the use of rotating assignments from Marine Corps Base Camp Blaz to support Range Control, the USMC does not anticipate Range Control personnel would need to relocate their families/dependents to Tinian. This is also the same assumption for construction workers (including construction managers), based on the U.S. Air Force's Divert construction workforce experiences (construction anticipated to be complete by late 2025-2026). The implementation of CJMT training and the operation of the Base Camp are not anticipated to induce additional local employment (in addition to any induced employment that may have already occurred in order to support increased activity related to Divert construction and U.S. Air Force activities to rehabilitate North Field).
- ⁸ Population increases shown are not additive from year to year. They represent the aggregate project-related indirect and direct increases as of any given year relative to the population before project implementation, and not an annual increase.

Alternative 1 and Alternative 2 would both represent an increase in training tempo over current levels in previously approved NEPA documents (DON 2010, 2015; U.S. Air Force 2016, 2020). The training tempo in this Final EIS refers to the total amount of approved activities that could occur over an entire year. Alternative 1 would represent an approximate 15 percent increase over existing approved training (No Action Alternative) and Alternative 2 would represent an approximate 5 percent increase over existing approved training.

Table C.1-3 lists training activities that typically occur on Tinian and the proposed increases by activity. The increases to activities under Alternative 1 reflect proposed levels that provide capacity for current and planned training and testing requirements, with Alternative 2 providing a reduced tempo of training activities that still meets training requirements and strategic necessity. Each small, medium, or large training event scheduled through Range Control would be composed of one or more of the activities shown in Table C.1-3. Although the increases shown by each activity varies (some remain the same across each alternative while some increase under Alternative 1 and Alternative 2 and some only under Alternative 2), the general increase in tempo accounts for the entirety of activities in one year of training. The at-sea portion of training falls under the MITT EIS/OEISs, and may include naval operations, ship-to-shore movements, and maritime support.

Table C.1-3 Comparison of Proposed Level of Training on Tinian under All Alternatives

<i>Training Activities</i>	<i>Description</i>	<i>No. of Approved Activities Per Year</i>		
		<i>No Action Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Expanded Expeditionary Airfield Operations at North Field	Expeditionary airfield operation training exercises are designed to enhance rapid deployment and air combat capability in austere environments. These operations establish and utilize an airfield to support rotary- and fixed-wing aircraft in forward-deployed locations.	12	32	16
Assault	An amphibious assault is a coordinated military operation where forces move from ships at sea to conduct an attack on a land-based objective. This type of operation is designed to secure a landing site, allowing follow-on forces to move inland and achieve strategic objectives. The land-based portion that would be covered under this Revised Draft EIS includes activities such as troop landings, vehicle deployment, maneuver operations, and securing objectives onshore.	6	20	10
Raid	A raid training exercise is a military operation designed to train forces in executing rapid, small-scale, and precision attacks on a land-based objective before withdrawing to the sea. Unlike a full-scale amphibious assault, a raid focuses on speed, surprise, and minimal engagement duration to achieve objectives such as intelligence gathering, infrastructure disruption, or enemy force neutralization. Small unit forces move swiftly for a specific short-term mission. These are quick operations with raids sized to the mission requirement and no larger. This activity may employ small unit non-live-fire operations. The land-based portion that would be covered under this Final EIS includes troop insertion, target engagement, and coordinated withdrawal.	6	16	8
Anti-Terrorism/Force Protection	An Anti-Terrorism/Force Protection training event is designed to enhance the ability of military personnel to detect, deter, and respond to potential threats, ensuring the security of personnel, facilities, and assets. This training prepares forces to handle asymmetrical threats, including terrorist attacks, unauthorized intrusions, and security breaches. The land-based portion would be covered under this Final EIS and includes perimeter defense, access control procedures, active threat response, and security patrols. Training may involve simulated attacks, surveillance detection, and defensive tactics to enhance force readiness.	80/75 ¹	100/90 ¹	80/75 ¹
Combat Search and Rescue	A Combat Search and Rescue training event prepares military forces to locate, recover, and provide medical assistance to isolated or downed personnel in hostile environments. The land-based portion would be covered under this Final EIS and includes insertion and extraction of recovery teams, tactical evasion techniques, simulated medical treatment, and engagement with potential threats.	80	80	80

Training Activities	Description	No. of Approved Activities Per Year		
		No Action Alternative	Alternative 1	Alternative 2
Direct Action (Combat Close Quarters and Breaching)	A Direct Action training event focuses on combat close quarters and breaching involves high-intensity operations designed to neutralize threats in confined spaces and penetrate fortified structures. The land-based portion would be covered under this Final EIS and includes close-quarters combat drills, breaching techniques, room-clearing operations, and small-unit coordination.	72/72	72/72	72/72
Embassy Reinforcement	An Embassy Reinforcement training event involves military personnel practicing the procedures for securing and defending a U.S. embassy in the event of a security threat or crisis. The land-based portion would be covered under this Final EIS and includes securing embassy perimeters, defending critical infrastructure, and coordinating evacuation operations.	50	70	50
Field Training Exercise	A Field Training Exercise is a comprehensive, hands-on training event that simulates real-world military operations in an outdoor environment. The exercise includes ground-based tactical drills, movement exercises, logistics operations, field combat scenarios, and force protection drills. Units may engage in terrain navigation, command and control operations, and emergency medical response training.	116	160	116
Humanitarian Assistance/ Disaster Relief Operations	Humanitarian Assistance/Disaster Relief operations are designed to provide immediate aid and support in the aftermath of natural or man-made disasters, focusing on the rapid delivery of essential supplies, medical care, and infrastructure repair to affected populations. These operations may include search and rescue missions, medical assistance, food and water distribution, and the restoration of critical infrastructure such as roads and utilities. The land-based portion would be covered under this Final EIS and includes establishing emergency response zones, setting up field hospitals, medical triage, and logistical hubs, and coordinating the delivery of supplies and restoration of essential services.	5	10	5
Intelligence, Surveillance, and Reconnaissance	Intelligence, Surveillance, and Reconnaissance operations are designed to gather critical information to support military decision-making and operational effectiveness. These operations involve the collection of intelligence through aerial, ground, and maritime assets, enabling real-time surveillance and reconnaissance of enemy forces, terrain, and infrastructure. The land-based portion would be covered under this Final EIS and includes ground-based reconnaissance, signal interception, visual and thermal imagery, and the deployment of various platforms such as drones, manned aircraft, and sensors.	44	50	44
Land Demolitions (UXO, IED Discovery/Disposal)	Land demolitions training is designed to prepare military personnel for safely identifying and neutralizing explosive threats in the field, focusing on the discovery and disposal of unexploded ordnance and improvised explosive devices.	120	160	120

Training Activities	Description	No. of Approved Activities Per Year		
		No Action Alternative	Alternative 1	Alternative 2
Marine Air Ground Task Force Exercise – Battalion	A Marine Air Ground Task Force Battalion Exercise is a large-scale training event that involves integrating various elements of the Marine Corps, including ground combat units, aviation assets, and logistics support, to conduct coordinated military operations. The exercise typically lasts 10 days and simulates real-world combat scenarios where units work together to perform missions such as offensive operations, defense, and force projection. The land-based portion would be covered under this Final EIS and includes ground maneuver operations, live-fire exercises, command and control coordination, and combat support and logistics operations.	4	12	8
Non-combatant Evacuation Operations	Non-combatant Evacuation Operations are designed to facilitate the safe evacuation of civilians—including U.S. citizens, foreign nationals, and diplomatic personnel—from areas experiencing conflict, natural disasters, or instability. The land-based portion that would be covered under this Final EIS includes security operations at evacuation points, transportation coordination, escort missions, and managing evacuation logistics to ensure the orderly movement of civilians.	5	12	5
Parachute Insertion	Parachute operations involve training exercises designed to deploy personnel via aircraft into designated Landing Zones for tactical missions. The land-based portions, covered under this Final EIS, include drop zone preparation, parachute Landing Zone security, and ground recovery operations.	64	64	64
Personnel Insertion/Extraction	Personnel insertion and extraction operations are training exercises focused on the rapid deployment and retrieval of personnel in challenging or hostile environments. The land-based portions, covered under this Final EIS, include ground-based insertion techniques, such as airborne drops, vehicle convoys, or helicopter landings. Extraction can also involve helicopter extractions and vehicles to retrieve personnel.	365	365	365
Marine Expeditionary Unit Exercise ²	Typically a 10-day at-sea and ashore exercise similar to the Marine Air Ground Task Force Battalion Exercise described above. A Marine Expeditionary Unit Exercise is a training event focused on enhancing the readiness and coordination of a self-contained, rapid-response Marine Corps unit capable of deploying to crisis areas worldwide. The Marine Expeditionary Unit consists of ground, air, and logistics components, and the exercise typically includes amphibious assaults, humanitarian missions, combat operations, and force protection in diverse environments. The land-based portion that would be covered under this Final EIS includes ground maneuver operations, combat training, medical response drills, and force protection exercises.	2	6	4

Training Activities	Description	No. of Approved Activities Per Year		
		No Action Alternative	Alternative 1	Alternative 2
Seize Airfield	A seize airfield exercise involves military personnel and assets conducting operations to capture and secure an airfield in a contested or hostile environment. The land-based portion covered under this Final EIS includes ground combat operations, including assault tactics, defensive perimeter establishment, and force protection after the airfield is secured.	12	40	26
UAS Operation (including Intelligence, Surveillance, and Reconnaissance, and Training and Certification)	UAS operations, including Intelligence, Surveillance, and Reconnaissance, and training and certification, involve the deployment of unmanned aircraft to perform surveillance, gather intelligence, and support military missions. The land-based portion that would be covered under this Final EIS includes target tracking, battlefield reconnaissance, and environmental monitoring. Training and certification exercises focus on launch, recovery, and operation of UAS platforms, and data collection, analysis, and reporting for intelligence purposes.	100/951 ³	100/951 ³	100/951 ³
Urban Warfare Training/Exercise	Urban warfare training/exercises are designed to prepare military forces for operations in dense, built-up environments, such as cities or towns, where they must contend with complex terrain, civilian populations, and diverse threats. This training focuses on tactics for close-quarters combat, building clearance, hostage rescue, and crowd control in urban settings. The land-based portion that would be covered under this Final EIS includes clearing of urban training sites, and simulated combat operations in buildings, streets, and other urban structures within the Military Lease Area.	36	80	60
Water Purification	Water purification operations are training exercises that prepare military forces to obtain and treat water in austere or combat environments where clean water is not readily available. These operations involve the use of portable or established water purification systems to convert contaminated or saline water into safe, drinkable water for military personnel and supporting operations. The land-based portion that would be covered under this Final EIS includes field water purification, where military personnel deploy mobile purification units or set up water filtration systems in training areas.	16	28	20
U.S. Air Force Divert Activities and Exercises				
Cargo and Tanker Exercises	Maximum of 720 operations (i.e., 360 take-offs and 360 landings). All operations take place within a maximum of 8 weeks per year of exercises at TNI.	720	720	720
Support Activities	Jet fuel is offloaded at a fuel offloading facility at the port. Fuel is transferred from the port to the airport via pipeline. Medical care is provided by military personnel on Tinian in non-life-threatening situations. Emergency medical care for military personnel occurs at Saipan Hospital under agreement.	N/A	N/A	N/A

Legend: EIS = Environmental Impact Statement; IED = Improvised Explosive Device;; N/A = Not Applicable; No. = Number; OEIS = Overseas Environmental Impact Statement; TNI = Francisco Manglona Borja / Tinian International Airport; U.S. = United States; UAS = Unmanned Aerial System; UXO = Unexploded Ordnance.

Notes: ¹ Anti-Terrorism activities authorized for 80/year; Force Protection activities authorized for 75/year. Alternative 2 would authorize Anti-Terrorism activities for 100/year and Force Protection activities for 90/year.
² Special Purpose Marine Air Ground Task Force Exercise renamed Marine Expeditionary Unit Exercise.
³ UAS ISR activities authorized for 100/year; UAS Aerial Training and Certification activities authorized for 951 /year.

C.1.2 Training on Tinian

Training on Tinian would be classified as either a non-live-fire or live-fire event. Non-live-fire events would include both ground and aviation training that could occur throughout the Military Lease Area. Live-fire events would only take place on either the Multi-Purpose Maneuver Range or the Explosives Training Range, in addition to the use of currently approved bullet traps in some existing structures on Tinian. Both live-fire and non-live-fire training events could be conducted continuously throughout the day and night.

In general, a degree of simultaneous use of the live-fire ranges or other training areas throughout the Military Lease Area, including aviation and ground training events at Landing Zones and North Field, could occur.

Activities and exercises performed during training events would differ in size, tempo, and complexity of training. For example, some small events could involve only a squad or platoon, last for only one to two days, and involve only a single training area and/or range. Medium events could also be limited to a single or few training areas and ranges but would typically last 1-2 weeks. Large exercises would typically encompass the entire Military Lease Area and use both live-fire ranges during the full 2-4 weeks. The following section provides a description for each size of event to illustrate what a representative day of training may include in terms of personnel, locations, and activities, including those that would result in the public being temporarily restricted from accessing certain portions of the Military Lease Area and the waterways north of the island.

C.1.3 Representative Training Descriptions

Small Event

A small exercise could consist of 30 personnel practicing various live-fire and non-live fire activities including land navigation, survival techniques, setting up communications equipment, or practicing offensive or defensive live fire drills and activities on either of the two live fire ranges. This event could last for four days and take place in a single training area (e.g., Training Area B2, refer to Figure 2.1-2 in Chapter 2 of the Final EIS). In a small non-live-fire scenario, there would be no hazards to the public based on the type and complexity of the training activities and access to the Military Lease Area would not be restricted. The public would have shared access to Training Area B2 while service members are traversing the land for training. As larger groups, up to 100 personnel, may be involved in small events, or multiple small events may be scheduled to overlap, training may occur in multiple training areas at the same time that may not be adjacent to one another. Small events could also occur at the Multi-Purpose Maneuver Range and Explosives Training Range that would require access restrictions corresponding to the surface danger zones when live-fire is occurring. An example for a medium event involving live-fire is included below.

Medium Event

A medium exercise could involve 200 personnel over two weeks practicing various live- and non-live-fire exercises with both ground and aviation elements. For example, the first week of training could involve aviation training, which could occur at North Field or at various Landing Zones

throughout the Military Lease Area, using the Landing Zone(s) in Training Area B1 for helicopter training involving practicing landing/taking off and disembarking/boarding, and patrolling the airspace above the Military Lease Area. During the second week, the exercise could incorporate maneuver training on any number of ranges coupled with training on the live-fire ranges. Live-fire training could consist of daily events on the Multi-Purpose Maneuver Range located in Training Area D. A typical schedule could include:

- Rehearse in the morning from 8 a.m. to 10 a.m. (i.e., practice the movements and timing without firing weapons).
- Conduct live-fire training from 10 a.m. to 4 p.m.
- Debrief and review the day's exercise once it concludes at 4 p.m. and break to prepare for night training.
- Live-fire night training would occur from approximately 8 p.m. to 10 p.m.

Due to the types of activities that would occur in this example, the public would be restricted from accessing certain parts of the Military Lease Area while training is underway. During the first week, the public would be restricted from accessing Training Area B1. Range Control would provide advanced notice of helicopter training and would include details such as what areas are off limits to the public, what roads may be temporarily blocked with signage or sentries, etc. For the second week, in addition to range areas and roadway access limitations to Training Area D, when live-fire training is occurring on the Multi-Purpose Maneuver Range, the waterway within the surface danger zone would be closed to public access. For live-fire training, Range Control would provide advanced notice and would include a Notice to Mariners, published weekly by the U.S. Coast Guard, to identify when the surface danger zone would be active (for this example, from 10 a.m. to 4 p.m. and 8 p.m. to 10 p.m.). The size of the surface danger zone would correspond to the type of ammunition being used on the range for that training event, and multiple types of ammunition may be used during the day (refer to Figure 2.1-9 in Chapter 2 of the Final EIS). As an example, if 5.56 ammo would be used from 10 a.m. to 2 p.m., the smallest surface danger zone would be active during that time, and if 7.62 ammo would be used from 2 p.m. to 4 p.m. the middle-sized surface danger zone would be active during those hours. Range Control communications would provide this detail for each activity or exercise scheduled for the Multi-Purpose Maneuver Range.

Large Event

A large event, such as a force-on-force training exercise, could encompass all of the eight training areas and live-fire ranges for a duration of three weeks, involving 1,000 personnel distributed throughout the Military Lease Area. This type of exercise could involve two opposing forces, with one force trying to locate and capture the opposition where they are staged in different parts of the Military Lease Area, as might occur in a real life engagement, including the use of tactical vehicles and helicopters. During the exercise, Range Control at the Base Camp would monitor both forces using sensors supported by a transportable antenna system that allows for the tracking of personnel and vehicles across the Military Lease Area.

During the three weeks of training, while public access to the Military Lease Area would be more limited than for small and medium events, Range Control would schedule training to allow for public access when and where it can be safely achieved. The entire Military Lease Area would not

be closed off for the duration of the exercise. As described above, Range Control would issue advance notifications to the public about areas where land and water access would be restricted based on the event's day-to-day schedule. For this example, if the first week of training included activities in six training areas (A1-A3 and B1-B3), but helicopter landings would only be occurring in Training Area A1 and A3, access restrictions would be in place to ensure the non-participants would remain a safe distance away from Landing Zone areas in Training Areas A1 and A3 but the public would have shared access to Training Areas A2, B1, B2, and B3. Service members may be visible to the public while traversing the land by foot or moving between areas on roadways or previously disturbed access paths using tactical vehicles while training is occurring.

C.1.4 Arrival of Participating Personnel, Vehicles, Supplies, and Equipment

Arrival and Departure of Personnel

Regardless of the size and type of the exercise, personnel participating in training events, along with their equipment, would arrive through one of three locations: (1) Francisco Manglona Borja / Tinian International Airport (TNI); (2) North Field; or (3) the Honorable Jose Pangelinan San Nicolas Commercial Port of Tinian (Port of Tinian). Units and assets requiring biosecurity inspection would be routed through the biosecurity station at each of these locations before transport to the Military Lease Area. All personnel would receive briefings for the exercise as part of the preparation prior to the start of training including information on the island's cultural resources, off limits or "no training" areas, and the boundaries of the training areas within the Military Lease Area.

At the conclusion of an exercise, the service members would retrograde back through Base Camp and the biosecurity facility to clean vehicles and equipment in preparation for movement off island. During this time, Tinian Range Control would inspect the Military Lease Area to ensure all trash, ordnance, and equipment has been removed from the training areas and live-fire ranges.






Use of Vehicles Within the Military Lease Area

Use of vehicles within the Military Lease Area would fall into two categories: administrative and tactical. Administrative activity would primarily occur at the beginning and end of an exercise and describes transporting personnel and equipment to set up the training (e.g. driving equipment up from Base Camp to the range to set up). Tactical activity would consist of exercise activity with military tactical vehicles as part of the exercise. During training, these tactical military vehicles (primarily Joint Light Tactical Vehicles and High Mobility Multipurpose Wheeled Vehicles, also called "humvees") would traverse established roadways throughout the Military Lease Area as part of the exercise.

C.1.5 Representative Equipment

Various types of equipment would be used during training events (Table C.1-4).

Table C.1-4 Representative Equipment

<i>Aircraft</i> <i>(Rotary wing training at North Field and Landing Zones, Fixed-wing training at North Field, Fixed-wing cargo/personnel delivery at TNI)</i>		<i>Vehicles</i> <i>(On Roads throughout the Military Lease Area)</i>
 <p>Attack Helicopter (AH-1 or UH-1)</p>	 <p>Tilt-Rotor Aircraft (MV-22)</p>	 <p>Light Armored Vehicle (LAV-25)</p>
 <p>Fixed-Wing Aircraft (FA-18, F-35, C-130, C-17, KC-135, and similar aircraft)</p>	 <p>Unmanned Aircraft System (Unmanned Air Vehicle Groups 1-4)</p>	 <p>Wheeled Vehicles (High Mobility Multi-Purpose Wheeled Vehicles, 5- and 7-ton Trucks, Logistic Vehicle System)</p>
 <p>Ground/Air Task-Oriented Radar (G/ATOR)</p>	 <p>Navy Marine Expeditionary Ship Interdiction System (NMESIS) Mounted on a Tactical Vehicle</p>	 <p>Marine Air Defense Integrated System (MADIS) Mounted on a Tactical Vehicle</p>
<i>Live-Fire Weaponry</i>		
 <p>Pistols (9 mm, combat shotgun, and .45 caliber pistol)</p>	 <p>Rifles (5.56 mm service rifle, 7.62 mm and 50-caliber sniper weapon, and M27 infantry automatic rifle)</p>	 <p>Machine Guns (50-caliber machine gun, 7.62 mm machine gun, 5.56 mm squad automatic weapon)</p>

Legend: mm = millimeter; TNI = Francisco Manglona Borja / Tinian International Airport.

C.2 RANGE MANAGEMENT

Section 2.1.8 of Chapter 2 provides information on Range Control under the Proposed Action. Additional details are provided in this appendix.

C.2.1 Public Access and No Training Areas

Training Areas

The Tinian Range Control would identify when public access during a training event would not be safe for the public and implement appropriate restrictions. Certain roads and certain areas within the Military Lease Area may be temporarily closed to the public during training periods. Public access restrictions would only be in place for the live-fire ranges during the times weapons are being fired or ordnance is used. Range Control would coordinate notifications and scheduling. One of the functions of Tinian's Range Control is to schedule training events and provide advanced notice to the public when events would occur and what portions of the Military Lease Area and/or surrounding waterways would be affected. For live-fire events, the public would be notified in advance. Non-live-fire activities that would limit access to portions of the Military Lease Area would be announced prior to the exercise. Each training event would be evaluated to minimize access disruptions to the extent as can be safely permitted. To ensure the safety of both the service members and non-participating personnel (i.e., members of the public traveling in the Military Lease Area for the purposes of tourism, foraging, recreation, etc.), access to the Military Lease Area would be coordinated directly by Range Control. The public would have access to information about training activities in the Military Lease Area through established communication channels coordinated by Range Control. In addition to proactive notifications issued prior to live-fire and non-live-fire training exercises, mechanisms for obtaining timely updates would help support public safety, awareness, and oversight of range activities. The USMC's goal is to create a structured and user-friendly process for members of the public to communicate with Range Control in order to foster a safe and well-managed environment while training is occurring within the Military Lease Area.

No Military Training Areas

There are areas within the Military Lease Area designated as no training areas, shown on Figure 2.1-3 of the Final EIS, the former Tinian Mortar range, the area reserved for a potential future landfill site, and areas to protect natural and cultural resources. Within the remainder of the Military Lease Area, training would be limited to roads and previously disturbed access paths, with the exception of limited foot maneuvering. Vegetation clearing, digging, and other ground intrusive activities would continue to be prohibited at culturally significant sites.

C.2.2 Environmental Management

All live-fire ranges on Tinian would be managed in compliance with current federal environmental laws and regulations. Department of Defense (DoD) Instruction 4715.14, *Operational Range Assessments*, establishes procedures that military services use to conduct assessments of all operational ranges within the U.S. The purposes of the assessments are to understand the potential long-term impacts of the use of military training lands and to help ensure that these resources are available for future training. Under the Environmental Compliance Evaluation Program, installations and regions complete annual inspections and Headquarters USMC inspects all aspects

of an installation's environmental program every 3 years. Headquarters USMC also conducts assessments of operational ranges to ensure long-term sustainment of training areas while protecting the surrounding environment. In assuring compliance with federal laws and regulations, these actions are carried out with the goal of maintaining the safe, efficient, effective, and environmentally sustainable use of the ranges.

Hazardous Materials

All fuels, petroleum, oils, and lubricants would be stored, handled, transported, and disposed according to existing best management practices, standard operating procedures, applicable federal and CNMI regulations, and military requirements. Transportation of all hazardous materials would be conducted in compliance with the U.S. Department of Transportation regulations and Code of Federal Regulations (C.F.R.) Title 49, Subtitle B, Chapter I that regulates who may transport hazardous materials, how they are transported, the required training for handlers and transporters, the requirements for emergency spill response, and the specifications for all aspects of material and handler documentation and certification. The federal Hazardous Materials Program procedures outlined in C.F.R. Title 49 have been adopted by the CNMI.

An expeditionary Forward Arming and Refueling Point may be established for training to refuel aircraft. During training exercises, the Forward Arming and Refueling Point would be a temporary, mobile field facility, with secondary containment capabilities. It would be set up and broken down as part of a training exercise, so it would not have a designated permanent location.

Hazardous materials and fuel storage facilities on Tinian would be constructed using best management practices for construction in any unavoidable areas that are known to have seismic and tsunami hazards to minimize potential impacts from geologic hazards. Storage areas would also be located 500 feet from any surface water body and outside of inundation areas.

Training and maintenance would involve the use of hazardous materials managed according to Resource Conservation and Recovery Act regulations and other federal laws and regulations. Hazardous materials that would be routinely used on Tinian include fire extinguishers, batteries, pesticides, herbicides, paints, solvents, fluorescent light fixtures, and flameless chemical ration heaters for meals. Pesticides and herbicides would be used as part of range and facility management to control nuisance species and would be applied and managed in accordance with applicable regulations and manufacturer instructions.

Some of these hazardous materials would be stored in small quantities at the Base Camp. These include fire extinguishers that would be positioned anywhere there are flammable materials or spark sources and light bulbs that may be stored in designated areas throughout the facility where occupied buildings are located. Chemical ration heaters would be brought in with the unit supplies to support each training activity and would be stored with the unit where they are camping— either at the Base Camp or within the training areas. Best management practices would be followed regarding handling and storage.

Environmental Protection Programs

Joint Region Marianas has implemented basic environmental protection actions to ensure compliance with applicable environmental requirements across all environmental media areas. Basic environmental protection features incorporated into range management include, but are not

limited to: fire condition monitoring for firefighting readiness and modification of training as appropriate, adherence to protective measures established in natural and cultural resource management plans, biological opinions, and programmatic agreements, restricting vehicular activities to designated/previously identified areas, prevention of soil erosion, and implementation of stormwater pollution prevention plans.

C.2.3 Biosecurity

The movement of munitions, military vehicles, equipment, and cargo to/from Tinian under the Proposed Action would meet the Armed Forces Pest Management Board Technical Guide 31 standards for bio-sanitation to prevent the inadvertent transport and introduction of exotic plant and animal pests resulting in damage to human health, agriculture, forestry, or the environment. Plant debris, garbage, food, soil, and even fresh water from foreign countries may contain organisms of quarantine importance. DoD policy mandates that all organizations and personnel involved in the movement of DoD-sponsored cargo, personal property, and accompanied baggage would take the steps necessary to prevent the spread of exotic pests, and plant and animal diseases from one location to another (Armed Forces Pest Management Board 2017).

Joint Region Marianas has an established comprehensive brown tree snake interdiction program to ensure that military activities, including the transport of personnel and equipment from Guam, do not contribute to the spread of brown tree snakes to the CNMI or other areas in the Pacific. Brown tree snake interdiction requirements contained in Commander, Navy Region Marianas and Joint Region instructions would be implemented for all proposed activities.

The biosecurity protocols to be set forth in the U.S. Fish and Wildlife Service (USFWS) Biological Opinion for the Proposed Action are expected to include but may not be limited to the following: (1) 100 percent inspections for brown tree snakes for all munitions, military vehicles, equipment, and cargo transported from Guam; (2) redundant brown tree snake inspections of munitions, military vehicles, equipment, and cargo within a brown tree snake barrier at the receiving jurisdiction after discussions with appropriate stakeholders; (3) bio-sanitation standard operating procedures to meet and validate the Armed Forces Pest Management Board Technical Guide 31 standards for munitions, military vehicles, equipment and cargo prior to arrival and departure on island. The USMC would strictly adhere to processes for avoiding the introduction of non-native species to Tinian. The USMC would develop Hazard Analysis and Critical Control Point plans and implement the plans for construction and operation activities. A biosecurity education program for all civilian, contractor, and military personnel (including any participating foreign ally personnel) would be provided to teach personnel how to identify native and non-native species.

Personnel or equipment arriving from Guam would undergo inspection at one of the three specified entry points.

C.3 TRAINING INFRASTRUCTURE

C.3.1 Base Camp

A Base Camp would provide basic services for up to 500 training personnel. Utilities on base camp would be sized to the surge capacity of up to 1,000 personnel training on island at one time, such as during a large event. In those situations, the additional personnel would camp in the training areas throughout the Military Lease Area.

The Base Camp would be gated with access limited to military and DoD civilian personnel only. Base Camp facilities would include:

- **Administration and Range Control building.** This building would house Range Control. This facility would provide key administrative functions: base administration, Range Control, base security, base communications, and the battalion (medical) aid station. Range Control would coordinate with TNI, Saipan International Airport, and DoD Range Control in Guam in concert with live-fire and air-based training events on Tinian. The Range Control building would be co-located with the base headquarters/administration.
- **Training Support area.** This would include a unit marshaling area, and restrooms/showers. The unit marshaling area would provide space to wash and stage vehicles, equipment, and personnel prior to their departure to the Port of Tinian or TNI. Restrooms, showers, and outdoor gear wash-down stations would be provided.
- **Warehouse.** This would provide storage for range targets and equipment and storage for units during training exercises.
- **Aircraft Shelter.** An aircraft shelter for performing minor aircraft maintenance and repairs. The proposed 105 feet wide by 154 feet long by 44 feet high shelter would be sized and constructed to provide protection for one aircraft from inclement weather including typhoon winds. The shelter could also be used for equipment staging, training unit mustering, emergency maintenance, or similar purposes.

C.3.2 Utilities

The USMC would either connect to existing utilities infrastructure or develop new utilities infrastructure on Tinian. The following subsections summarize the proposed development of utilities infrastructure that is common to both alternatives.

- **Electrical Power.** The existing Commonwealth Utilities Corporation Tinian Power Plant has sufficient generation capacity to support the anticipated power demand and no additional power generation is proposed. However, to support mission critical facilities during power blackouts, the USMC would install individual emergency power generators near mission critical facilities. The USMC would purchase electrical power from the Commonwealth Utilities Corporation and install an interconnection with the existing transmission line(s) servicing the former USAGM. Power lines would be installed to the Base Camp and each of the surface radar sites. Power lines would be placed underground to protect from weather events and to meet live-fire, aviation, and explosive safety requirements. There would be no permanent power infrastructure associated with the Landing Zones. Power to these facilities would be provided by alternative means (e.g., battery packs, photovoltaic solar panels).
- **Potable Water.** A potable water study indicated that the fresh groundwater supply from Tinian's aquifer, beneath the Military Lease Area, has ample capacity to meet the estimated average daily potable water demand (refer to Appendix M, *Utility Studies*, of the Final EIS). The Proposed Action includes construction of new water infrastructure to avoid impacts on the Commonwealth Utilities Corporation water system. This proposed new water infrastructure would supply the domestic, industrial, and fire protection demands of military training activities and the majority of water used during construction. This

proposed new water infrastructure would be operated by the USMC and would not be connected to the Commonwealth Utilities Corporation water system.

- Water infrastructure to support Base Camp would consist of up to four new groundwater wells, aboveground storage tanks, and distribution piping to meet potable water demand and fire protection demand. Wells would be connected to water supply lines and electrical power. For security purposes, fencing would be installed around each well.
 - Two water wells and associated storage tanks and booster pumps for firefighting support would be developed or rehabilitated at North Field, north of the airfield.
 - The specific location of wells and tanks at North Field and Base Camp would be determined during engineering design. Installation of water wells would be conducted by a licensed driller under the guidance of a Professional Geologist. All other training areas or other locations in the Military Lease Area would rely on water trucks to access potable water.
- **Wastewater.** Wastewater facilities would be constructed and operated at the Base Camp in the form of one or more new septic tanks and an associated leach field. Training areas, construction areas, and other locations may emplace temporary portable toilets to support operational activities. These portable toilets would be periodically emptied and disposed of at a septage disposal site approved by the CNMI Bureau of Environmental and Coastal Quality per section 65-120-1405 (CNMI Administrative Code).
 - **Solid Waste.** Solid waste generation would include municipal solid waste, construction and demolition waste, green waste, and wastewater (sewage) sludge from septic tanks. Currently, the Tinian municipality does not have solid waste infrastructure that could support the management of all solid waste generated during the construction and operational phases of the Proposed Action. During the construction phase, the USMC would manage project-related solid waste (including municipal solid waste, construction and demolition waste, and green waste) in accordance with applicable laws and regulations.
 - Solid waste on Tinian is currently transported by residents and business entities to the Tinian Puntan Diablo disposal facility located adjacent to 8th Avenue near San Jose and the southwest coast. The facility is operated by the CNMI Department of Public Works. The existing disposal facility is unlined and not presently in compliance with the design and operating requirements of the Resource Conservation and Recovery Act (RCRA) Subtitle D regulations (40 Code of Federal Regulations [CFR] Part 258) governing municipal solid waste landfills.
 - CNMI intends to convert the disposal facility to a permitted landfill by demonstrating compliance with the small community exemption available in RCRA Subtitle D regulations 40 CFR Part 258.1(f)(1) (CNMI, 2023). The anticipated timeline to complete the permitting process is 6 to 12 months.
 - CNMI is initiating permitting efforts for a new landfill at the Atgidon site, located north of 86th Street and between Riverside Drive and 10th Avenue (CNMI, 2023). The CNMI plans to permit this new site under the small community exemption. CNMI anticipates permitting would take 5 years to complete, with site development commencing shortly thereafter to ensure disposal capacity at the new Atgidon Landfill

- is available prior to cessation of operations at Puntan Diablo (CNMI, 2023). It is expected the on-island landfill capacity would be sufficient to manage the solid waste generated through project construction and during the ongoing training facility operational life.
- If the planned permitting of the existing Tinian landfill and the proposed Atgidon landfill is not completed, and landfill disposal capacity is not available, the alternate management methods for solid waste that would be considered include: 1) transport solid waste to Marpi Landfill on Saipan; 2) on-site incineration of waste to reduce the volume prior to the transport of the residual non-hazardous ash to Marpi Landfill; or 3) transport the waste to one or more off-island facilities authorized to accept DoD waste. If using incineration to minimize waste volume, the incinerator would be a commercially available solid waste incineration unit that meets U.S. EPA emissions guidelines with a capacity sufficient to handle the Proposed Action-generated waste, and would require approval and permitting by the CNMI before use.
 - **Green Waste.** The USMC would generate green waste mostly during the construction period and would collect green waste at one or more locations. The USMC would potentially use a variety of methods to manage the green waste stream, including but not limited to, chipping and reuse, or chipping and decomposition.
 - **Stormwater.** The USMC would manage stormwater quality and quantity to maintain existing hydrology conditions to the maximum extent feasible and control pollutant loading in accordance with the CNMI regulations and U.S. federal and military guidance/policies. The USMC would maintain existing basin and sub-basin hydrology, where feasible, to limit the required stormwater infrastructure and pond sizes. Stormwater improvements would be constructed and maintained to incorporate Low Impact Development Integrated Management Practices at the Base Camp.
 - Stormwater management facilities could include a combination of natural and engineered features such as retention/detention ponds that control the volume, direction, and rate of stormwater runoff (i.e., minimize or eliminate hydromodification), filter out pollutants, and facilitate groundwater recharge through increased infiltration. Surface conveyance and control would be via vegetated swales, pipe culverts, and retention ponds. The majority of roadways would be rural road sections (no curb and gutter), so stormwater would be managed using roadside vegetated swales.
 - **Information Technology/Communications.** The USMC would use commercial Information Technology/Communications service providers to connect appropriate facilities in the Base Camp and surface radar sites. The proposed telecommunications system would consist of a combination of overhead pole-mounted cabling and underground conduits, manholes/hand holes, and pull-boxes to support government communications systems (e.g., government telephone, government data, security, and closed-circuit television), and commercial utilities services (e.g., commercial telephone, internet, and cable television).

C.4 TRAINING RANGE SUPPORT FACILITIES

C.4.1 Ammunition Holding Areas

The USMC would construct and operate two ammunition holding areas within the Military Lease Area, one at the proposed Base Camp and one at the Multi-Purpose Maneuver Range. Facilities would include concrete pads and paved roads and would be secured with temporary fencing and artificial lighting.

Both ammunition holding areas would be used on a temporary basis for storing ammunition. Ammunition would only be stored during the duration of the training exercise. Upon completion of the training all unspent ammunition would be removed by the training team. Ammunition holding areas would include an Inhabited Building Distance Explosive Safety Quantity Distance Arc and Public Traffic Route Distance Explosive Safety Quantity Distance Arc sized to the munitions (refer to Figure 2.1-10 in Chapter 2 of the Final EIS). When ammunition is stored, the facility would be guarded 24 hours a day by armed personnel.

C.4.2 Live-Fire Training Ranges: Multi-Purpose Maneuver Range and Explosives Training Range

Chapter 2, Sections 2.1.5.1 and 2.1.5.2, provide descriptions of the proposed Multi-Purpose Maneuver Range and Explosives Training Range, respectively. Range Control would manage the proposed live-fire training ranges to ensure safe operations within the established surface danger zones.

Surface danger zones would be established for the two live-fire ranges. The size and configuration is dependent on the performance characteristics of a given weapons system, training requirements, range configuration, and geographical location. A surface danger zone is defined for each range using a safety model that determines an area for which there is a one-in-a-million chance (including the ground and airspace) of a projectile landing outside the surface danger zone during training.

For the Multi-Purpose Maneuver Range, the USMC would pursue U.S. Army Corps of Engineers designation of danger zones that correlate to the type of weapon being used, in accordance with Section 7 of the Rivers and Harbors Act of 1917, 33 C.F.R. Part 209.200. The danger zones would be plotted on nautical charts and the Notice to Mariners, published weekly by the U.S. Coast Guard, would identify when the danger zones would be active.

Figure 2.1-9 in the Final EIS shows representative surface danger zones for types of ammunition typically used on the Multi-Purpose Maneuver Range and the surface danger zone for the Explosives Training Range. This surface danger zone for the Explosives Training Range does not extend over the water and would not require charting.

C.4.3 Surface Radar Sites

Two surface radar sites are required for the live-fire ranges. Each could include a metal lattice tower and observation platform, and radio transmitter and receiver equipment (Figure C.3-1). Each site would provide a surface radar, a visual color camera and thermal imager, and a diesel backup generator. The backup generator would be housed in a concrete structure providing weatherproofing and safety. The surface radar sites would include an additional camera for monitoring the danger zone to shore interface. The sites would include a security perimeter fence

and gate. Information technology and communications infrastructure would be provided through aboveground and belowground transmission lines. Each site would include electrical service and single mode fiber optic communications connections linking to the communications facilities at the Base Camp.



Figure C.4-1 Representative Surface Radar Tower

C.4.4 Communication Towers

Existing communication towers at the former USAGM Tinian and Saipan sites would be repurposed to provide Range Control with consistent radio communications that provide positive control and safety of training events.

Information technology and communications infrastructure would be provided through aboveground and belowground transmission lines. Each site would include electrical service and single mode fiber optic communications connections linking to the communications facilities at the Base Camp.

C.4.5 Road Infrastructure

Existing roads in the Military Lease Area are a combination of paved roads (mostly constructed prior to or in the 1940s during World War II), unpaved (gravel) roads constructed in the last 50 years to provide access to beaches and other locations, or unimproved (grass/dirt) agricultural access roads.

Existing roads throughout the Military Lease Area would be evaluated and, as necessary, improvements made to support both military training and public access. The following road infrastructure modifications or improvements are proposed:

- **New Unpaved Roads.** The USMC would construct and maintain new unpaved roads primarily near the Explosives Training Range and some Landing Zones. Unpaved roads would be a single travel lane with no shoulder. These roads would be maintained at the level necessary to support continued USMC function and use.

- **Repairs to Existing Roads within the Military Lease Area.** The USMC proposes to repair and maintain some of the existing roads in the Military Lease Area at the level necessary to support continued USMC function and use. Broadway and 86th Street have been identified as candidates for repairs, including converting Broadway from its current two-lane bi-directional travel back to its original World War II-era bifurcated boulevard design.
- **Repairs to Existing Roads Outside of the Military Lease Area.** The USMC would evaluate the primary and secondary access routes from the Port of Tinian to the Military Lease Area (to include West Street, 6th Avenue, 8th Avenue, 42nd Street, and Broadway) to be used for both the construction phase and during training to determine whether the roads meet U.S. Department of Transportation and American Association of State Highway and Transportation Officials roadway safety and design standards. The USMC would upgrade roads outside of the Military Lease Area to meet required roadway safety and design standards and would maintain roads to the extent USMC determines necessary to support continued USMC function and use.

C.5 CONSTRUCTION PHASING AND LOGISTICS

The Proposed Action would include the construction of support facilities, airfield improvements, and range facilities on Tinian. The following sections describe the process of obtaining necessary real estate interests on Tinian, and the phased construction schedule, public access controls during construction, and a summary of construction and ongoing vegetation maintenance on Tinian.

C.5.1 Real Estate Interests on Tinian

The USMC proposes to discuss updating real estate interests with the CNMI government to facilitate development of facilities and infrastructure within the existing leases on Tinian and the USAGM lease on Saipan. The current leases would need to be updated by mutual agreement to facilitate the implementation of either alternative.

C.5.2 Construction Schedule

The USMC would phase military construction projects over 10-15 years. The first 5 to 7 years of construction would include trimming and clearing of vegetation, fire breaks, establishment of utility connections, Range Control functions, clearing vegetation for Landing Zones, North Field improvements, development of biosecurity facilities at the Port of Tinian, and establishing the Multi-Purpose Maneuver Range, including associated surface radar towers and ammunition holding areas. The remaining years would include construction of the Base Camp, Aircraft Shelter, and Explosives Training Range. Approximately 50 construction workers are estimated to be needed each year using military troop labor or through federal contracts. If contracts are used, a possible majority of construction workers would come from off island due to the limited workforce available on Tinian. It is expected that construction contractors would utilize workforce housing recently constructed for the U.S. Air Force Divert project and other local hotels. USMC contractors would lease these facilities and utilize the adjacent mess facilities.

C.5.3 Public Access During Construction on Tinian

The USMC would require its construction contractors to prepare and implement health and safety plans. Construction contractors would be required to implement temporary controlled access to

construction sites where only authorized personnel would be allowed entry. Although the phased construction period is expected to last approximately 10-15 years, construction would only result in public access controls at specific construction sites; access to most of the Military Lease Area would still be possible during activities. The USMC and its construction contractors would coordinate with the Tinian municipality and appropriate agencies regarding access controls and notify the public road closures.

C.5.4 Summary of Construction

As part of construction phase activities, the USMC would conduct munitions and explosives of concern clearance, vegetation clearance, and grubbing and grading activities. During initial site preparation for construction of the ranges, supporting facilities, and infrastructure, vegetation would be physically removed with the use of hand and heavy machinery. The USMC would also conduct varying degrees of earthwork (excavation and fill) at some of the construction sites. Excess material would be managed on island.

C.5.5 Vegetation Management

The proposed training infrastructure would require varying degrees of vegetation management to accommodate line of sight, wildland fire control, firing positions, target objective areas, Base Camp facilities, and security purposes. The USMC would identify specific vegetation removal/maintenance and earthwork techniques as part of future project-level design.

C.5.6 Summary of Construction Facilities, Vegetation Clearing, and Road Improvements

Table C.5-1 provides a summary of Construction for Buildings, Support Facilities, Utilities and Ranges. Table C.5-2 provides a summary of road improvements.

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Table C.5-1 Buildings, Ranges, and Support Facilities

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
Base Camp Buildings				
Consolidated Base Camp Headquarters, including Range Control Re-use of USAGM Transmitter / Administration Building (23,000 SF)	10,200	0	0	0
Training Support (Exercise Control) Operational Trainer Building Re-use of USAGM Transmitter / Administration Building (23,000 SF)	10,000	0	0	0
Generator Building Re-use of USAGM Power Plant Building (2,600 SF)	2,600	0	0	0
Range Support Maintenance Shop Re-use of USAGM Warehouse and Maintenance Building (3,500 SF) and add 1,260 new SF to expand to required 4,760 SF	4,760	1,260	0	1,260
Fire and Non-Potable Pump Station Re-use of USAGM Water Pump House Building (400 SF)	200	0	0	0
Fuel Pump Station (supports fuel for emergency generators only) Re-use of USAGM Fuel Pump House Building (400 SF)	200	0	0	0
Guard Booth Re-use of USAGM Guard House Building (100 SF)	100	0	0	0
Communications Area Distribution Node (ADN): connects Base Camp to local Internet Service Provider to proposed communications towers and proposed Base Camp facilities.	2,700	2,700	0	2,700
General Purpose Warehouse and Hazardous materials storage and transfer Building	36,000	36,000	0	36,000
Base Camp Public Works Shop	8,700	8,700	0	8,700
Electrical Distribution Building / Switching Station	900	900	0	900

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Electrical Controls and Fire Pump Building This building is included in the description of Base Camp Potable water wells and would go in the same area as the potable water storage tanks.</p>			0	
<p>Wastewater/Restrooms>Showers: Up to 2 buildings @ 1,600 SF each plus 2 outdoor gear wash stations at 1,000 SF each and space for up to 2 underground septic tanks and 2 approximately 1 acre leach fields. Note that the existing aeration tank would be removed or replaced/upgraded.</p>	3,200	3,200	0	5,200
<p>Aircraft Shelter: (approximately 105 feet wide by 154 feet long and 44 feet tall or 16,200 SF), Site requirements estimated at: 40,000 SF for shelter apron, parking, circulation and access road. Note: This facility is not included in the Base Camp and is same location for both Base Camp options located on the US Air Force Divert Aircraft Parking Apron.</p>	16,200	16,200	0	56,200
<p>Base Camp Supporting Facilities Note - other Base Camp functions such as troop marshalling area, bivouac area, and mess area could be include at Base Camp but these would not require vegetation clearing or new impervious surface</p>				
<p>Base Camp Ammunition Holding Area: (approximately 164 feet wide by 164 feet long or approximately 27,000 SF to support up to 4,418 lb. NEW)</p>	N/A	N/A	0	27,000

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Base Camp Potable Water Services: Potable Water Tanks (2 @300,000 GAL). Each tank would be approximately 33 FT in diameter and 48 FT high on a concrete pad. The tanks would be located with the Base Camp site on previously disturbed land. The tanks would require an approximately 900 SF electrical controls and fire pump building and approximately 20,000 total SF of impervious or semi-impervious surface for placement of concrete pads/tanks, pumphouse, and supporting infrastructure.</p>	900	900	0	20,000
<p>Potable Water Well Field: Up to four (4) wells would be installed within the well field. Installation of water wells would be conducted by a licensed driller under the guidance of a Professional Geologist. Each well would require an initial approximately 0.5 acre cleared area for well installation and development, 2 acres total. Each well would include a 900 SF building for equipment and an approximately 0.5 acre area fenced. The well field would also include a 3,600 SF building for electrical controls, emergency generator, and chlorination. The 3,600 SF building would require an approximately 1.5 acre fenced area. Fencing at each well head and the 3,600SF building would be double fencing: (Outer fence (8' total height – 7' fence with 1' Y top) with reinforcement cables and dead man anchors, Y top, barbed wire and razor wire. Inner fence (8' total height – 7' fence with 1' Y top) with Y top, barbed wire and razor wire.). A 20-foot wide asphalt service road would be constructed to access each well for a total of approximately 260,000 SF of roads. Entry points to wells would be gated and illuminated.</p>	7,200	7,200	412,460	260,000
<p>Camping Concrete Tent Pads: (10 pads, 22 feet by 46 feet)</p>	N/A	N/A	0	10,120

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
Base Camp Training Unit Vehicle Parking: (87 tactical vehicles and various tactical equipment) (gravel area).	N/A	N/A	0	63,000
Base Camp Motor Pool (Base services, security, maintenance vehicles, etc.) (30 vehicles) (paved or unpaved area)	N/A	N/A	0	9,500
Base Camp Security Fencing The existing barbed wire fence surrounding the approximately 300 acres would be replaced with 7-foot chain link fence with double outrigger barbed wire. The existing fence has approximately 10 feet wide mowed area around the perimeter. New fencing would require 20 feet of cleared space within the fence and 10 feet of cleared space outside the fence. This would require an additional 20 feet of vegetation clearance (15,670 linear feet x 20 feet = 313,400 SF or 7.2 acres). The entry points to Base Camp would be illuminated.	N/A	N/A	313,400	0
Base Camp Biosecurity/Wash Rack (paved area with wash-water run-off containment)	N/A	N/A	0	5,400
Port Biosecurity/Wash Rack (paved area with BTS fencing and wash-water run-off containment). Wash rack would be connected to CUC power and water supply. Wastewater would be recycled and oil water separator and used water would be pumped out and disposed of in conformance with CNMI regulations. Facility would include an estimated 5,400 SF wash rack and 20,000 SF of paved area for inspection of vehicles and equipment. The entire approximately 26,000 SF area would be surrounded with fencing and brown tree snake traps.	N/A	N/A	0	26,000

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Fuel Storage and Distribution Fuel requirements are estimated at 100,000 gallons storage capacity. This would be satisfied with two 50,000 gallon fuel bladders. Total site area to include bladders, clearance and secondary containment is approximately 18,000 SF. Once facilities are constructed, fuels would be sourced from the existing Divert facilities using fuel trucks. The EIS assumes approximately 1M gallons of fuel needed per year and this would result in an average of 4 truck trips per week from Divert to the Base Camp. This could increase during peak large training events to 16 truck trips per week.</p>	N/A	N/A	0	18,000
<p>Utility alignments. Note - Electrical and communication lines would be undergrounded. Lines would be constructed to serve Base Camp, Surface Radar Towers, Well Fields and the MPMR Ammunition Holding Area. Utility trenches are expected to be located approximately 16 feet from the centerline of roads. A total of approximately 14 feet of cleared area is needed along the road to construct the trench. The trench would be approximately 3 feet in width if shored and approximately 10 feet in width if not shored. Shoring is typically required in poor soil conditions and/or if the trench is deeper than 4 feet. The trench would be up to 6 feet deep for water lines and 3 feet deep for electrical or communication lines. The EIS would assume a 10 foot wide trench for water lines and a 3 foot wide trench for electrical and telecommunications. An estimate of disturbed area is shown as follows:</p>				
<p>Water line from Well Field A (maximum proposed distance following 8th Avenue) 24,000 linear feet by 14 feet wide for vegetation clearing = 336,000 SF. Actual ground disturbance would be 24,000 linear feet by 10 feet wide = 240,000 SF.</p>	N/A	N/A	336,000	0
<p>Water line from Well Field B (maximum proposed distance following 8th Avenue) 15,540 linear feet by 14 feet wide = 217,560 SF. Actual ground disturbance would be 15,540 linear feet by 10 feet wide = 155,400 SF.</p>	N/A	N/A	217,560	0

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
Proposed Combined Electrical and Communication Line in the Military Lease Area: - USAGM Site to Surface Radar Site 1 = 11,210 ft - Surface Radar Site 1 to Surface Radar Site 2 = 18,650 ft - Ushi Point Road to MPMR Wells and AHA-1 = 4,770 ft Total 34,630 ft by 14 feet wide clearing = 484,820 SF	N/A	N/A	484,820	0
Proposed Communication Line in the Military Lease Area: - TNI/Divert from Broadway to 8th Avenue = 17,040 ft - 8th Avenue to Well Field Option 1 along 86th Street = 11,600 ft - TNI/Divert 8th Avenue to Base Camp = 16,350 ft Total 44,990 linear ft by 14 feet wide clearing = 629,860 SF	N/A	N/A	629,860	0
Proposed Communication Line OUTSIDE the Military Lease Area: - Commercial service provider (San Jose) to Military Lease Area Via Broadway = 6,510 feet by 14 feet wide = 91,140 SF	N/A	N/A	91,140	0
Ranges, Supporting Facilities and Training Areas				
Two Surface Radar Towers Each tower is a minimum of 45 ft and a maximum of 75 feet tall. Each requires a 120 ft by 120 ft fenced area with an additional 20 feet of clearance outside the fence for a total disturbance of 160 ft by 160 ft or 25,600 SF. Each site would include an approximately 40 ft by 40 ft area for the antenna footings and approximately 30 ft by 30 ft equipment shelter. The entry gate at each Surface Radar site would be illuminated. Fencing at the Surface Radar sites would be double fencing: (Outer fence (8' total height – 7' fence with 1' Y top) with reinforcement cables and dead man anchors, Y top, barbed wire and razor wire. Inner fence (8' total height – 7' fence with 1' Y top) with Y top, barbed wire and razor wire.).	1,800	1,800	51,200	5,000

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Multi-Purpose Maneuver Range Ammunition Holding Area: (approximately 164 feet wide by 164 feet long to support up to 567 lb. NEW) at Multi-Purpose Maneuver Range. The AHA would require temporary fencing when in use. The temporary fencing typically consists of triple-strand concertina wire, a security barrier made up of three layers of razor wire arranged in a pyramid or stacked formation. The wire is secured in place using metal stakes driven into the ground. Height: 4 to 6 feet Width: 3 to 6 feet Stake Spacing: Every 5 to 6 feet Stake Depth: 18 to 24 inches</p>	N/A	N/A	27,000	27,000
<p>Multi-Purpose Maneuver Range: Perimeter Road and Firebreak (vegetation clearing and regular maintenance), 10,080 linear feet, with 50-foot vegetation clearing for fire-break, 504,000 SF</p>	N/A	N/A	504,000	0
<p>Multi-Purpose Maneuver Range: Firebreak The firebreak would follow existing Boston Post Road that runs east and west along the south side of the MPMR AND Ushi Point Road. Fire breaks would require 8 ft of clearance on either side of the road (vegetation clearing and regular maintenance). The estimated length for fire break along Boston Post Road is 13,690 linear feet. Ushi Point Road fire access road is estimated at 5,240 linear feet for a total of 18,930 linear feet. 18,930 linear feet times 16-foot vegetation clearing = 302,880 SF.</p>	N/A	N/A	302,880	0

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Multi-Purpose Maneuver Range Water Wells and Tanks: One new water well and two 100,000 gallon water tanks would be constructed at North Field near Landing Zone 13. Installation of water wells would be conducted by a licensed driller under the guidance of a Professional Geologist. The well would include a 900 SF building to house water pumps, and backup electrical generation. The well and tanks would NOT be fenced. Each 100,000 gallon tank would be approximately 33 feet in diameter and 18 feet high and include wildland fire truck dispensing apparatus. The tanks would require approximately 7,000 total SF of impervious or semi-impervious surface for placement of concrete pads/tanks, pumphouse, and supporting infrastructure. The total disturbed area would be approximately 1.5 acres. The area would be accessed by existing roads and the well, building and tanks would be locked for security. Entry points would be illuminated.</p>	900	900	65,340	7,000
<p>Multi-Purpose Maneuver Range: Center Access Road/UKD Range (vegetation clearing and regular maintenance)</p>	N/A	N/A	108,000	0
<p>Multi-Purpose Maneuver Range: Target/Objective Areas (vegetation clearing and regular maintenance). Includes thinning of vegetation between objective areas. Roads to the range would include gates that could be closed for safety and security. Simple metal gates would also be installed along the public road to prevent access for safety reasons when the Range is in use.</p>	N/A	N/A	531,200	0

<i>Description</i>	<i>Building Requirement (SF)</i>	<i>New Building Construction (SF)</i>	<i>Vegetation Clearing (SF)</i>	<i>New Impervious or Semi-Impervious Surface (includes new building footprint) (SF)</i>
<p>Explosives Training Range (ETR) The Explosives Training Range would include a 2.5 acre disturbed area and a 40 feet x 8 feet Missile Proof Shelter & Operational Bunker. The road to the ETR would have a permanent steel swing gate that could be closed for safety and security. The ETR would NOT be fenced. The ETR would also include a flagpole with a redlight. The light would be illuminated and a red flag flown when the range is active.</p>	320	320	108,900	320
<p>Helicopter Landing Zones (remove and maintain vegetation to allow for helicopter landings) 11 small (600 feet by 600 feet) and 2 large (1200 feet by 1200 feet) = 6,840,000 SF or 157 Acres</p>	N/A	N/A	6,840,000	0
<p>North Field Drop Zone (vegetation clearing for safe use of drop zone) (212 acres being cleared by USAF, 89 acres by CJMT)</p>	N/A	N/A	3,876,840	0
TOTAL	106,880	80,080	14,900,600	589,300
			Acres	342.07
Total Building SF at USAGM site that can be reused		30,000		
Total Impervious or Semi-Impervious Surface WITHOUT new building footprints				511,020

Table C.5-2 Roadways

Road Name/Location	Road Segment Length (feet)	Road Type	Construction Type	Road Description	Road Width (feet)	Area of Disturbance (Clearing) (SF = Road Length x Road Width)
Explosives Training Range Access Road (from 86th Street, North to ETR Site/Bunker)	2,800	Gravel	New Construction	24 feet	24	67,200
72nd Street, from Pina Quarry to Pina Plateau, connects to LZ 1	6,954	Gravel	Re-established Road	(2) 12 foot lanes, with 3-foot shoulders	30	208,620
Road to LZ 2	300	Gravel	Re-established Road	24 feet	24	7,200
Road to LZ 3	467	Gravel	Re-established Road	24 feet	24	11,208
Road to LZ 4	1,289	Gravel	Re-established Road	24 feet	24	30,936
Road to LZ 5	226	Gravel	Re-established Road	24 feet	24	5,424
Road to LZ 6	458	Gravel	New Construction	24 feet	24	10,992
Road to LZ 7	382	Gravel	New Construction	24 feet	24	9,156
Road to LZ 8	278	Gravel	New Construction	24 feet	24	6,672
Road to LZ 9	719	Gravel	Re-established Road	24 feet	24	17,256
Road to LZ 10	606	Gravel	Re-established Road	24 feet	24	14,544
Road to LZ 11	1,398	Gravel	Re-established Road	24 feet	24	33,552
Road to LZ 12	2,588	Gravel	Re-established Road	24 feet	24	62,112
Road to LZ 13	0	Gravel	Re-established Road	24 feet	24	0
Total New Construction	3,918			Total New Construction		94,020
Total Re-establish	14,547			Total Re-establish		390,852
Grand Total	18,465			Total		484,872
				Acres New Construction		2
				Acres Re-establish		9
				Acres Grand Total		11

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APPENDIX D
BEST MANAGEMENT PRACTICES, STANDARD OPERATING
PROCEDURES, AND MINIMIZATION MEASURES



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APPENDIX D

BEST MANAGEMENT PRACTICES, STANDARD OPERATING PROCEDURES, AND MINIMIZATION MEASURES

Chapter 4 of the Final Environmental Impact Statement (EIS) discusses how the Proposed Action incorporates resource management measures that avoid and/or minimize environmental impacts to resources. These resource management measures are incorporated into the design of the project in the form of avoidance and minimization measures, best management practices, and standard operating procedures. This appendix addresses best management practices and standard operating procedures, each of which is discussed below.

- Best management practices are existing policies, practices, and measures required by law, regulation, or Department of Defense (DoD) policy that reduce the environmental impacts of the Proposed Action and are common practice in the industry. Best management practices are incorporated into the Proposed Action and include standard military design, construction or operations practices or procedures, and compliance with laws and typical regulatory permit requirements that the USMC is committed to implementing. The Final EIS impact analysis assumes that best management practices are successfully implemented when assigning a level of impact.
- 1. The USMC currently employs standard practices to provide for the safety of personnel and equipment, including vessels and aircraft, as well as the success of the training events. In many cases, there are incidental environmental, socioeconomic, and cultural benefits resulting from standard operating procedures. Standard operating procedures serve the primary purpose of providing for safety and mission success and are implemented regardless of their secondary benefits. Because standard operating procedures are crucial to safety and mission success, the USMC would not modify them as a way to further reduce impacts on environmental resources. Rather, avoidance, minimization, and management measures would be used as the tool for avoiding and reducing potential environmental impacts.

The best management practices and standard operating procedures relevant to this Proposed Action are listed in Table D-1, which illustrates how avoidance and minimization measures often have a mitigating effect across multiple resource areas.

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Table D-1 Best Management Practices, Standard Operating Procedures, and Minimization Measures Included in the Proposed Action

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>
Seismic Design for Buildings	Unified Facilities Criteria 3-310-04, <i>Seismic Design for Buildings</i> , are guidelines that would be implemented to reduce geologic hazards associated with seismicity, liquefaction, and ground shaking.										X		X		
Dust Control Measures	Unified Facilities Criteria 3-260-17, <i>Dust Control For Roads, Airfields And Adjacent Areas, With Change 1</i> , are guidelines for Dust Control in construction and maintenance. Some measures include when feasible: <ul style="list-style-type: none"> Minimize land disturbance. Construct stabilized construction entrances per construction standard specifications. Cover trucks when hauling soil, stone, and debris. Use water trucks to minimize dust. Stabilize or cover stockpiles. Minimize dirt tracking by washing or cleaning trucks before leaving the construction site. 		X	X						X	X		X		X
Erosion Control Measures	Erosion control measures would be implemented during construction and operations to eliminate and/or minimize nonpoint source pollution in surface waters due to sediment. <i>CNMI Earthmoving and Erosion Control Regulations</i> and <i>CNMI Environmental Protection Act</i> establish a permit process for construction activities, identify investigations and studies that are required prior to design and construction, and provide standards for grading, filling, and clearing. Erosion control measures would include Department of Environmental Quality-recommended BMPs that apply to federal actions in CNMI. Specific BMPs may include, but are not limited to, the following: <ul style="list-style-type: none"> Minimize the ground disturbance area. Contractors would be held responsible for ground disturbance/vegetation removal that occurs outside of project areas identified in contractor specifications. Provide erosion control through the site approval process and implement control measures such as retention ponds, swales, silt fences, fiber rolls, gravel bag berms, mulch, and erosion control blankets during construction and operations to eliminate and/or minimize nonpoint source pollution in surface waters due to sediment. Topsoil removed from the site would be placed in the immediate area and reused for re-compaction purposes (if appropriate, in accordance with geotechnical recommendations). Protect soil exposed near water as part of the project from erosion with erosion control blankets (organic or synthetic fibers held together with net to cover disturbed areas) after exposure and stabilize as soon as practicable (with vegetation matting, hydroseeding, etc.). Contain silt using silt fences and other physical barriers that intercept runoff from drainage areas. Cover soil piles and exposed slopes during times of 				X						X	X	X	X	X

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>	
	<p>inclement weather.</p> <ul style="list-style-type: none"> • Stockpile excavated materials behind impermeable berms and away from the influence of surface waters and runoff. • Re-vegetate as soon as possible after any ground disturbance or grading and stabilize loose soils using vegetation/mulch (i.e., apply coarse plant residue to cover soil surface). The vegetation/mulch should be free of invasive species viable reproductive parts, such as rhizomes, seeds, and plants. • Utilize level spreaders (non-erosive outlets for runoff to disperse flow uniformly across slope). • Install rock outlet protection (rock protection placed at end of culverts). • Restrict vehicles in training areas to designated/previously identified areas and ensure all training areas, including transit routes necessary to reach training areas, are clearly identified or marked. 															
Clean Water Act – National Pollutant Discharge Elimination System	<p>A Stormwater Management Plan and Stormwater Pollution Prevention Plan would be prepared and implemented in compliance with the CNMI Stormwater Management Manual. Elements of a Stormwater Management Plan include structural and non-structural practices such as the following:</p> <ul style="list-style-type: none"> • Storm drain inlet protection (permeable barrier around inlets reducing sediment let into storm drain). • Stormwater ponds and wetlands. • Infiltration practices (capture/temporarily store water before infiltrating into the soil). • Filtering practices (capture/temporarily store water and pass through filter beds of sand, organic matter, soil, or other media). • Soil stabilization (such as mulch and erosion control blankets). • Perimeter and sediment control (such as silt fences, fiber rolls, gravel bag berms, and sediment traps). • Management and covering of material, waste, and soil stockpiles when not in use. • Storage of fuels and hazardous materials with proper secondary containment, and establishment of designated vehicle and equipment maintenance and fueling areas. • Management of spills and leaks from vehicles and equipment through inspections and use of drip pans, absorbent pads, and spill kits. • Development of a contingency plan to control petroleum products accidentally spilled during the project. 				X						X	X		X	X	

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>
Technical Guidance on Implementing Stormwater Runoff Control Measures	Section 438 of the Energy Independence and Security Act, <i>Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects</i> establishes guidance for post-development stormwater management systems that utilize a combination of natural and engineered features that reduce the volume and rate of stormwater runoff (i.e., eliminate or minimize hydromodification), filter out pollutants, and facilitate groundwater recharge through infiltration. The preservation and reestablishment of vegetation after construction would minimize the potential for erosion and sediment runoff.				X						X	X		X	X
Design Individual Projects Using LEED Certification Standards	Current USMC policy supports LEED, a voluntary point system tool that measures the degree of sustainability features incorporated into a development. LEED requirements include the following: <ul style="list-style-type: none"> • Reduction of electrical energy use in buildings by 10% to save power. • Construction materials: use of local sources. USMC guidance and qualification for LEED Silver points requires that 50% non-hazardous waste and demolition debris are recycled. • Increased water efficiency. • Renewable energy. 			X							X	X			
Design Projects Using Low Impact Development Standards	Low Impact Development measures would be consistent with guidelines provided in Unified Facilities Criteria 3-210-10 and stormwater management techniques provided in the CNMI <i>Stormwater Management Manual</i> . Innovative methods are used to capture stormwater that would otherwise flow into nearby watersheds using a combination of retention devices and vegetation to allow stormwater to be retained and managed at the source, rather than relying on downstream efforts to control the flow of water and contaminants. Measures may include, but are not limited to, the following: <ul style="list-style-type: none"> • Stormwater ponds (retention/detention). • Stormwater wetlands. • Infiltration practices. • Filtering practices. • Open channel practices. • Minimizing exposure. • Watershed-based management. 			X								X		X	X
Design Projects in Compliance with the Energy Policy Act of 2005	Energy Policy Act compliance includes analysis and life-cycle cost analysis using a simulated model and the following energy conservation measures: <ul style="list-style-type: none"> • Ensure that buildings achieve an energy consumption level that is 30% below the level achieved by ASHRAE Standard 90.1. • Use low energy consuming products that are either “Energy Star”-qualified or Federal Energy Management Program-recommended. • Optimize building orientation to reduce cooling loads or energy loads to cool the buildings. 			X							X	X			

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>	
	<ul style="list-style-type: none"> Optimize building insulation. Seal building envelope for air tightness. Incorporate “cool roof” building designs. Use motion detectors to reduce lighting and to setback cooling in unoccupied buildings. Use of natural lighting. 															
Design Facilities and Implement Procedures to Minimize Hazardous Waste and Ensure Proper Management of Hazardous Substances	<p>Hazardous Materials Management Plans describe procedures for the transportation, storage, use, and disposal of hazardous materials. Procedures also include waste minimization plans that provide protocols designed to encourage and promote the efficient use of hazardous materials, substitute products that are less toxic whenever feasible, minimize their use, and promote recycling and reuse of hazardous materials. Procedures include:</p> <ul style="list-style-type: none"> Utilize hazardous materials spill/release control (use of secondary containment and leak detection methods in operations involving liquid hazardous substances). Ensure construction materials and all construction-related materials are free of leachable pollutants. Ensure U.S. military personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods. Ensure that all personnel and contractors store, handle, and dispose of all petroleum, oil, and lubricants per all applicable local and federal laws, regulations, and requirements. Ensure contaminated topsoil removed from the site is properly disposed of in an approved landfill in accordance with applicable regulatory requirements. Ensure that soils to be excavated are well characterized, properly handled, and disposed of to minimize dispersal of any contaminants that may be present. Locate temporary equipment laydown or construction staging areas in previously disturbed (e.g., paved) areas when feasible. Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination and/or munitions and explosives of concern have been identified, ensure that the risk of human/ecological risk and exposure is minimized via the use of site-specific health and safety plans, engineering and administrative controls, and personal protective equipment. These site-specific health and safety plans must specifically address how these controls would be implemented to ensure the protection of human health and the environment. 													X	X	

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>
Spill Prevention, Control, and Countermeasures Plan and Facility Response Plans	<ul style="list-style-type: none"> In accordance with federal regulations to respond to releases, leaks, or spills of hazardous substances, create or update existing Spill Prevention, Control, and Countermeasures Plan(s) (40 CFR 112.3) and Facility Response Plan(s) (40 CFR 112.20), as needed, and implement them. Ensure U.S. military personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods. Ensure petroleum, oil, and lubricants/fuel transfers are kept away from water bodies and a response/contingency plan is in place in the event of any releases, leaks, or spills. Ensure proper labeling of all hazardous substance containers to prevent inappropriate storage or use. Implement contaminant migration control (e.g., reducing contaminant migration pathways by preventing releases to drains, pipelines, and sewers and the use of absorbent pads and materials to prevent and control spills and releases). Ensure that contaminants (e.g., oils, greases, lubrication fluids for heavy equipment) are properly stored at work sites and temporary construction staging areas to avoid spills, releases, and leaks. Ensure that emergency response plans are in place for responding to releases, leaks, or spills of hazardous substances. Minimize the risk of uncontrolled leaks, spills, and releases through industry and DoD-accepted methods for spill prevention, containment, control, and abatement. Minimize the risk of human exposure to contaminated media through the use of a site-specific health and safety plan, engineering and administrative controls, and appropriate personal protective equipment (e.g., indicating where eye-wash stations, fire extinguishers, etc. are located). 										X		X	X	X

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Munitions and Explosives of Concern Protocol, Procedures, and Guidance	<ul style="list-style-type: none"> Comply with all applicable munitions and explosives of concern protocol, procedures, and guidance including, but not limited to, the NOSSA Instruction 8020.15E, <i>Explosives Safety Review, Oversight, and Verification of Munitions Responses</i>, prior to any construction/demolition or other site activities; NAVFACMAR OPSNOTE 2020-002B: MEC Integrated Project Management; Munitions Response Explosives Safety Submission (MRESS) Tinian Construction Support and any supporting Annexes or Corrections to the MRESS. Reduce the potential exposure to UXO through surveys or other means to identify and remedy this hazard prior to building upon a site. Work would be conducted by qualified UXO specialists. Implement routine firing range clearance operations, perform sampling and analysis as deemed necessary, and implement all applicable U.S. military munitions and explosives of concern operations guidance to minimize or eliminate potential munitions and explosives of concern explosion hazards and other adverse impacts (including depositions with potential to leach into the subsurface). Implement land use controls, signage, periodic inspections, and other means to ensure no unauthorized access to firing ranges, munitions and explosives of concern, and/or hazardous substances. Train construction crews on identifying and responding to munitions and explosives of concern encountered in the field. UXO personnel would be available to monitor earthmoving activities. 			X	X						X		X	X	X	X
Biosecurity (general)	<p>The DoD would:</p> <ol style="list-style-type: none"> Implement a biosecurity education program to inform the general public, contractors, and DoD civilian and military personnel about native versus non-native species, invasive species, and impacts of non-native invasive species on native species and ecosystems. USMC would follow the Marianas Training Manual (COMNAVMAR Instruction 3500.4A). Program materials may include educational brochures and posters that differentiate native and introduced species, define invasive species, describe the known impacts of invasive species on native species and ecosystems, and explain what can be done to prevent and control invasive species. Coordinate biosecurity with federal and CNMI agencies. Construct biosecurity facilities. 				X											
Biosecurity (early detection and rapid response)	<ol style="list-style-type: none"> Early detection surveys on Tinian Military Lease Area for invasive plant species, small vertebrates, and invertebrates by DoD approved biosecurity personnel. Invasive species rapid response and control high-risk invasive species capabilities on Tinian Military Lease Area if species are present by JRM approved biosecurity personnel. 				X											

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	<p>3. Deployment and maintenance of sentinel coconut rhinoceros beetle panel traps within the Military Lease Area by JRM approved biosecurity personnel.</p> <p>4. Deployment and maintenance of sentinel coconut rhinoceros beetle traps at the airport and port by CNMI Customs and Biosecurity personnel.</p> <p>5. Deployment and maintenance of brown tree snake (BTS) traps at Tinian Airport by CNMI Division of Fish and Wildlife.</p> <p>6. In the event cargo, aircraft, or small vessels (less than 100 feet) depart Guam without a pre-departure BTS canine inspection, JRM would notify the qualified BTS interdiction personnel and the Commonwealth Port Authority (when applicable) as soon as possible.</p> <p>7. In the event military units, vehicles, or equipment accidentally leave Guam without inspection, the military would notify the qualified BTS interdiction program and the designation port or airport authorities as soon as possible. USMC would work with BTS personnel on Tinian to resolve the issue. Urgency of notification is a priority so that the appropriate BTS interdiction measures can be implemented to reduce risk, if warranted.</p> <p>8. USMC would utilize ongoing adaptive management to improve methods for BTS rapid response, including detection of low-density snake populations using all technologies as they become available. USMC, on behalf of DoD, would annually review BTS rapid response needs with the USFWS to mutually determine if refined methods need to be implemented; the Military Services would support such refinement based on that mutual agreement. Support for this adaptive management approach would be required by all Military Services and include financial support subject to congressional funding guidelines and restrictions.</p> <p>9. The Military Services training on Tinian would provide support for BTS rapid response associated with a BTS sighting within the JRM area of responsibility related to CJMT activities subject to this consultation.</p> <p>10. In coordination with USFWS, USMC would establish adequate rapid response capabilities with entities that have invasive species rapid response expertise and technology when implementing CJMT activities. The rapid response capabilities would focus on control and eradication of introduced non-established, non-native invasive species sighted in the vicinity of: (1) DoD CJMT training areas, and (2) DoD areas and facilities used for the staging, storage and movement of CJMT personnel, cargo, and CJMT-associated vehicles (e.g., aircraft, vehicles, and vessels). Priority should be given to non-native invasive species that pose a high risk of being transported elsewhere due to related training actions. Monitoring would consist of the established protocols for early detection survey for</p>															

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	<p>high-risk invasive species, personnel invasive species awareness during pre-event preparations and at training execution, and self-inspections of gear and clothing. As noted above, an adaptive management review of established biosecurity protocols would be conducted annually with the USFWS.</p> <p>11. USMC, in coordination with CNMI Department of Lands and Natural Resources, CNMI Customs and Biosecurity, USFWS, the Military Services and the Department of the Navy biosecurity program staff, would implement protocols and procedures for rapid response when deemed necessary. Protocols and procedures would be reviewed annually with USFWS. JRM would continue to implement rapid response efforts in the event of inadvertent DoD transport of insects to Tinian, for example the little fire ant (<i>Wasmannia auropunctata</i>) or coconut rhinoceros beetle (<i>Oryctes rhinoceros</i>). Rapid response would focus on control and eradication of non-established, non-native invasive species sighted in the vicinity of CJMT training areas and facilities used for the staging, storage and movement of military personnel, cargo, and associated vehicles.</p>														
Biosecurity (Interdiction)	<ol style="list-style-type: none"> 1. Pre-departure biosecurity cleanliness inspections of all military and contractor cargo (palletized cargo, containers, rolling stock, breakbulk) before departing place of origin outside the Mariana Islands by military and contractor personnel to ensure per the Armed Forces Pest Management Board Technical Guide No. 31 cleanliness standards. 2. Pre-departure biosecurity cleanliness inspection of all military and military contractor cargo/equipment departing Tinian, conducted by JRM approved biosecurity inspectors. 3. Pre-departure biosecurity cleanliness inspections of all military and military contractor cargo/equipment departing from Guam, Rota, and Saipan, conducted by JRM approved biosecurity inspectors. 4. Arrival biosecurity cleanliness inspections of all cargo/equipment entering Tinian from Guam, by JRM Biosecurity personnel. 5. For military and military contractor cargo/equipment arriving from outside the Marianas Islands, arrival biosecurity cleanliness inspections conducted by CNMI Customs and Biosecurity personnel and JRM approved biosecurity inspectors. 6. Pre-departure BTS canine inspections on Guam of all aircraft, small vessels (≤ 100ft), and cargo destined to Tinian by JRM approved BTS personnel and canine. 7. Arrival BTS canine inspection on Tinian for aircraft, small vessels, and cargo originating from Guam by CNMI BTS canine personnel and/or DoD approved BTS personnel and canine. 				X										

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	<p>8. Using trained BTS personnel and qualified canine teams, Range Control would target 100 percent pre-departure BTS canine inspection of all aircraft, small vessels (less than 100 feet), and all cargo/equipment leaving Guam via vessel or aircraft to Tinian.</p> <p>9. The USMC is committed to implementing redundant BTS canine inspections after discussions with appropriate stakeholders. Redundant BTS canine inspections include pre-departure inspections on Guam and arrival inspection on Tinian for administrative and logistical movements within the CJMT action area that do not require a tactical approach to complete the training requirements. It is anticipated that redundant inspections would utilize existing quarantine and inspection protocols at receiving ports on Tinian and Guam to the extent possible. However, should inspection coverage be inadequate, JRM would provide inspection teams to fully implement quarantine and inspection protocols. Appropriate stakeholders include, but are not limited to, USFWS to ensure the inspections are adequate to reduce risks to trust resources, receiving jurisdictions and their supporting agencies with expertise in invasive species control, and other inspection authorities as needed to ensure inspection methods are current and revised as new techniques, technology, or data become available. Oversight would be provided by on-island Range Control presence.</p> <p>10. All exercise participants shall conduct self-inspections of all personal gear/clothing and hand carried equipment for the removal of soil/dirt accumulation, seeds, vegetation, invertebrates (insects, spiders, snails, slugs, etc.) and small vertebrates prior to CNMI arrival and departure/retrograde, inter-island and intra-island events within the CNMI.</p>															
Biosecurity (cross-agency coordination and pre-planning)	<p>1. Coordination with CNMI BTS program, USFWS, U.S. Department of Agriculture Wildlife Services BTS Program (Guam), and CNMI Customs and Biosecurity, facilitated by the JRM Regional Biosecurity Program Manager, for biosecurity planning and protocols.</p> <p>2. On-island Range Control on behalf of the military services would (a) coordinate closely with the USFWS and the CNMI Department of Land and Natural Resources staff on BTS interdiction planning for training activities on Tinian; (b) coordinate with the other DoD action agencies implementing the CJMT program and the USFWS to identify the inspection and interdiction requirements for CJMT program-related training activities, including the number of trained quarantine officers and canine detection teams required to ensure that the inspection and interdiction requirements for CJMT program-related training activities can be met; (c) coordinate with the USFWS on the inspection and interdiction requirements prior to the implementation of the exercise or training activity; and (d) identify the support that the Military</p>				X											

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	<p>Services need to provide for the inspections and develop plans to ensure that inspection personnel are available and all requirements are met.</p> <p>3. On-island Range Control on behalf of the military services would incorporate BTS interdiction and biosecurity cleanliness requirements into exercise planning and coordination. Tinian Range Control and/or CJMT Range Point of Contact to brief service components on required BTS interdiction and biosecurity cleanliness protocols ahead of training.</p> <p>4. JRM Biosecurity would provide BTS awareness briefings for all military and contractor personnel prior to all CJMT training activities. BTS awareness briefings would be scaled to the type of training activity to take place. Awareness materials may consist of a BTS educational video and distribution of BTS information and personal inspection guidelines. Awareness briefs would emphasize that BTS awareness must extend through the chain of command from the Commanding Officer to the individual military service member. If a snake is found during CJMT activities, the policy is to kill and collect the snake and report it to BTS personnel, environmental monitors, and Tinian Range Control.</p>														
Contractor Plans and Specifications	All construction would occur within the limits of construction shown in the project figures. Contractors would be responsible for any unauthorized vegetation damage and would not move outside the designated construction zone.				X	X									
Brown Tree Snake Interdiction	<p>Joint Region Marianas has established a comprehensive brown tree snake interdiction program to ensure that military activities, including the transport of personnel and equipment from Guam, do not contribute to the spread of brown tree snake within the CNMI or other locations. Adherence to COMNAVMAR Instruction 3500.4A, <i>Marianas Training Manual, Appendix A: Brown Tree Snake Control and Interdiction Requirements</i>; COMNAVMAR Instruction 5090.10A, <i>Brown Tree Snake Control and Interdiction Plan</i>; 36 Wing Instruction 32-7004, <i>Brown Tree Snake Management</i>; and anticipated final Joint Region Marianas Instruction 5090.4, <i>Brown Tree Snake Control and Interdiction</i>, which would replace COMNAVMAR Instruction 5090.10A and 36 Wing Instruction 32-7004, and would minimize the likelihood of brown tree snake introduction to Tinian. In addition, for CJMT construction and training events, the DoD would commit to implementing 100% inspection of all outgoing aircraft and all outgoing cargo transported via ship or aircraft from Guam to CNMI with trained quarantine officers and dog detection teams. Redundant 100% inspections would also be conducted on Guam within snake-free quarantine areas for all cargo transported from Guam to Tinian. The snake-free quarantine areas would be subject to (1) multiple day and night searches for snakes with appropriately trained interdiction canine teams, (2) snake trapping, and (3) human visual inspection for snakes.</p>				X										

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	<p>For all brown tree snake interdiction work, the skills and standards required to certify an inspection team as “qualified” would be agreed upon mutually by the DoD, U.S. Geological Survey Biological Resources Discipline, and U.S. Fish and Wildlife Service.</p> <p>The DoD would produce standard operating procedures for temporary brown tree snake barrier construction and use when permanent quarantine facilities are not available or are inadequate in size. Standard operating procedures would ensure that temporary barriers would be constructed and maintained in a manner that ensures the efficacy of the barrier, and that staff maintaining and constructing the temporary barriers are trained and qualified prior to barrier construction and maintenance. Standard operating procedures would be developed in cooperation with the U.S. Geological Survey Biological Resources Discipline and the brown tree snake interdiction program to ensure that risk is adequately minimized. Barrier specifications and the qualifications of brown tree snake barrier maintenance and management staff would be mutually agreed upon by the DoD, U.S. Geological Survey Biological Resources Discipline, and U.S. Fish and Wildlife Service.</p> <p>The DoD would provide brown tree snake awareness briefings for all CJMT-associated military and contractor personnel prior to all CJMT construction and training events. Brown tree snake awareness briefings would be scaled to the type of activity to take place. Awareness materials may consist of a brown tree snake educational video and distribution of brown tree snake information and personal inspection guidelines. Awareness briefs would emphasize that brown tree snake awareness must extend through the chain of command from the Commanding Officer to the individual military service member or from the contract project manager to the individual contractor.</p> <p>The DoD would also plan for and support implementation of rapid response procedures in the event of a brown tree snake sighting on Tinian that is associated with military training. The DoD is aware of the limited availability of brown tree snake inspectors, trained dogs, and quarantine facilities and equipment on Guam and in the CNMI. Accordingly, the DoD would:</p> <ul style="list-style-type: none"> • Coordinate closely with the U.S. Fish and Wildlife Service, brown tree snake interdiction program, brown tree snake rapid response program, and CNMI Department of Lands and Natural Resources staff on planning for training events in the CNMI; • Identify, along with these agencies, the inspection and interdiction requirements for CJMT activities, including the number of qualified quarantine officers and dog detection teams needed to ensure that inspection and interdiction requirements are met; and 														

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	<ul style="list-style-type: none"> In cooperation with U.S. Fish and Wildlife Service, brown tree snake interdiction program, brown tree snake rapid response program, and CNMI Department of Lands and Natural Resources staff, plan for and support implementation of brown tree snake rapid response procedures needed in the event of a brown tree snake sighting associated with military training. 															
Pest Control Measures	<p>In accordance with OPNAVINST 6250.4C, <i>Navy Pest Management Programs</i> (April 11, 2012); OPNAVINST 5090.1D, <i>Environmental Readiness Program</i> (January 10, 2014); and MCO P5090.1A Chapter 3, <i>Environmental Compliance and Protection Manual</i> (August 26, 2013), the DoD would develop and implement a comprehensive Integrated Pest Management Plan. This Plan would encompass all activities regarding the importation, handling, storage, use, and application of pesticides as well as address prevention of the introduction of potential invasive species to CNMI.</p> <p>U.S. military personnel and contractors would be trained in accordance with appropriate pesticide management regulations, regarding the importation, handling, use, and application of pesticides (e.g., during maintenance, pre- and post-construction activities, and general operations activities).</p>				X						X					
Armed Forces Pest Management Board Technical Guide 31	The DoD would continue bio-sanitation standard operating procedures to meet and validate the Armed Forces Pest Management Board Technical Guide 31 standards for munitions, military vehicles, equipment, and cargo prior to arrival and departure on-island.				X											
Fire Prevention and Wildland Management Plan	The DoD would implement fire prevention and management specific to proposed CJMT activities upon initiation of live-fire training. Fire prevention and wildland management for the range complex would include protocols for monitoring fire conditions and adjusting training as needed; establishing and managing fire breaks; establishing firefighting roads and water infrastructure; and educating training units. To minimize fire risk, vegetation within the Multi-Purpose Maneuver Range would be maintained to within 6 inches of the ground, and firebreaks would be established along the perimeter of the Multi-Purpose Maneuver Range.										X					
Joint Region Marianas Integrated Natural Resources Management Plan	In accordance with the USMC Conservation Program, the Integrated Natural Resources Management Plan would be updated by Joint Region Marianas with additional management tools developed in coordination with cooperating agencies to protect native vegetation on Tinian. The construction contractor would also conduct bird and turtle nesting surveys prior to construction and would coordinate avoidance and minimization measures as appropriate with U.S. Fish and Wildlife Service.				X											
Design for Exterior Lighting	Whenever feasible, exterior night lighting would include wildlife-friendly design features such as shielded lights (to reduce ambient light), use of motion detectors and/or other automatic controls, long wavelength bulbs, lowest possible				X											

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	<p>lumens, and lighting design that uses shields to prevent light from shining upward into the sky.</p> <ul style="list-style-type: none"> Outdoor lighting would be placed as low to the ground as possible, while still maintaining efficacy, to reduce ambient lighting into the environment that may impact wildlife. The necessary amount of exterior light fixtures would be determined for safety purposes, to avoid over lighting an outdoor space. Lighting would be downward-directed and would shield the bulb, lamp, or glowing lens, whenever feasible to reduce impacts to seabirds and other wildlife. This includes full cut off shields whenever possible near shorelines and downward directed lights for landward side exterior lights. Outdoor lighting would utilize bulbs that produce the lowest wattage/lumen necessary for their needed purpose. Bulbs would emit long-wavelength light (560 nm or higher) such as red LED, orange LED, amber LED or low-pressure sodium bulbs. 															
Implement Bird/Animal Aircraft Strike Hazard Plan	DoD would comply with Commonwealth Ports Authority BASH program at Tinian International Airport and in accordance with OPNAVINST 3750.6S. Naval Aviation Safety Management System would implement a Bird/Animal Aircraft Strike Hazard Plan to address all aircraft operations on Tinian. This plan is prepared to minimize the occurrence of bird/animal-aircraft strikes and would provide detailed procedures to monitor and react to heightened risk of aircraft strikes of birds and other animals.				X						X					
Implement Traffic Management Plan and Work Zone Traffic Management	<p>In coordination with CNMI Tinian Department of Public Works, in order to minimize impacts of construction on vehicular travel, bicycle and pedestrian circulation, and/or access to destinations near the construction area, a construction management plan and appropriate traffic management strategies would be implemented. The traffic management plan may include the following elements:</p> <ul style="list-style-type: none"> A set of comprehensive traffic control measures, to be implemented during each construction phase and specific to each construction site, including scheduling of major truck trips and deliveries to avoid peak traffic hours; provision of detour signs if required; development of lane closure procedures, signs, and cones for drivers, bicycles, and pedestrians; and identification of designated construction access routes. Notification procedures for adjacent property owners (for each construction site) and public safety personnel regarding the timing of major deliveries, detours, and lane closures. A map depicting approved locations of construction staging areas for materials, equipment, and construction 			X				X			X					

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	<p>personnel vehicles.</p> <ul style="list-style-type: none"> • A process for tracking and responding to complaints regarding construction activity. • Provision of parking management and spaces for construction workers. <p>In addition, the following BMPs for the maintenance of roadways and public rights-of-way may be imposed on the general contractor during the construction periods:</p> <ul style="list-style-type: none"> • Any damage to the roadways caused by heavy equipment or resulting from project construction shall be repaired. All damage that is a threat to public health or safety shall be repaired immediately. The public rights-of-way shall be restored to their preconstruction condition as established by a designated inspector and/or photo documentation. • Any heavy equipment brought to the construction site shall be transported by truck, where feasible. • No materials or equipment shall be stored on the traveled roadway at any time. • Portable toilet facilities and debris boxes shall be installed on the site before construction and shall be maintained properly through project completion. • Before the end of each work day during construction, the general contractor or other subcontractors shall pick up and properly dispose of all litter resulting from, or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors. 															
Diesel Emissions Control on Off-road Equipment	<ul style="list-style-type: none"> • Comply with U.S. Environmental Protection Agency Tier 2 engine emission standards. • Use ultra-low sulfur diesel fuel. • Minimize truck idling time. 			X						X	X					
Noise Abatement	<p>BMPs to abate noise from construction include the following:</p> <ul style="list-style-type: none"> • Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. • Inspect all construction equipment at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding). • Turn off idling equipment. • Implement a construction noise monitoring program to limit the impacts. • Plan noisier operations during times least sensitive to receptors. • Avoid scheduling construction during nighttime hours (10:00 p.m. to 7:00 a.m.) and on weekends. • Keep noise levels relatively uniform and avoid impulsive noises. • Maintain good public relations with the community to minimize objections to the unavoidable construction 		X	X	X				X		X					

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	<p>impacts.</p> <ul style="list-style-type: none"> Provide frequent activity updates of all construction activities. <p>BMPs to abate operational noise impacts include the following:</p> <ul style="list-style-type: none"> Implement approach and departure patterns to minimize noise over populated areas. 															
Notice to Mariners and Notice to Airmen	Range Control would coordinate with the U.S. Coast Guard and Federal Aviation Administration to include when the danger zones would be active in the Notice to Mariners and Notice to Airmen.		X				X				X					
Energy and Water Conservation/ Energy Policy Act	Implement Energy and Water Conservation/Energy Policy Act 2005, Executive Order 13221 (2001) to reduce energy and water consumption through conservation; efficiency; use of Energy Star appliances, building orientation, and insulation to reduce energy use; setback thermostats; cool roof technology; solar energy; and efficient and/or natural lighting, among others.			X								X				X
Solid Waste Recycling/ Executive Order 13514	Recycle material from municipal solid waste, such as glass, paper, metals, etc.											X				
Green Waste and Construction and Demolition Debris Diversion	During construction and operations, all green waste would be processed for reuse on island (e.g., chip and reuse or chip and decompose in place). Construction and demolition debris would be diverted for reuse at a minimum of 50% (including such actions as concrete crushing and reuse as base material and grinding and reuse of asphaltic concrete from roads), in accordance with Executive Order 13693, <i>Planning for Federal Sustainability in the Next Decade</i> .				X							X				
Cultural Resources	During construction and operations, Integrated Cultural Resources Management Plan standard operating procedures would be followed including procedures for stop work and post-review discovery. The Integrated Cultural Resources Management Plan would be updated with required revisions in support of this proposed action. For post-review discoveries, an assessment would be made for National Register of Historic Places eligibility in consultation with the CNMI Historic Preservation Officer. All military personnel scheduled to train in the CNMI receive cultural awareness training.			X		X										
Implement Range Training Area Management Plan	<p>Manage live-fire ranges in accordance with MCO 3550.10, <i>Policies and Procedures for Range and Training Area Management</i>. Update the existing training area management plans to include the new live-fire ranges. There are many management practices addressed in the plan and mentioned above, which include the following:</p> <ul style="list-style-type: none"> Remove expended rounds from the ranges and transport them to an appropriate recycling contractor or smelter in accordance with appropriate regulations. Develop and implement a Range Safety Program to conduct or coordinate training area safety, emergency response (medical and fire), Explosive Ordnance Disposal, 		X		X						X					

Best Management Practice, Standard Operating Procedure, or Minimization Measure	Description	Public Access	Land Use and Recreation	Socio-economics	Biological Resources	Cultural Resources	Visual Resources	Transportation	Noise	Air Quality	Public Health and Safety	Utilities	Topography, Geology and Soils	Ground-water and Hydrology	Surface Waters and Wetlands
	<p>Training Mishap Investigations, safety training, and range inspections.</p> <ul style="list-style-type: none"> Provide advanced notice for periods of range use to airmen, mariners, and the general public, as required for safe training area operations. 														
Range Environmental Vulnerability Assessment Program	<p>The USMC would utilize the Range Environmental Vulnerability Assessment program, in compliance with DoD Instruction 4715.14, to assess the potential impacts to human health and the environment from live-fire training operations. The purpose of the program is to identify whether there is a release or a substantial threat of a release of munitions constituents from an operational range or range complex area to off-range areas and determine if the release causes an unacceptable risk to human health and/or the environment. A baseline survey would be conducted before the Multi-Purpose Maneuver Range and Explosives Training Range are approved for use. After the live-fire ranges have been in use for a minimum of 1 year, an operational assessment would be conducted. Conservative fate and transport models of the Range Environmental Vulnerability Assessment-indicator munitions constituents (i.e., trinitrotoluene, cyclotetramethylene tetranitramine, hexahydro-trinitro-triazine, and perchlorate) would be used, when appropriate, to determine if munitions constituents are migrating off-range.</p> <p>Lead is the primary concern for small arms ranges; however, in order to conduct fate and transport parameters, site-specific geochemical properties are needed. Therefore, small arms ranges associated with the installation would be qualitatively reviewed and assessed to identify factors that influence the potential for lead migration at the operational range, including:</p> <ul style="list-style-type: none"> Design and layout; The physical and chemical characteristics of the area; and Current and past operation and maintenance practices. <p>In addition, potential receptors and pathways must be identified relative to the small arms range being assessed. Prior to the construction of the range, a site inspection would be completed by the installation to provide information on the design including the specific grading and soil amendments that are required, where needed.</p> <p>Range management plans identify procedures for safe range usage and risk reduction. The vulnerability assessment identifies releases or substantial threats of a release of munitions constituents from range complex areas to off-range areas. It is accomplished through a baseline assessment of operational range areas and, where applicable, the use of fate and transport modeling of munitions constituents.</p> <p>Potential Range Management BMPs would be incorporated into the design and construction of the range to minimize the off-site migration of surface water and munitions constituents. These include, but are not limited to:</p>			X	X					X		X	X	X	X

<i>Best Management Practice, Standard Operating Procedure, or Minimization Measure</i>	<i>Description</i>	<i>Public Access</i>	<i>Land Use and Recreation</i>	<i>Socio-economics</i>	<i>Biological Resources</i>	<i>Cultural Resources</i>	<i>Visual Resources</i>	<i>Transportation</i>	<i>Noise</i>	<i>Air Quality</i>	<i>Public Health and Safety</i>	<i>Utilities</i>	<i>Topography, Geology and Soils</i>	<i>Ground-water and Hydrology</i>	<i>Surface Waters and Wetlands</i>	
	<ul style="list-style-type: none"> Maintain grassy vegetation on berms. Manage stormwater at ranges through Low Impact Development measures. Restrict vehicular activities at ranges to designated/previously identified areas. Add soil amendments to maintain soil pH between 6 and 8. The Range Environmental Vulnerability Assessment program would evaluate these preventative measures at a minimum every 5 years to ensure their effectiveness. 															
Hazard Communication and Evacuation Plan	A Hazard Communication and Evacuation Plan would address safety of military and construction personnel by providing communication and evacuation procedures for use during emergency situations such as tsunami inundation, volcanic activity, or seismic activity.										X					

Legend: % = percent; ASHRAE = American Society of Heating, Refrigerating, and Air-Conditioning Engineers; BMP = best management practice; BTS = brown tree snake; CJMT = Commonwealth of the Northern Mariana Islands Joint Military Training; CNMI = Commonwealth of the Northern Mariana Islands; COMNAVMAR = Commander U.S. Naval Forces Marianas; DoD = Department of Defense; LEED = Leadership in Energy and Environmental Design; MCO = Marine Corps Order; NOSSA = Naval Ordnance Safety and Security Activity; OPNAVINST = Office of the Chief of Naval Operations Instruction; U.S. = United States; USFWS = United States Fish and Wildlife Service; USMC = United States Marine Corps; UXO = unexploded ordnance.

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APPENDIX E
APPLICABLE FEDERAL AND LOCAL REGULATIONS AND LAND USE
AGREEMENTS

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APPENDIX E

E.1 APPLICABLE FEDERAL AND LOCAL REGULATIONS

This appendix provides a list of federal and Commonwealth of the Northern Mariana Islands (CNMI) regulations that may be required for implementation of the Proposed Action. The Department of Defense (DoD) Proposed Action would be implemented in accordance with all applicable regulatory mandates.

Table E-1 lists Executive Orders, Table E-2 lists federal regulations, and Table E-3 lists CNMI regulations. In addition, facilities would be designed and constructed in accordance with Unified Facilities Criteria (UFC), including Seismic Design for Buildings (UFC 3-310-04).

Table E-1. Executive Orders

<i>Regulatory Requirement</i>	<i>Resource Area</i>
Executive Order 12788: Defense Economic Adjustment Program	Socioeconomics
Executive Order 11990: Protection of Wetlands	Surface Waters and Wetlands
Executive Order 13112: Invasive Species	Terrestrial Biological Resources
Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds	Terrestrial Biological Resources
Executive Order 13751: Safeguarding the Nation from Impacts of Invasive Species	Terrestrial Biological Resources
Executive Order 10854: Extension of the Application of the Federal Aviation Act of 1958	Transportation

Table E-2. Federal Law and Regulation

<i>Regulatory Requirement</i>	<i>Resource Area</i>
Clean Air Act 42 U.S.C. section 7401 et seq.	Air Quality and Greenhouse Gases; Utilities
National Environmental Policy Act, 42 U.S.C. section 4321 et seq.	All
Procedures for Implementing the National Environmental Policy Act, 32 C.F.R. 775	All
Environmental Readiness Program Manual, OPNAV M-5090.1	All
DON, Marine Corps Order 5090.2, Environmental Compliance and Protection Program	All
Historic Sites Act, 16 U.S.C. section 461-467	Cultural Resources
Abandoned Shipwreck Act, 43 U.S.C. sections 2101–2106 National Historic Landmarks Program, 36 C.F.R. 65	Cultural Resources
Sunken Military Craft Act of 2004, 10 U.S.C. 113–118 Protection of Historic Properties, 36 C.F.R. 800	Cultural Resources
Determinations of Eligibility for Inclusion in the National Register of Historic Places, 36 C.F.R. 63	Cultural Resources
American Battlefield Protection Act as amended, 16 U.S.C. section 469k	Cultural Resources
Archaeological Resources Protection Act of 1979, 16 U.S.C.	Cultural Resources

<i>Regulatory Requirement</i>	<i>Resource Area</i>
470aa-470mm; Public Law 96-95 as amended	
Curation of Federally-Owned and Administered Archeological Collections, 36 C.F.R. Part 79	Cultural Resources
National Historic Preservation Act, 54 U.S.C. section 300101 et seq.	Cultural Resources
National Register of Historic Places, 36 C.F.R. Part 60	Cultural Resources
Department of Defense Instruction 4715.16, Cultural Resources Management	Cultural Resources
Territorial Submerged Lands Act, 48 U.S.C. sections 1701–1708	Land Use
Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America, U.S. Public Law 94-241, 90 Stat. 272, Article 8 (1976)	Land Use
Proclamation No. 9077, 79 Federal Register 3479 (January 15, 2014)	Land Use
Coastal Zone Management Act Federal Consistency Regulations (15 C.F.R. Part 930)	Land Use
Air Pollution Control Act (Title IV – Noise Pollution), 42 U.S.C. section 7641	Noise
Occupational Safety and Health, 29 U.S.C. section 651 et seq.	Noise
Department of Defense Instruction 4715.13, DoD Operational Noise Program	Noise
Federal Aviation Administration Regulation 150/5370-2G, 14 C.F.R. Part 77, Operational Safety on Airports During Construction	Public Health and Safety
Federal Aviation Administration Regulation, 14 C.F.R. Part 91, General Operating and Flight Rules	Public Health and Safety
Navigable Airspace regulations, 14 C.F.R. Part 77	Public Health and Safety
MCO 5530.14A, Marine Corps Physical Security Program Manual (U.S. Marine Corps 2009)	Public Health and Safety
UFC 4-020-01, DoD Security Engineering Facilities Planning Manual (DoD 2008a)	Public Health and Safety
MCO 3570.1C, Range Safety (U.S. Marine Corps 2012)	Public Health and Safety
MCO 5100.29C, Marine Corps Safety Management System, Volume 7, Marine Corps Radiation Safety Program (U.S. Marine Corps 2021)	Public Health and Safety
Toxic Substances Control Act (40 C.F.R. 761)	Public Health and Safety, Surface Waters and Wetlands
Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. sections 9601 to 9675	Public Health and Safety; Surface Waters and Wetlands
Emergency Planning and Community Right-to-Know Act, 42 U.S.C. sections 11001 to 11050	Public Health and Safety; Topography, Geology, and Soils; Surface Waters and Wetlands
Military Base Reuse Studies and Community Planning Assistance, 10 U.S.C. section 2391	Socioeconomics
Rivers and Harbor Act, 33 U.S.C. section 403, Section 10	Surface Waters and Wetlands

<i>Regulatory Requirement</i>	<i>Resource Area</i>
Coastal Zone Management Act, 16 U.S.C. ch.33 section 1451 et seq.	Surface Waters and Wetlands; Land Use; Topography, Geology, and Soils
Safe Drinking Water Act, 42 U.S.C. sections 300f to 300j-26	Surface Waters and Wetlands; Utilities; Groundwater Hydrology
Endangered Species Act, 16 U.S.C. sections 1531–1544	Terrestrial Biological Resources
Migratory Bird Treaty Act, 16 U.S.C. sections 703–712	Terrestrial Biological Resources
Fish and Wildlife Coordination Act	Terrestrial Biological Resources
Department of Defense Instruction 4715.03, Natural Resources Conservation Program	Terrestrial Biological Resources
Farmland Protection Policy Act, 7 U.S.C. section 4201	Topography, Geology, and Soils
Hazardous Materials Transportation Safety Act, 49 U.S.C. sections 1801–1819	Topography, Geology, and Soils
Toxic Substances Control Act, 15 U.S.C. sections 2601-2629	Topography, Geology, and Soils
Department of Defense Construction Guidelines (UFC 3-310-04) addressing seismic activity	Topography, Geology, and Soils; Public Health and Safety
Clean Water Act, 33 U.S.C. section 1251 to 1387 <ul style="list-style-type: none"> • Section 401, Certification and Wetlands • Section 402, National Pollutant Discharge Elimination System • Section 404, Dredge/fill navigable waters 	Topography, Geology, and Soils; Public Health and Safety; Groundwater Hydrology
Security Zones; Tinian, CNMI (33 C.F.R. 165.1403)	Transportation
Shipping Safety Fairways (33 C.F.R. 166)	Transportation
Offshore Traffic Separation Themes (33 C.F.R. 167)	Transportation
Federal Highway Administration’s <i>A Policy on Geometric Design of Highways and Streets</i> (American Association of State Highway and Transportation Officials 2011)	Transportation
UFC 3-250-18FA, <i>General Provisions and Geometric Design For Roads, Streets, Walks, and Open Storage Areas</i> (Department of Defense 2004)	Transportation
Aeronautics and Space, 4 C.F.R. Part 73, Special Use Airspace	Transportation
Department of Defense Directive 5030.19, Department of Defense Responsibilities on Federal Aviation	Transportation
U.S. Department of Transportation regulations and C.F.R. Title 49	Transportation
FAA Advisory Circular 70/7460-1, Obstruction Marking and Lighting	Transportation
FAA Order Job Order 7400.2, Procedures for Handling Airspace Matters	Transportation
FAA Order Job Order 7400.10, Special Use Airspace	Transportation
FAA Order Job Order 7110.65, Air Traffic Control	Transportation
FAA Order 7930.2, Notices to Airmen	Transportation
FAA Order 8260.19, Flight Procedures and Airspace	Transportation
Title 49, U.S.C. section 40101 et seq., Air Commerce and Safety	Transportation
Federal Highway Administration, Department of Transportation, 23 C.F.R. sections 1–1275	Transportation

<i>Regulatory Requirement</i>	<i>Resource Area</i>
Solid Waste Disposal, 42 U.S.C. section 7401 et seq.	Utilities
Resource Conservation and Recovery Act, including Military Munitions Rule 42 U.S.C. sections 6901 to 6992k	Utilities; Public Health and Safety; Surface Waters and Wetlands; Topography, Geology, and Soils

Legend: C.F.R. = Code of Federal Regulations; DoD = Department of Defense; DON = Department of the Navy; FAA = Federal Aviation Administration; MCO = Marine Corps Order; OPNAV = Office of the Chief of Naval Operations; UFC = Unified Facilities Criteria; U.S. = United States; U.S.C. = United States Code.

Table E-3. CNMI Regulations

<i>Regulatory Requirement</i>	<i>Resource Area</i>
CNMI Public Law 3-39, the Commonwealth Historic Preservation Act of 1982	Cultural Resources
CNMI Public Law 3-33; establishes a permit and penalty process for the excavation and removal of human remains	Cultural Resources
CNMI Public Law 10-71; amends the Commonwealth Historic Preservation Act of 1982 to increase the membership of the Review Board and to increase the monetary penalty for violations of the Act	Cultural Resources
Well Drilling and Well Operation Regulations (CNMI Administrative Code Chapter 65-140)	Groundwater Hydrology
Water Quality Standards, Northern Mariana Islands Administrative Code section 65-130	Groundwater Hydrology
Coastal Resources Management Act, (2 CMC section 1501 et seq.)	Land Use
Public Lands Act (Public Law 15-2)	Land Use
CNMI Constitution Article XI, Public Lands	Land Use
CNMI Public Law 16-50 (2010), as amended by Public Law 20-05 (2017)	Land Use
CNMI Public Law 15-10 (2018), Coastal Resources Management Rules and Regulations	Land Use
CNMI Homestead Program, CNMI Public Law 15-02 (2007)	Land Use
Constitution of the CNMI, Section 9	Noise
Harmful Substance Clean Up Regulations	Public Health and Safety
Hazardous Waste Management Regulations	Public Health and Safety
DoD Construction Guidelines addressing seismic activity, Unified Facilities Criteria 3-310-04	Public Health and Safety
Commonwealth Environmental Protection Act, Public Law 3-23	Public Health and Safety
Above Ground Storage Tank Regulations, Northern Mariana Islands Administrative Code section 65-5	Public Health and Safety
CNMI Coastal Resources Management Rules and Regulations (Administrative Code Title 15-10)	Socioeconomics
Wastewater Treatment and Disposal Rules and Regulations (CNMI Administrative Code Chapter 65-120)	Surface Waters and Wetlands
Drinking Water Regulations (CNMI Administrative Code Chapter 65-20)	Surface Waters and Wetlands; Groundwater Hydrology
Threatened and Endangered Species (CNMI Administrative Code section 85-30.1-101)	Terrestrial Biological Resources
Endangered Species Act, Public Law 2-51	Terrestrial Biological Resources

<i>Regulatory Requirement</i>	<i>Resource Area</i>
Federal Aid in Wildlife Restoration Act	Terrestrial Biological Resources
Title 2 Section 5103: Conservation Offices	Terrestrial Biological Resources
Title 85 Section 309.1 100: Threatened and Endangered Species	Terrestrial Biological Resources
Water Quality Standards, Northern Mariana Islands Administrative Code section 65-140	Topography, Geology, and Soils; Groundwater Hydrology; Utilities
Environmental Protection Act (2 CMC section 3101 et seq.)	Topography, Geology, and Soils; Public Health and Safety; Surface Waters and Wetlands
Earthmoving and Erosion Control Regulations, Regulations (CNMI Administrative Code Chapter 65-30)	Topography, Geology, and Soils; Public Health and Safety; Utilities
CPA, Seaport Division, Northern Mariana Islands Administrative Code section 40-20	Transportation
DPW, Public Rights-of-way and Related Facilities Regulations, Northern Mariana Islands Administrative Code section 155-20.1	Transportation
CPA Title 40-10, Airport Division	Transportation
Specific Regulated Navigation Areas and Limited Access Areas, Island of Tinian, CNMI (33 C.F.R. 110.239)	Transportation
Solid Waste Management Regulations (CNMI Administrative Code Chapter 65-80)	Utilities
Underground Injection Control Regulations (CNMI Administrative Code Chapter 65-90)	Utilities
CNMI and Guam Stormwater Management Manual (2006)	Utilities
Pesticide Management Regulations, Northern Mariana Islands Administrative Code section 65-70	Utilities
Air Pollution Control Regulations (CNMI Administrative Code Chapter 65-10)	Utilities; Air Quality and Greenhouse Gases

Legend: C.F.R. = Code of Federal Regulations; CMC = Commonwealth Code; CNMI = Commonwealth of the Northern Mariana Islands; CPA = Commonwealth Ports Authority; DoD = Department of Defense; DPW = Department of Public Works.

E.2 LAND AGREEMENTS WITHIN THE MILITARY LEASE AREA

The history of DoD use of the Military Lease Area has been defined by several land use agreements, beginning in 1975:

- 1975 Covenant and Technical Agreement.** Sections 802 and 803 of the *Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America* (hereinafter “the Covenant”) (United States of America and the Commonwealth of the Northern Mariana Islands 1975) along with the concurrently adopted *Technical Agreement Regarding Use of Land to Be Leased by the United States in the Northern Mariana Islands*, made property available to the United States (U.S.) by lease to enable it to carry out its defense responsibilities. This property included approximately 17,799 acres on Tinian. As part of the agreements, all shoreline areas in and around the northern two-thirds of Tinian would remain open to anglers at all possible times except for those limited areas that must be closed to comply with safety, security, and hazardous risk requirements from either military activities or commercial activities. In addition, the Covenant assured CNMI residents the same access to beach areas that military personnel and dependents would have, limited only by safety restrictions during times of active

military training. During times of military maneuvers, operations, or related activity, the public use of certain beaches or areas of the beach would be restricted.

- **1983 Lease.** In 1983, the U.S. entered into a lease agreement with the Marianas Public Land Corporation and the CNMI for use of property to carry out DoD defense responsibilities on Tinian. The term of the lease agreement is 50 years, with an option to renew at the sole discretion of the U.S. for an additional 50 years. Under the lease provisions, the Federal government shall have the right to construct, place, erect, or install such buildings, structures, equipment, and facilities as may be necessary.
- **1988 Lease Amendment.** In 1988, the U.S. leased back approximately 709 acres for the Francisco Manglona Borja / Tinian International Airport (TNI) and expansion land north of the airport back to the Commonwealth Ports Authority for use as a public airport. The 1988 leaseback agreement allowed for future military use, future joint use, and modification or termination of the leaseback agreement as necessary to support defense operations.
- **1994 Lease Amendment.** In 1994, the U.S. declared approximately 1,245 acres of lease property south of TNI, including the area surrounding the Port of Tinian, as surplus and moved to dispose of the property. Within the 1994 disposal area, the Federal government reserved rights related to the use of San Jose Harbor (i.e., Tinian Harbor), the temporary use of surplus land for military training exercises, and the operation of fuel and utility lines between San Jose Harbor and the remaining leased areas. The 1994 lease amendment also expanded the Exclusive Military Use Area by approximately 3,312 acres through the redesignation of Lease Back Area lands north of Dankulo Beach Road. Under the 1994 Lease Amendment (Article 1, Section G), “permanent improvements may be permitted on the Premises with the prior written consent of the U.S.”
- **1999 Lease Agreement.** In 1999, the U.S. terminated the 1988 lease-back agreement with the Commonwealth Ports Authority and conveyed 709 acres comprising TNI property and expansion land north of the airport to the CNMI. The 1999 lease agreement also conveyed approximately 645 acres north of TNI, known as the West Tinian Airport Expansion Land, to the CNMI. In addition, the 1999 lease agreement released leasehold interest in 10 acres at Unai Masalok and lands along public rights-of-way within the 1994 Lease Back Area and disposal area.
- **1999 Conservation Agreement.** Concurrent with the 1999 lease agreement, the U.S. and the CNMI agreed to preserve approximately 970 acres of Lease Back Area lands for wildlife conservation for the Tinian monarch. In accordance with the conservation agreement, and as stated in the U.S. Fish and Wildlife Service Biological Opinion 1-2-98-F-07, the military retains the right to use the Wildlife Conservation Area for low-impact, non-habitat-destructive military training.
- **2019 Lease Agreement.** In 2019, the U.S. and the Commonwealth Ports Authority entered into an agreement for the lease of real property at and adjacent to TNI and at the Port of Tinian. This agreement supports implementation of the Pacific Air Forces Divert project. This initial lease was for a term of 40 years, with a renewal request authorized no later than 5 years prior to the expiration of the lease term. Although this lease includes areas covered by previous lease agreements, this lease does not change, amend, or otherwise alter the

1994 or the 1999 lease agreements. It includes non-exclusive use of taxiways at TNI and easement areas for construction and utilities.

- **2023 Lease Agreement.** In 2023, the U.S. and the CNMI signed an administrative amendment to the 1983 agreement. The administrative amendment grants the U.S. “the right to the reasonable use of roadways as well as the right to improve, construct, maintain and repair roads and utilities owned by the Commonwealth including all supporting facilities and structures. All such improvements shall be made in the easement areas or in such other location authorized by the Commonwealth following coordination with the Commonwealth regarding the improvement, construction, maintenance, and repair.” Under the amendment, the CNMI government “reserves the right to construct improvements including additional roads and utility lines and pipelines and to grant additional nonexclusive easements and rights of way on, in, under, across, through and over the easement areas as it shall determine to be in the public interest, provided that the Commonwealth shall consult with the U.S. prior to granting any such easements and obtain written concurrence of the U.S. that any such additional grants are not inconsistent with the use of the affected easement area by the U.S.”

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APPENDIX F
EIS PUBLIC INVOLVEMENT MATERIALS



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elevation of the impoundment at 361.92 to 362.42 feet NAVD 88. Oswego Hydro proposes to continue releasing a year-round minimum flow of 300 cfs or inflow, whichever is less, to the Oswego River downstream of the project, but does not propose to continue water quality monitoring and mitigative flow releases when inflow is less than 1,900 cfs from June 1 through October 31. In addition, Oswego Hydro proposes to continue operating and maintaining the trap and transport facility and the downstream fishway for eel and fish passage. Oswego Hydro proposes to develop a fish passage operation and maintenance plan, implement a Bat and Bald Eagle Protection Plan that it filed in the application, and maintain an existing interpretative display and fencing for the protection of historic properties.

m. A copy of the application can be viewed on the Commission's website at <http://www.ferc.gov> using the "eLibrary" link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support.

All filings must (1) bear in all capital letters the title "COMMENTS," "REPLY COMMENTS," "RECOMMENDATIONS," "TERMS AND CONDITIONS," or "PRESCRIPTIONS;" (2) set forth in the heading the name of the applicant and the project number of the application to which the filing responds; (3) furnish the name of the person submitting the filing; and (4) otherwise comply with the requirements of 18 CFR 385.2001 through 385.2005. All comments, recommendations, terms and conditions or prescriptions must set forth their evidentiary basis and otherwise comply with the requirements of 18 CFR 4.34(b). Agencies may obtain copies of the application directly from the applicant. Each filing must be accompanied by proof of service on all persons listed on the service list prepared by the Commission in this proceeding, in accordance with 18 CFR 4.34(b) and 385.2010.

The Commission's Office of Public Participation (OPP) supports meaningful public engagement and participation in Commission proceedings. OPP can help members of the public, including landowners, community organizations, Tribal members and others, access publicly available information and navigate Commission processes. For public inquiries and assistance with making filings such as interventions, comments, or requests for rehearing, the public is encouraged to contact OPP at (202) 502-6595 or OPP@ferc.gov.

You may also register online at <https://ferconline.ferc.gov/FERCOnline.aspx> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, contact FERC Online Support.

n. *The applicant must file on or before 5:00 p.m. Eastern Time on August 1, 2025:* (1) a copy of the water quality certification; (2) a copy of the request for certification, including proof of the date on which the certifying agency received the request; or (3) evidence of waiver of water quality certification.

o. *Procedural Schedule:* The application will be processed according to the following schedule. Revisions to the schedule will be made as appropriate.

Milestone	Target date
Filing of Comments, Recommendations, Terms and Conditions, and Prescriptions.	August 1, 2025.
Filing of Reply Comments ...	September 15, 2025.

p. Final amendments to the application must be filed with the Commission on or before 5:00 p.m. Eastern Time on July 2, 2025.

Dated: June 2, 2025.
Debbie-Anne A. Reese,
Secretary.
[FR Doc. 2025-10356 Filed 6-5-25; 8:45 am]
BILLING CODE 6717-01-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL OP-OFA-181]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information 202-564-5632 or <https://www.epa.gov/nepa>. Weekly receipt of Environmental Impact Statements (EIS) Filed May 23, 2025 10 a.m. EST Through June 2, 2025 10 a.m. EST Pursuant to CEQ Guidance on 42 U.S.C. 4332.

Notice: Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search>.

EIS No. 20250071, Final, APHIS, OR, ADOPTION—Final Environmental Impact Statement for the Barred Owl Management Strategy, Contact: Erica Wells 253-254-4781.

The Animal and Plant Health Inspection Service (APHIS) has adopted the Fish and Wildlife Service's Final EIS No. 20240119 filed 06/28/2024 with the Environmental Protection Agency. The APHIS was a cooperating agency on this project. Therefore, republication of the document is not necessary.

EIS No. 20250072, Final, NMFS, OR, ADOPTION—Elliott State Research Forest Habitat Conservation Plan, Contact: Jeff Young 541-315-1571.

The National Marine Fisheries Service (NMFS) has adopted the Fish and Wildlife Service's Final EIS No. 20250006 filed 01/02/2025 with the Environmental Protection Agency. The NMFS was a cooperating agency on this project. Therefore, republication of the document is not necessary.

EIS No. 20250073, Final, FHWA, PA, U.S. 6219, Section 050 Transportation Improvement Project, Contact: Benjamin Harvey 717-221-3701.

Under 23 U.S.C. 139(n)(2), FHWA has issued a single document that consists of a final environmental impact statement and record of decision. Therefore, the 30-day wait/review period under NEPA does not apply to this action.

EIS No. 20250074, Revised Draft, USMC, TT, Commonwealth of the Northern Mariana Islands Joint Military Training, Comment Period Ends: 08/20/2025, Contact: Lisa Graham 703-939-7701.

EIS No. 20250075, Draft, FERC, MA, Hydropower Licenses for the Northfield Mountain Pumped Storage Project et al., Comment Period Ends: 07/29/2025, Contact: Office of External Affairs 866-208-3372.

EIS No. 20250076, Draft, FERC, VT, Hydropower Licenses for the Wilder, Bellow Falls, and Vernon Hydroelectric Projects, Comment Period Ends: 07/29/2025, Contact: Office of External Affairs 866-208-3372.

EIS No. 20250077, Draft, BLM, AL, Warrior Met Coal, Inc. Federal Coal Lease by Application, Comment Period Ends: 07/21/2025, Contact: Shayne Banks 601-919-4652.

*EIS No. 20250078, Draft, APHIS, NAT, The State University of New York College of Environmental Science and Forestry Petition (19-309-01p) for Determination of Nonregulated Status for Blight-Tolerant Darling 54 American Chestnut (*Castanea dentata*), Comment Period Ends: 07/21/2025, Contact: Alan Pearson 301-851-3944.*

Dated: June 2, 2025.

Nancy Abrams,

Associate Director, Office of Federal Activities.

[FR Doc. 2025-10321 Filed 6-5-25; 8:45 am]

BILLING CODE 6560-50-P

FEDERAL TRADE COMMISSION

[File No. 241 0059; Docket No. C-4820]

Synopsys, Inc. and ANSYS, Inc.; Analysis of Agreement Containing Consent Orders To Aid Public Comment

AGENCY: Federal Trade Commission.

ACTION: Proposed consent agreement; request for comment.

SUMMARY: The consent agreement in this matter settles alleged violations of Federal law prohibiting unfair methods of competition. The attached Analysis of Proposed Consent Order to Aid Public Comment describes both the allegations in the complaint and the terms of the consent order—embodied in the consent agreement—that would settle these allegations.

DATES: Comments must be received on or before July 7, 2025.

ADDRESSES: Interested parties may file comments online or on paper by following the instructions in the Request for Comment part of the **SUPPLEMENTARY INFORMATION** section below. Please write: “Synopsys and ANSYS; File No. 241 0059” on your comment and file your comment online at <https://www.regulations.gov> by following the instructions on the web-based form. If you prefer to file your comment on paper, please mail your comment to the following address: Federal Trade Commission, Office of the Secretary, 600 Pennsylvania Avenue NW, Mail Stop H-144 (Annex S), Washington, DC 20580.

FOR FURTHER INFORMATION CONTACT: Kara Monahan (202-326-2018), Health Care Division, Bureau of Competition, Federal Trade Commission, 400 7th Street SW, Washington, DC 20024.

SUPPLEMENTARY INFORMATION: Pursuant to section 6(f) of the Federal Trade Commission Act, 15 U.S.C. 46(f), and FTC Rule § 2.34, 16 CFR 2.34, notice is hereby given that the above-captioned consent agreement containing a consent order to cease and desist, having been filed with and accepted, subject to final approval, by the Commission, has been placed on the public record for a period of 30 days. The following Analysis of Agreement Containing Consent Order to Aid Public Comment describes the

terms of the consent agreement and the allegations in the complaint. An electronic copy of the full text of the consent agreement package can be obtained from the FTC website at this web address: <https://www.ftc.gov/news-events/commission-actions>.

The public is invited to submit comments on this document. For the Commission to consider your comment, we must receive it on or before July 7, 2025. Write “Synopsys and ANSYS; File No. 241 0059” on your comment. Your comment—including your name and your State—will be placed on the public record of this proceeding, including, to the extent practicable, on the <https://www.regulations.gov> website.

Because of the agency’s heightened security screening, postal mail addressed to the Commission will be delayed. We strongly encourage you to submit your comments online through the <https://www.regulations.gov> website. If you prefer to file your comment on paper, write “Synopsys and Ansys; File No. 241 0059” on your comment and on the envelope, and mail your comment by overnight service to: Federal Trade Commission, Office of the Secretary, 600 Pennsylvania Avenue NW, Mail Stop H-144 (Annex S), Washington, DC 20580.

Because your comment will be placed on the publicly accessible website at <https://www.regulations.gov>, you are solely responsible for making sure your comment does not include any sensitive or confidential information. In particular, your comment should not include sensitive personal information, such as your or anyone else’s Social Security number; date of birth; driver’s license number or other State identification number, or foreign country equivalent; passport number; financial account number; or credit or debit card number. You are also solely responsible for making sure your comment does not include sensitive health information, such as medical records or other individually identifiable health information. In addition, your comment should not include any “trade secret or any commercial or financial information which . . . is privileged or confidential”—as provided by section 6(f) of the FTC Act, 15 U.S.C. 46(f), and FTC Rule § 4.10(a)(2), 16 CFR 4.10(a)(2)—including competitively sensitive information such as costs, sales statistics, inventories, formulas, patterns, devices, manufacturing processes, or customer names.

Comments containing material for which confidential treatment is requested must be filed in paper form, must be clearly labeled “Confidential,”

and must comply with FTC Rule § 4.9(c). In particular, the written request for confidential treatment that accompanies the comment must include the factual and legal basis for the request and must identify the specific portions of the comment to be withheld from the public record. See FTC Rule § 4.9(c). Your comment will be kept confidential only if the General Counsel grants your request in accordance with the law and the public interest. Once your comment has been posted on <https://www.regulations.gov>—as legally required by FTC Rule § 4.9(b)—we cannot redact or remove your comment from that website, unless you submit a confidentiality request that meets the requirements for such treatment under FTC Rule § 4.9(c), and the General Counsel grants that request.

Visit the FTC website at <https://www.ftc.gov> to read this document and the news release describing this matter. The FTC Act and other laws the Commission administers permit the collection of public comments to consider and use in this proceeding, as appropriate. The Commission will consider all timely and responsive public comments it receives on or before July 7, 2025. For information on the Commission’s privacy policy, including routine uses permitted by the Privacy Act, see <https://www.ftc.gov/site-information/privacy-policy>.

Analysis of Agreement Containing Consent Orders To Aid Public Comment

The Federal Trade Commission (“Commission”) has accepted for public comment, subject to final approval, an Agreement Containing Consent Orders (“Consent Agreement”) from Synopsys, Inc. (“Synopsys”) and ANSYS, Inc. (“Ansys”) (collectively, “Respondents”) that is designed to remedy the anticompetitive effects that may result from Synopsys’ acquisition of Ansys. Pursuant to an Agreement and Plan of Merger dated January 15, 2024, Synopsys proposes to acquire Ansys in a transaction valued at approximately \$35 billion (the “Proposed Acquisition”). The Commission alleges in its Complaint that the Proposed Acquisition, if consummated, would violate section 7 of the Clayton Act, as amended, 15 U.S.C. 18, and section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. 45, by substantially lessening competition in the following markets: (1) optical software tools; (2) photonic software tools for the design and simulation of photonic devices; and (3) Register Transfer Level (“RTL”) power consumption analysis tools. The Consent Agreement will remedy the alleged violations by preserving the

Service Type: Warehousing
Mandatory for: Fort Hood II Commissary, Warrior Way Building 85020, Fort Hood, TX
Authorized Source of Supply: CW Resources, Inc., New Britain, CT
Contracting Activity: DEFENSE COMMISSARY AGENCY (DECA),
Service Type: Shelf Stocking, Custodial & Warehousing
Mandatory for: Defense Commissary Agency, Bremerton NBK Commissary, Bremerton, WA
Authorized Source of Supply: Peninsula Services, Bremerton, WA
Contracting Activity: DEFENSE COMMISSARY AGENCY (DECA),
Service Type: Warehousing
Mandatory for: Redstone Arsenal, Huntsville, AL
Contracting Activity: DEFENSE COMMISSARY AGENCY (DECA),
Service Type: Shelf Stocking, Custodial & Warehousing
Mandatory for: Tyndall Air Force Base
Contracting Activity: DEFENSE COMMISSARY AGENCY (DECA),
Service Type: Document Destruction
Mandatory for: Social Security Administration, Regional Office, Dallas, TX
Contracting Activity: SOCIAL SECURITY ADMINISTRATION, SSA OFC OF ACQUISITION GRANTS
Service Type: Contact Center Services
Mandatory for: Office of the Comptroller of the Currency, 400 7th Street SW #3e, Washington, DC
Authorized Source of Supply: Peckham Vocational Industries, Inc., Lansing, MI
Contracting Activity: OFFICE OF THE COMPTROLLER OF THE CURRENCY, DEPT OF TREAS/COMPTROLLER OF THE CURRENCY
Service Type: Grounds Maintenance
Mandatory for: US Army Reserve, Huntsville AFRC, Huntsville, TX
Authorized Source of Supply: Rising Star Resource Development Corporation, Dallas, TX
Contracting Activity: DEPT OF THE ARMY, W076 ENDIST LITTLE ROCK
Service Type: Records Management
Mandatory for: US Navy, Military Sealift Command, Naval Station Norfolk, Norfolk, VA
Authorized Source of Supply: VersAbility Resources, Inc., Hampton, VA
Contracting Activity: DEPT OF THE NAVY, MSC NORFOLK

Michael R. Jurkowski,

Director, Business Operations.

[FR Doc. 2025-10341 Filed 6-5-25; 8:45 am]

BILLING CODE 6353-01-P

U.S. INTERNATIONAL DEVELOPMENT FINANCE CORPORATION

Notice of Public Hearing

AGENCY: U.S. International Development Finance Corporation.

ACTION: Announcement of public hearing.

SUMMARY: The Board of Directors of U.S. International Development Finance Corporation (DFC), in accordance with the Better Utilization of Investments Leading to Development (BUILD) Act of 2018, will hold a public hearing to provide an opportunity for stakeholders to present their views. Those wishing to attend, present at, or submit a written statement to the Board prior to the public hearing must provide advance notice to the agency as detailed below.

DATES: 2 p.m. EST, Monday, June 30, 2025.

ADDRESSES: The public hearing will take place virtually. Access information will be provided at the time of attendee registration.

Registration: To attend, present at, or submit a written statement to the Board prior to the public hearing, individuals must notify DFC Corporate Secretary Heather Carroll at *corporate.secretary@dfc.gov* by 5 p.m. EST, Tuesday, June 24, 2025.

SUPPLEMENTARY INFORMATION: Notices of intent to attend or present at the public hearing must include the individual's name, title, organization, address, email address, phone number, and a concise summary of the subject matter to be presented. Oral presentations may not exceed five minutes and may be reduced proportionately, if necessary, to afford all participants an opportunity to be heard.

Written statements submitted to the Board prior to the public hearing must include the individual's name, title, organization, address, email address, and phone number. Statements must be typewritten, double-spaced, and less than ten pages in length.

Lisa Wischkaemper,

Administrative Counsel, Office of the General Counsel.

[FR Doc. 2025-10312 Filed 6-5-25; 8:45 am]

BILLING CODE P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Public Meetings for Commonwealth of the Northern Mariana Islands Joint Military Training Revised Draft Environmental Impact Statement (ID# EISX-007-17-XMC-1747255459)

AGENCY: Department of the Navy (DoN), Department of Defense (DoD).

ACTION: Notice.

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA), the DoN (including the U.S. Marine Corps (USMC)), has prepared and filed with the U.S. Environmental Protection Agency a Revised Draft Environmental Impact Statement (EIS) for Commonwealth of the Northern Mariana Islands Joint Military Training (CJMT). The Revised Draft EIS includes an analysis of the potential environmental effects associated with conducting land-based training, specifically within the Military Lease Area on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI). New training infrastructure would be constructed on Tinian to support the training.

DATES: The 75-day public comment period begins on June 6, 2025, and ends on August 20, 2025. The comment period includes an additional 30 calendar days (from the required 45 days) to allow the public sufficient time to review and comment. In support of NEPA requirements, in-person public meetings on the islands of Tinian, Saipan, and Rota will be held in June 2025 to provide an overview of the Revised Draft EIS and take comments from the public. Each meeting will also provide an opportunity to learn about how the USMC is complying with the Section 106 process of the National Historic Preservation Act (NHPA) and to comment on resolving potential effects on historic properties.

The public can submit comments during the Revised Draft EIS public review and comment period at one of the in-person public meetings, electronically via the project website (www.CNMIJointMilitaryTrainingEIS.com), or via U.S. mail. Public comments on the Draft EIS must be postmarked or received online by August 20, 2025, for consideration in the Final EIS.

Five in-person public meetings will be held as follows:

1. June 23 and 24, 2025, beginning at 5 p.m. Chamorro standard time (ChST) at the Tinian Junior/Senior High School Cafeteria, Canal Street, San Jose, Tinian;
2. June 25 and 26, 2025, beginning at 5 p.m. ChST at the Crowne Plaza (Hibiscus Hall), Coral Tree Avenue, Garapan, Saipan;
3. June 27, 2025, beginning at 3 p.m. ChST at the Rota Mayor's Office, San Francisco de Borja Highway, Tatchok, Rota.

ADDRESSES: Comments on the Draft EIS may be provided at the in-person public meetings, electronically through the project website at: www.CJMTJointMilitaryTrainingEIS.com, or by U.S.

mail to: CJMT Project Manager, 415 Chalan San Antonio Road, Suite 112, Baltej Pavillion Building, Tamuning, Guam 96913.

SUPPLEMENTARY INFORMATION: The purpose of the Proposed Action is to reduce joint training deficiencies for U.S. Armed Forces in the Indo-Pacific area of operations. The development and operation of a realistic and instrumented training environment on Tinian would enable forward-deployed U.S. Armed Forces to meet evolving operational training requirements and support U.S. training with allied nations, changes in U.S. force structure, and geographic repositioning of forces.

The Proposed Action would support land-based expeditionary warfare tactics and training within the Military Lease Area on Tinian and would accommodate land-based training for all service components of the United States Indo-Pacific Command, including the USMC, Navy, Air Force, Army, Special Operations Command, and Space Command, as well as U.S. allies and partners.

New training infrastructure would create a physical and virtual training environment to include two live-fire ranges, improvements to North Field, the development of Landing Zones, an expeditionary Base Camp at the former U.S. Agency for Global Media site, and a communications system using a combination of sensors, emitters, and communication towers. Subject to additional approvals, construction would include a biosecurity area at the Port of Tinian and an aircraft shelter at the Francisco Manglona Borja/Tinian International Airport. To ensure training unit and public safety during training, an on-island Training Area and Range Operations Command (Range Control) would be established. Range Control would schedule training and coordinate with local officials and the public.

Two training Alternatives and a No Action Alternative on Tinian are analyzed in this Revised Draft EIS. Under the No Action Alternative, existing land-based training at levels analyzed in existing NEPA documents for Tinian would continue (see the 2010 Mariana Islands Range Complex Final EIS/Overseas Environmental Impact Statement (OEIS), 2015 Mariana Islands Training and Testing EIS/OEIS, and associated consultations and authorizations). Much of the proposed training is similar to existing training in terms of type that have been conducted on Tinian in recent decades. Alternative 1 and Alternative 2 would represent new training infrastructure with varying increases over existing training tempos.

Potential effects on environmental resources resulting from activities included in the two Action Alternatives and the No Action Alternative were evaluated in accordance with NEPA. Resources analyzed in this Revised Draft EIS include, but are not limited to, public access, land use and recreation, socioeconomic, biological resources, cultural resources, noise, air quality, public health and safety, utilities, and groundwater and hydrology. The Revised Draft EIS also includes an analysis of measures that would avoid, minimize, or mitigate environmental effects potentially resulting from military training and construction of training infrastructure. Direct, indirect, and cumulative effects on these resource areas are analyzed in the Revised Draft EIS.

The USMC is coordinating and consulting with appropriate Federal agencies as required by the NHPA, Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Clean Water Act, Rivers and Harbors Act, Coastal Zone Management Act, Clean Air Act, and other laws and regulations as determined to be applicable to the project.

The USMC distributed the Revised Draft EIS to the CNMI government agencies, Federal Government agencies they are consulting with, and other interested persons. The Revised Draft EIS is available for public review on the project website at www.CJMTJointMilitaryTrainingEIS.com and at these public libraries:

1. Joeten-Kiyu Public Library, Saipan.
2. Tinian Public Library, Tinian.
3. Antonio C. Atalig Memorial Rota Public Library, Rota.

The public involvement process is helpful in identifying public concerns and local issues to be considered during the development of the EIS. The USMC encourages the public to provide substantive comments on the Proposed Action and the environmental analysis, as well as the project's potential to affect historic properties as it relates to section 106 of the NHPA. All comments received prior to the deadline of August 20, 2025 at the in-person public meetings, electronically via the project website, or mailed to the address provided in the **ADDRESSES** section will be considered during the development of the Final EIS.

In-person public meetings on Tinian and Saipan will begin at approximately 5 p.m. local time; the meeting on Rota will begin at 3 p.m. local time. Informational posters will be displayed, and project team members will be available to discuss the Proposed Action

and accept comments, written and oral, from the public. A Chamorro and Carolinian interpreter will be available at each of the five in-person public meetings.

Oral comments will be recorded by a stenographer. Equal weight will be given to oral and written statements.

Dated: May 28, 2025.

A.R. DeMaio,

Lieutenant Commander, Judge Advocate General's Corps, U.S. Navy, Federal Register Liaison Officer.

[FR Doc. 2025-09980 Filed 6-5-25; 8:45 am]

BILLING CODE 3810-FF-P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare a Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement for the Mariana Islands Training and Testing (ID# EISX-007-17-USN-1744382878)

AGENCY: Department of the Navy (DoN), Department of Defense (DoD).

ACTION: Notice.

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA), the National Environmental Policy Act of 1969, DoN regulations, and Presidential Executive Order 12114, the DoN (including both the United States (U.S.) Navy and the U.S. Marine Corps (USMC)) as the lead agency, jointly with the U.S. Air Force, the U.S. Army, and the U.S. Coast Guard (referred to as "Action Proponents"), announce their intent to prepare a supplement to the 2015 Mariana Islands Training and Testing (MITT) Environmental Impact Statement (EIS)/Overseas EIS (OEIS) and the 2020 MITT Supplemental EIS (SEIS)/OEIS. The MITT SEIS/OEIS will include an analysis of training activities (referred to as "training"); research, development, testing, and evaluation (referred to as "testing") activities; and range modernization and sustainment that will be conducted in the MITT Study Area beginning in July 2027. When discussed together, these activities are referred to as "military readiness activities."

DATES: The 45-day public scoping period begins on June 7, 2025, and ends on July 22, 2025, Chamorro Standard Time (ChST). The scoping period is extended 15 calendar days (from the usual 30-day period) to allow more time to provide comments. The DoN will host a virtual presentation and have public outreach material on the project website during the scoping period to

impacted community, or recreationist. You do not need to have property directly impacted by the project in order to intervene. For more information about motions to intervene, refer to the FERC website at <https://www.ferc.gov/resources/guides/how-to/intervene.asp>.

All timely, unopposed motions to intervene are automatically granted by operation of Rule 214(c)(1). Motions to intervene that are filed after the intervention deadline are untimely and may be denied. Any late-filed motion to intervene must show good cause for being late and must explain why the time limitation should be waived and provide justification by reference to factors set forth in Rule 214(d) of the Commission's Rules and Regulations. A person obtaining party status will be placed on the service list maintained by the Secretary of the Commission and will receive copies (paper or electronic) of all documents filed by the applicant and by all other parties.

Comments

Any person wishing to comment on the project may do so. The Commission considers all comments received about the project in determining the appropriate action to be taken. To ensure that your comments are timely and properly recorded, please submit your comments on or before 5:00 p.m. Eastern Time on September 9, 2025. The filing of a comment alone will not serve to make the filer a party to the proceeding. To become a party, you must intervene in the proceeding.

How To File Protests, Interventions, and Comments

There are two ways to submit protests, motions to intervene, and comments. In both instances, please reference the Project docket number CP25-536-000 in your submission.

(1) You may file your protest, motion to intervene, and comments by using the Commission's eFiling feature, which is located on the Commission's website (www.ferc.gov) under the link to Documents and Filings. New eFiling users must first create an account by clicking on "eRegister." You will be asked to select the type of filing you are making; first select "General" and then select "Protest", "Intervention", or "Comment on a Filing"; or ⁶

⁶ Additionally, you may file your comments electronically by using the eComment feature, which is located on the Commission's website at www.ferc.gov under the link to Documents and Filings. Using eComment is an easy method for

(2) You can file a paper copy of your submission by mailing it to the address below. Your submission must reference the Project docket number CP25-536-000.

To file via USPS: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

To file via any other method: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852.

The Commission encourages electronic filing of submissions (option 1 above) and has eFiling staff available to assist you at (202) 502-8258 or FercOnlineSupport@ferc.gov.

Protests and motions to intervene must be served on the applicant either by mail at: LaShawndra R. Proctor, Manager of Project Authorizations, Columbia Gas Transmission, LLC, 700 Louisiana Street, Suite 1300, Houston, Texas 77002-2700 or by email (with a link to the document) at Lashawndra_proctor@tcenergy.com. Any subsequent submissions by an intervenor must be served on the applicant and all other parties to the proceeding. Contact information for parties can be downloaded from the service list at the eService link on FERC Online.

Tracking the Proceeding

Throughout the proceeding, additional information about the project will be available from the Commission's Office of External Affairs, at (866) 208-FERC, or on the FERC website at www.ferc.gov using the "eLibrary" link as described above. The eLibrary link also provides access to the texts of all formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. For more information and to register, go to www.ferc.gov/docs-filing/esubscription.asp.

interested persons to submit brief, text-only comments on a project.

Dated: August 19, 2025.

Carlos D. Clay,

Deputy Secretary.

[FR Doc. 2025-16106 Filed 8-21-25; 8:45 am]

BILLING CODE 6717-01-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL OP-OFA-192]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information 202-564-5632 or <https://www.epa.gov/nepa>.

Weekly receipt of Environmental Impact Statements (EIS)

Filed August 11, 2025 10 a.m. EST

Through August 18, 2025 10 a.m. EST Pursuant to CEQ Guidance on 42 U.S.C. 4332.

Notice: Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search>.

EIS No. 20250118, Draft, FEMA, OR, Oregon Implementation Plan for National Flood Insurance Program—Endangered Species Act Integration, Comment Period Ends: 10/06/2025, Contact: Portia Ross 425-487-4713.

EIS No. 20250119, Draft, USFWS, HI, Kauai Island Utility Cooperative Habitat Conservation Plan, Comment Period Ends: 10/21/2025, Contact: Koa Matsuoka 808-210-6295.

EIS No. 20250120, Final, BLM, WY, West Antelope III Coal Lease Application, Review Period Ends: 09/22/2025, Contact: Alfred Elser 307-775-6146.

Amended Notice

EIS No. 20250074, Revised Draft, USMC, TT, Commonwealth of the Northern Mariana Islands Joint Military Training, Comment Period Ends: 09/04/2025, Contact: Lisa Graham 703-939-7701. Revision to FR Notice Published 06/06/2025; Extending the Comment Period from 08/20/2025 to 09/04/2025.

Dated: August 18, 2025.

Nancy Abrams,

Associate Director, Office of Federal Activities.

[FR Doc. 2025-16134 Filed 8-21-25; 8:45 am]

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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON, DC 20350-3000

June 6, 2025

**SUBJECT: NOTICE OF AVAILABILITY OF THE REVISED DRAFT ENVIRONMENTAL
IMPACT STATEMENT FOR THE COMMONWEALTH OF THE NORTHERN
MARIANA ISLANDS JOINT MILITARY TRAINING**

Dear Sir or Madam:

The United States Marine Corps has prepared a Revised Draft Environmental Impact Statement (EIS) to support land-based training operations and construction of supporting infrastructure on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI).

The proposed training infrastructure would include two live-fire ranges, two surface radar towers, thirteen Landing Zones, airfield improvements, and two ammunition holding areas. In addition, the former U.S. Agency for Global Media (USAGM) site on Tinian would be repurposed into an expeditionary Base Camp (including existing communication towers on the USAGM sites on Tinian and Saipan). A biosecurity facility would also be constructed at the Port of Tinian and an aircraft shelter would be constructed on U.S. Air Force Divert leased property. To ensure training unit and public safety during training, an on-island Training Area and Range Operations Command (Range Control) would be established which would schedule training and coordinate with local officials and the public.

The Marine Corps initiated a 75-day public comment period for the CNMI Joint Military Training Revised Draft EIS on June 6, 2025. In-person public meetings will be held on Tinian, Saipan, and Rota to provide an overview of the Revised Draft EIS. Members of the public are encouraged to participate in the environmental review process by providing comments on Revised Draft EIS.

Public meetings will be set in an open-house format and include information stations on the Proposed Action and environmental analysis. Additionally, a comment station will be in place so that you can provide written or oral comments, and project team members will be available at the information stations to discuss the Proposed Action. A Chamorro and a Carolinian interpreter will be available at the meetings. The meetings on Tinian and Saipan will begin at 5 p.m. ChST, while the meeting on Rota will begin at 3 p.m. ChST. Please join us at the following locations for meetings.

- Tinian Junior/Senior High School Cafeteria, Canal Street, San Jose, Tinian: Monday, June 23, 2025, and Tuesday, June 24, 2025
- Crowne Plaza (Hibiscus Hall), Coral Tree Avenue, Garapan, Saipan: Wednesday, June 25, 2025, and Thursday, June 26, 2025
- Rota Mayors Office, San Francisco de Borja Highway, Tatachok, Rota: Friday, June 27, 2025

The Revised Draft EIS, public comment form, and public meeting materials are available on the project website at <https://www.cnmijointmilitarytrainingeis.com>. Copies of the Revised Draft EIS are also available at the following libraries: Tinian Public Library, Joeten-Kiyu Public Library (Saipan), and Rota Public Library.

Comments on the Revised Draft EIS and effects to historic properties under Section 106 of the National Historic Preservation Act will be accepted from June 6, 2025, to August 20, 2025. Written comments must be postmarked or submitted electronically on or before August 20, 2025, to be considered. Comments will be accepted at the public meetings, through the project website, or by mail to:

CJMT Project Manager
Naval Facilities Engineering Systems Command, Pacific
c/o AECOM
415 Chalan San Antonio Road, Suite 112,
Baltej Pavilion Building
Tamuning, Guam 96913

All comments submitted by August 20, 2025, will become part of the public record. Equal weight will be given to oral and written comments. All comments will be considered in the development of the Final EIS.

The USMC welcomes your input. For more information, please visit the website at <https://www.cnmijointmilitarytrainingeis.com>.

Sincerely,

ARMSWORTH.TODD
ADKINS.1131338429

Digitally signed by
ARMSWORTH.TODD.ADKINS.11313384
29
Date: 2025.05.23 10:04:44 -04'00'

Mr. Todd Armsworth
DPRI/Pacific Posture Branch Chief
Marine Corps Installations Command

Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training



The United States Marine Corps has prepared a Revised Draft Environmental Impact Statement (EIS) for joint military training to support land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian.

The Revised Draft EIS is available on the project website <https://www.cnmijointmilitarytrainingeis.com> and at the following libraries:
Tinian Public Library
Joeten-Kiyu Public Library (Saipan)
Rota Public Library

Public Comment Period

June 6, 2025 through August 20, 2025

Public Meetings

The meetings on Tinian and Saipan will begin at 5 p.m. ChST, while the meeting on Rota will begin at 3 p.m. ChST at the following locations:

Tinian Junior/Senior High School Cafeteria

Canal Street, San Jose, Tinian
Monday, June 23, 2025 and Tuesday, June 24, 2025

Crowne Plaza (Hibiscus Hall)

Coral Tree Avenue, Garapan, Saipan
Wednesday, June 25, 2025 and Thursday, June 26, 2025

Rota Mayor's Office

San Francisco de Borja Highway
Tatachok, Rota
Friday, June 27, 2025

We welcome your comments - your input matters!

www.cnmijointmilitarytrainingeis.com

CJMT Project Manager
Naval Facilities Engineering Systems Command, Pacific c/o AECOM
415 Chalan San Antonio Rd., Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913

Submit Your Comments

Comments on the Revised Draft EIS and potential effects to historic properties pursuant to Section 106 of the National Historic Preservation Act are being accepted from **June 6, 2025 to August 20, 2025**.

- In person at one of the public meetings
- Through the project website:
<https://www.cnmijointmilitarytrainingeis.com>
- By mail to:
CJMT Project Manager
Naval Facilities Engineering Systems Command,
Pacific c/o AECOM
415 Chalan San Antonio Road, Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913

Written comments must be postmarked or submitted electronically on or before **August 20, 2025** to be considered in the preparation of the Final EIS.

For more
Information
scan QR code



From: CNMI Joint Military Training EIS <cnmijointmilitarytrainingeis+gmail.com@iccontactmail6.com>
Sent: Thursday, June 12, 2025 2:16 PM
To:
Subject: Notice of Availability and Public Meetings for the CNMI Joint Military Training Revised Draft Environmental Impact Statement

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Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

The United States Marine Corps has prepared a Revised Draft Environmental Impact Statement (EIS) for joint military training to support land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian.

The Revised Draft EIS is available on the project website <https://www.cnmijointmilitarytrainingeis.com> and at the following libraries: Tinian Public Library, Joeten-Kiyu Public Library (Saipan), and Rota Public Library.

We welcome your comments - your input matters!

Public Comment Period: June 6, 2025 through August 20, 2025

Public Meetings: June 23, 2025 through June 27, 2025

The meetings on Tinian and Saipan will begin at 5 p.m. ChST, while the meeting on Rota will begin at 3 p.m. ChST at the following locations:

Tinian

Monday, June 23, 2025 and Tuesday, June 24, 2025

Tinian Junior/Senior High School Cafeteria
Canal Street, San Jose, Tinian

Saipan

Wednesday, June 25, 2025 and Thursday, June 26, 2025

Crowne Plaza (Hibiscus Hall)
Coral Tree Avenue, Garapan, Saipan

Rota

Friday, June 27, 2025

Rota Mayor's Office
San Francisco de Borja Highway, Tatachok, Rota

How to Submit Comments

Comments on the Revised Draft EIS and potential effects to historic properties pursuant to Section 106 of the National Historic Preservation Act are being accepted from June 6, 2025 to August 20, 2025.

- In person at one of the public meetings
- Through the project website:
<https://www.cnmijointmilitarytrainingeis.com>
- By mail to:

CJMT Project Manager
Naval Facilities Engineering Systems Command, Pacific c/o AECOM
415 Chalan San Antonio Road, Suite 112

Baltej Pavilion Building
Tamuning, Guam 96913

Written comments must be postmarked or submitted electronically on or before August 20, 2025 to be considered in the preparation of the Final EIS.

www.cnmijointmilitarytrainingeis.com

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CNMI Joint Military Training EIS
c/o AECOM 415 Chalan San Antonio Road, Suite 112
Tamuning, Guam 96913, GU



Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training



NOTICE OF AVAILABILITY OF A

REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT AND PUBLIC MEETINGS

The United States Marine Corps has prepared a Revised Draft Environmental Impact Statement (EIS) for joint military training to support land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian.

The Marine Corps invites the public to attend in-person public meetings under the National Environmental Policy Act to learn about the Revised Draft EIS and provide comments. The public meetings will also serve as an opportunity to provide comments about potential effects to historic properties pursuant to Section 106 of the National Historic Preservation Act. The Revised Draft EIS is available on the project website at <https://www.cnmijointmilitarytrainingeis.com> and at the following libraries: Tinian Public Library, Joeten-Kiyu Public Library (Saipan), and Rota Public Library.

PUBLIC MEETINGS

Project team members will be available at information stations and at a comment station to receive written or oral comments. A Chamorro and a Carolinian interpreter will be available.

The meetings on Tinian and Saipan will begin at 5 p.m. ChST, while the meeting on Rota will begin at 3 p.m. ChST.

Tinian Junior/Senior High School Cafeteria, Canal Street, San Jose, Tinian

Monday, June 23, 2025

Tuesday, June 24, 2025

Crowne Plaza (Hibiscus Hall), Coral Tree Avenue, Garapan, Saipan

Wednesday, June 25, 2025

Thursday, June 26, 2025

Rota Mayor's Office, San Francisco de Borja Highway, Tatachok, Rota

Friday, June 27, 2025

PUBLIC COMMENT PERIOD

Comments on the Revised Draft EIS and potential effects to historic properties pursuant to Section 106 of the National Historic Preservation Act are being accepted from **June 6, 2025 to August 20, 2025**. Written comments must be postmarked or submitted electronically on or before **August 20, 2025** to be considered.

SUBMIT COMMENTS:

- In person at one of the public meetings
- Through the project website: <https://www.cnmijointmilitarytrainingeis.com>
- By mail to: CJMT Project Manager, Naval Facilities Engineering Systems Command, Pacific c/o AECOM, 415 Chalan San Antonio Road, Suite 112, Baltej Pavilion Bldg., Tamuning, Guam 96913

For more information, scan QR code for project website.





Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

The United States Marine Corps has prepared a Revised Draft Environmental Impact Statement (EIS) to support land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian

Public Meetings

Tinian

Monday, **June 23, 2025**

Tuesday, **June 24, 2025**

starting at 5 p.m. ChST

**Tinian Junior/Senior High School
(Cafeteria)**

Canal Street, San Jose, Tinian

Saipan

Wednesday, **June 25, 2025**

Thursday, **June 26, 2025**

starting at 5 p.m. ChST

Crowne Plaza (Hibiscus Hall)

Coral Tree Avenue, Garapan,
Saipan

Rota

Friday, **June 27, 2025**

starting at 3 p.m. ChST

Mayor's Office

San Francisco de Borja Highway,
Tatachok, Rota

Submit Comments

Comments on the Revised Draft EIS and potential effects to historic properties per Section 106 of the National Historic Preservation Act are being accepted from **June 6 to August 20, 2025**

Submit your comments:

- In person at one of the public meetings
- Through the project website
- By mail to:
CJMT Project Manager
Naval Facilities Engineering
Systems Command, Pacific c/o
AECOM
415 Chalan San Antonio Road,
Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913

Written comments must be postmarked or submitted electronically on or before **August 20, 2025**, to be considered in the preparation of the Final EIS and National Historic Preservation Act Section 106 process.





Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

15-Day Extension of the Public Comment Period

Comments on the Revised Draft EIS and potential effects to historic properties per Section 106 of the National Historic Preservation Act are being accepted from
June 6 to September 4, 2025

A Notice of Availability was published in the Federal Register on June 6, 2025, for the Revised Draft Environmental Impact Statement (EIS) to support land-based expeditionary ground and aviation training for all service components within lands leased by the military on Tinian. This notice announces a 15-day extension of the public comment period from June 6 to September 4, 2025.

How to Access Revised Draft EIS Information

The Revised Draft EIS is available for public review online at:
www.cnmijointmilitarytrainingeis.com and copies of the Revised Draft EIS are available at the following libraries:

1. Joeten-Kiyu Public Library, Saipan.
2. Tinian Public Library, Tinian.
3. Antonio C. Atalig Memorial Rota Public Library, Rota.

Scan the QR code
for more information



Submit Comments by September 4, 2025

Written comments must be postmarked or submitted electronically on or before **September 4, 2025**, to be considered in the preparation of the Final EIS and National Historic Preservation Act Section 106 process.

- Through the project website (listed at the bottom of flyer or use QR code above)
- By mail to:
CJMT Project Manager
Naval Facilities Engineering Systems Command, Pacific
c/o AECOM
415 Chalan San Antonio Road, Suite 112, Baltej Pavilion Building
Tamuning, Guam 96913



Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

Hafa Adai, Tirow, and Welcome

On **June 6, 2025**, the United States (U.S.) Marine Corps initiated a **75-day public review and comment period for the Revised Draft Environmental Impact Statement (EIS) for Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training**. The Marine Corps is accepting public comments on the Revised Draft EIS and potential effects to historic properties per Section 106 of the National Historic Preservation Act. The public review and comment period will continue through **August 20, 2025**.

Proposed Action

In developing this Proposed Action, the Marine Corps evaluated the changes in the way U.S. Armed Forces currently prepare for future conflicts and carefully considered the comments and suggestions submitted on the 2015 Draft EIS/Overseas EIS by elected officials and government agencies of the CNMI, federal agencies, and the public. The Marine Corps' revised proposed training concept for the Military Lease Area on Tinian fully supports military training requirements and recognizes the importance of minimizing the impacts of military training on the residents of Tinian. First, the training concept was purposefully designed to locate live-fire ranges within the northern portion of the island, away from the village of San Jose, recreational beaches, tourism areas, and cultural and natural resources. Second, understanding that public access to the Military Lease Area is important to the community, the Marine Corps would establish an on-island Training Area and Range Operations Command (Range Control) to foster communication between the community and the military to allow access to the Military Lease Area when it may safely be accommodated, even during ongoing training events.

After developing this training concept, between January 2020 and September 2024, the Marine Corps engaged the CNMI government in a series of virtual and in-person discussions on the revised training concept and revised environmental analysis. In August 2023, the Marine Corps held public information sharing sessions on the islands of Tinian, Saipan, and Rota to inform the public at large of the revised training concept.

- ▶ **For more information on the Proposed Action and its purpose and need, review Section 1.2 and Section 2.1 of the Revised Draft EIS on the project website listed below.**



<https://www.cnmijointmilitarytrainingeis.com>

Proposed Action (continued)

This revised training concept, or Proposed Action, is assessed in the Revised Draft EIS. The Proposed Action would support land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian. New training infrastructure would create a physical and virtual training environment on the island to include:

- ▶ Two live-fire ranges (Multi-Purpose Maneuver Range and Explosives Training Range).
- ▶ Two surface radar towers.
- ▶ Landing Zones throughout the Military Lease Area to be used for ground or aviation training.
- ▶ Improvements to North Field including a drop zone between runways Able and Charlie.
- ▶ Two ammunition holding areas.
- ▶ The former U.S. Agency for Global Media facility on Tinian would be repurposed into an expeditionary Base Camp. Existing communications towers on Tinian and Saipan would also be repurposed to allow communications during training.

In addition, subject to CNMI approvals, a biosecurity facility would be constructed at the Port of Tinian and an aircraft shelter would be constructed on U.S. Air Force Divert leased property at the Tinian International Airport. To ensure the safety of military training units and the public during training events, the on-island Range Control would schedule training and coordinate with local officials and the public.

Purpose and Need

The purpose of the Proposed Action is to reduce joint training deficiencies for U.S. Armed Forces in the Indo-Pacific area of operations. The Proposed Action is needed to enable U.S. Armed Forces to meet their individual mandates in federal law (Title 10) to be trained and equipped to protect U.S. national security.

Alternatives

Alternative 1 (Preferred Alternative)

Under Alternative 1, land-based military training on Tinian, including live-fire training at two ranges, would be conducted. The training tempo under Alternative 1 would increase by approximately 15 percent over the No Action Alternative. New training infrastructure would create a physical and virtual training environment on the island.

Alternative 2

Alternative 2 would include the same land-based training on Tinian as described for Alternative 1, but the training tempo would only increase by 5 percent over the No Action Alternative. The same infrastructure proposed under Alternative 1 would be constructed.

No Action Alternative

Under the No Action Alternative, land-based military training on Tinian would continue at the current tempo and intensity identified for actions previously analyzed under the National Environmental Policy Act (NEPA). No construction is associated with the No Action Alternative.

- ▶ **For more information on the existing environment that would be affected by the Proposed Action on Tinian and the discussion of potential environmental impacts, review Chapters 3 and 4 of the Revised Draft EIS on the project website at: <https://www.cnmijointmilitarytrainingeis.com>**



Resources Analyzed in the Revised Draft EIS

The Revised Draft EIS provides an analysis of the potential impacts of the Proposed Action and alternatives on the following environmental resource areas:

- Public Access
- Land Use and Recreation
- Socioeconomics
- Biological Resources
- Cultural Resources
- Visual Resources
- Transportation
- Noise
- Air Quality
- Public Health and Safety
- Utilities
- Topography, Geology and Soils
- Groundwater and Hydrology
- Surface Water and Wetlands

Key Environmental Impacts

Minimizing Public Access Restrictions: Recognizing the importance of community access to the Military Lease Area, the Marine Corps worked with CNMI leadership to site live-fire ranges and implement training concepts to enhance public accessibility. For scheduling purposes, the Military Lease Area would be divided into 8 smaller training areas, allowing the public safe access in areas where training activities would not be occurring. For safety, during some training events public access may be limited. However, some training could be conducted without any access controls. When possible, public access to recreational beaches and tourism areas (e.g., Ushi Point and the Tinian North Field National Historic Landmark) would continue to be available even when training may be occurring.

Range Control: To ensure training unit and public safety during training events, an on-island Training Area and Range Operations Command (Range Control) would be established. Range Control would schedule training and coordinate with local officials and the public, providing advance notifications to help the public plan their activities. Information would be updated in real time so that the public can gain access to desired areas within the Military Lease Area as soon as it is safely feasible. Additionally, the Marine Corps would work with the CNMI government to identify holidays, festivals, or other important days for which public access to the Military Lease Area may be accommodated.

Noise: The potential for noise generated during ground and aviation training events to affect human populations on Tinian was modeled using approved Department of Defense noise modeling software. The results of this modeling effort show that new sources of noise, primarily from live-fire training at the two proposed ranges and from different types of aircraft at North Field and proposed Landing Zones, would occasionally be audible beyond the Military Lease Area (for example, at residential, education, or commercial areas in San Jose or the southern tip of Saipan). Noise from these training activities would be temporary, occur intermittently over the course of any given year, and be interspersed with quieter times where less noise-producing activities or even no military training would be audible. Training-related noise may cause annoyance, but would be unlikely to interrupt conversations, cause classroom learning interference, or disrupt sleep. Effects may vary over time depending on individual sensitivity to noise or under changing weather conditions when it is possible a sound source may be barely detectable one day, but very loud the next.



Key Environmental Impacts (continued)

Biological Resources: The Proposed Action was designed to avoid and minimize direct impacts to federally listed species. Noise generated as part of training events and construction would pose temporary, intermittent, and infrequent impacts that may induce behavioral and/or physiological shifts to Mariana fruit bats. These impacts would be brief and dispersed throughout the year. Consultation with the U.S. Fish and Wildlife Service on Section 7 of the Endangered Species Act is pending.



Cultural Resources: Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the effects of their undertakings on historic properties. Working through Section 106 of the National Historic Preservation Act, the Marine Corps has collaborated with consulting parties, including the CNMI Historic Preservation Officer and the Advisory Council on Historic Preservation, to minimize the impacts of training on Tinian's historic properties and to continue to allow public access to historic properties.



Water Resources: Potential impacts to groundwater were evaluated by modeling historic and future community demand with the addition of proposed demand from training, operation and maintenance, and construction under the Proposed Action. Based on the modeling results, the Proposed Action would not impact groundwater availability nor would the proposed new potable and non-potable water wells impact water quality or salinity.

Where can the EIS be found?

The Revised Draft EIS can be downloaded from the project website:

<https://www.cnmijointmilitarytrainingeis.com>

Copies are also available for review at the following local libraries:

Tinian Public Library
Joeten-Kiyu Public Library, Saipan
Antonio C. Atalaj Memorial Rota Public Library

How do I comment?

Submit your comment online through the project website, fill out a comment form at a public meeting, or mail your comment to:

CJMT Project Manager
Naval Facilities Engineering Systems Command
Pacific c/o AECOM
415 Chalan San Antonio Road, Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913



The Marine Corps appreciates your feedback on the Revised Draft EIS, potential effects to historic properties per Section 106 of the National Historic Preservation Act, and your time and interest in the environmental review process.



For more information scan the QR Code, or visit:
<https://www.cnmijointmilitarytrainingeis.com>



Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

Hafa Adai, Tirow, and Welcome

Gi **Juñio dia Sies Dos Mit Benti Sinko (2025)**, I Stadius Unidos (U.S.) Marine Corps ha tutuhon i sientai sinko dias na rinepasan pupbliku yan tiempon muna'halom opiñion para i maribisan Draft Environmental Impact Statement (EIS) gi San Kattan na Islas Marianas na trening militat. I Marine Corps ma aksesepta opiñion pupbliku para esti i ma ribisan Draft EIS yan i haf para u enifekta gi frenkas historia-ta yan i tano' sigun gi seksiona 106 gi papa' i aktu "National Historic Preservation Act". I rinipasan i pupbliku yan i tiempon muna'halom opiñion para u ma kontinuha esta i **Agustu benti (20) 2025**.

I Ma Proponi Na Aksion

Anai ma chocho'gue esti na priniponin aksion, i Marine Corps, ma ebalua i tinilaikai yan nisisidat i militat Estados Unidos (Armed Forces) gi presentu yan para i man mamamaila' siha na tiempo yan man ma ina i nina'hålom opiñion taotao ginen i 2015 na Draft EIS/overseas EIS ginen i man ma ilihe na ofisialis yan man ma'gas i gobietnamentun i CNMI, federalis yan ginen i pupbliku. I Marine Corps' ma ribisa i ma proponi na idehon trening para i lugat nai ma atkikila nu i militat giya Tinian ya ma supopotta i nisisidat trening militat ya ma rekotnisa lokkui' na impottanti na para u ma rebaha i estotbu gi halom i residentin Tinian. Finene'na, i idehon trening ma ditetmina na debi na i Live Fire Ranges para u gaigi gi ya katatan na lugat, chagu' para I sengsong San Jose, yan i sagan hoegun kantun tasi, i sagan i bisita siha, yan i sagan kuttura yan kosas frenkas antigu. I sigundu, ma komprendi na debi i pupbliku u guaha chalan niha gi lugat nai ma atkikila nu i militat ya impottanti esti para i kominidat. I Marine Corps para u ma estapblesi lugat trening yan sagan Range Operations Command (Range Control) anai siña guaha maolek na komunikasion gi halom i kominidat yan i militat anai siña manna' fan halom gi lugat ni ma atkikila nai militat ya man safu maseha guaha trening ma praktitika.

Anai munhayan ma cho'gue i idehon trening gi entalu' Ineru January 2020 esta Settembri September 2024, i Marine Corps, man adiñgan yan i Gubietnamentun CNMI, gi difirentis na konbetsasion parehu ha' gi hilo' virtual online yan inasoda huntan inafana' anai ma diskuti i ma ribesan idehon trening yan i ma ribesan i inestudian oriya (Environmental). Gi Agustu, 2023, i Marine Corps mana' guaha inekungok pupbliku gi islan Tinian, Saipan, yan Luta para u fan ma infotma i pupbliku nu i ma ribisan i idehon trening.

- ▶ Para mas infotmasion nu i ma proponi na aksion yan i propositu yan nisisidat, i ma ripasa na Seksiona 1.2 yan Seksiona 2.1 nu i ma rebisa na Draft EIS gi projek website:



<https://www.cnmijointmilitarytrainingeis.com>

I Ma Proponi Na Aksion (continued)

Esti na ma ribisan idehon trening osino i ma proponi na aksion, ma ebaluha i ma rebisa na Draft EIS. I ma proponi na aksion sini popotta nu i takfe'na na gurupon tano' yan aire para trening gera para todū setbisiu gi halom i tano' nu i ma atkikila nai militat giya Tinian. I nuebu na trening kuetpu nina' guaha siempri fisikat yan praktikat na trening gi oriyān i isla tat kumo:

- ▶ Dos na sagan mamaki (multi-purpose manuever range yan sagan asga' trening range).
- ▶ Dos na sagan man ilao radar towers.
- ▶ Sagan mu land gi todū i lugat nai ma atkikila nu i militat para usun trening tano' yan aire.
- ▶ Para ma adilanta i san kattan (North Field) anai sina i rakka' runways Able yan Charlie.
- ▶ Dos na lugat para sagan bāla yan atmas.
- ▶ I hagas (U.S. Agency for Global Media facility) i radio antennae giya Tinian para ma usa para sagan camp. I presenti na antennae giya Tinian yan Saipan para uma usa para kuminikasion gi durantin i trening.

Lokkui' debi di uma apreba nai CNMI, i (biosecurity) na fasilidat para uma hatsa gi bantalan Tinian yan i gima batkun aire para ma hatsa gi (U.S. Airforce Divert) i lugat nai ma atkikila gi Tinian International Airport. Put para umana' siguru na ufan safu i gurupon militat yan i pupbliku gi durantin i trening, i gaigi gi tano' na Range Control para u eskedule i trening ya para u na' tungo' i ofisialis munisipat yan i pupbliku.

Propositu yan Nisisidat

I propositu nai ma proponi guini na aksion para ma ribaha i linachi i gi halom i trening i U.S. Armed Forces gi operasion i Indo Pacific na lugat. I ma proponi na aksion ha nisisita para u inaturisa i U.S. Armed Forces para u fattu gue na eskalera nai inetbliga gi lai fiderat, (Title 10) nai para u fan ma trening yan u fan gai atmas anai sina ha protehi i nasionat na interes U.S.

I Ataguena siha

I ataguena numeru uno (Preferred Alternative)

Gi papa' esti ataguen 1, I base i tano' para trening militat giya Tinian, inklusu gi (live fire) na trening gi dos na sagan mamaki para u ma kondukta. I aktibidat trening gi papa' ataguena uno para u kahulu put lumenus kinsi put sientu gi hilo' i No Action Alternative. I nuebu na trening fasilidat kuetpu nina' guaha siempri fisikat yan praktikat na trening gi oriyān i isla.

I ataguena numeru dos

Gi papa' i ataguen 2, para u inklusu i parehu yan i trening I base tano' giya Tinian sigun gi ma diskuti gi ataguen numeru 1 lao I trening para u kahulu' gi sinko put sientu gi hilo' I No Action Alternative. Parehu ha' na kuetpo yan i Alternative 1 para u ma hatsa.

Taya' Aksion para Ataguena (No Action Alternative)

Gi papa' i taya' aksion para ataguena, i base i tano' trening militat giya Tinian para u kuntuha gi parehu na kurentin hinanao anai ma identifika gi aksion gi hagas na ma analisa gi papa' i aktun i (National Environmental Policy Act (NEPA). Taya' para u ma hatsa gi papa' No Action Alternative.

- ▶ **Para mas infotmasion gi presenti na lugat yan i oriya anai sina inefekta nu i proponi na aksion giya Tinian yan i ma diskuti na sina mas inefekta i oriya (environmental impact) i ma ripasa gi Kapitulu 3 yan 4 gi ma ribisa na Draft EIS gaige i projek website: www.cnmijointmilitarytrainingeis.com**



I ma analisa na frenkas gi halom i ma ribisa na Draft EIS

I ma rebisa na Draft EIS hana' guaha analisan estotbu anai sina inefekta i oriya nai ma proponi na aksion yan i ataguena oriyan i frenkas siha tat komo:

Entradan Chalan pupbliku
Usun tano' yan lugat huegu
Ekunumian sosiat
Frenkas lina'la
Frenkas kuttura
Frenkas lini'e' gefpa'go
Transpotasion

Kualidat i aire
Hinemlo' yan sinafun pupbliku
Utilidat frenkas
Guinahan halom tano, minan i tano
yan oda'
Bo'bo hanom yan i matan hanom
I hanom hilo' ta'no yan lugat susomyan

I ya hululu' nai inefekta i oriya siha

Ma ribaha i entradan chalan pupbliku halom: Ma rikotnisa na impottanti i entradan chalan kuminidat para halom gi lugat nai ma atkikila nai militat, i Marine Corps man machocho'cho' yan i setbentin i gubietnamentun CNMI anai siña ma implimenta i idehon trening para uma umentayi mas entrada yan chalan pupbliku. I propositun i fetcha, i ma atkikila na lugat militat, para u ma dibidi putlumenus ochu na lugat trening anai siña i pupbliku man hãlom gi lugat anai taya' aktibidat trening ma susedi. Put para u mas sãfu i lugat, gi durantin i trening, i entradan chalan pupbliku siña ma ribaha dididi' pãpa'. Lao lokkui' guaha na trening anai siña ma kondukta ya taya' para u inatorisa taotao para u baba i entrada hãlom. Yanggin siña posipbli, i chalan pupbliku para i kanton tasi para hoigun i tourist na lugat siha tat kumo (Ushi Point, i Tinian North Field National Historic Landmark) para u kuntuha ma baba para i pupbliku maseha i trening ma kondukta dibuenamenti.

Aturidat lugat mamaki: Para u siguru na i gurupon i man ma tretrening yan i sinafon i pupbliku gi durantin i aktibidat i trening gi lugat yan i aturidat i operasion mamaki (range control) para u ma estapblesi. I aturidat lugat mamaki para u guaha fetchan trening ya u fan akunsutta yan i ofisialis munisipat yan lokkui' i pupbliku ya para u guaha mas taftaf na notisia kosaki siña i pupbliku u guaha tiempo anai siña ma planuyi i aktibidat niha. I infotmasion lokkui' para u gaige dibuenamenti anai siña i pupbliku ma tungo' amanu guatu na lugat militat man ma baba na chalan pupbliku anai sãfu para ma bisita. Lokkui' Marine Corps para u fan macho'cho' yan i gobietnamentun CNMI anai para u fan ma identifika haf na dia ha'anen celebrasion, holiday, yan fiestas yan impottanti siha na ha'ani kosaki siña omlat ya uma babayi nu i entrada para chalan pupbliku gi hãlom i lugat nai ma atkikila nai militat.

Buruka: Siñaha' guaha buruka gi oriya ginen i aktibidat yan ridun i tano' yan aktibidat trening i aire nai ha estotba i taotao siha giya Tinian ya i modelu ginen i ma apreba gi Department of Defense buruka na modelun (software). I risuttun esti na chinagi ma li'e' na i nuebo na klasin buruka, primera ginen i trening pakpak paki (live fire) gi entalu' i dos na lugat mamaki yan ginen i dos na klasin batkun aire gi North Field yan i ma proponi na sagan luland siña inipus gi hiyong i ma atkikila na lugat militat. Pot i hemplu, siña ma huñgok gi halom residenti, eskuela, yan i halom business siha gi sengsong San Jose osino gi san lichoan na bandan Saipan. Lao i buruka tiemporariu ha' gi hilo' esti na aktibidat yan achagu' gi halom un añu ya memegaiña na silensiu i aktibidat trening osino kanna' taya' ha' siña ma huñgok gi trening militat. Yanggin guaha buruka put i aktibidat trening siña ha estotban ñaihon hit lao ta huhoñgok ha' i konbetsasion yanggin man a'adiñgnan hit, ya ti u interumpi i edukasion famagu'on yan lokkui' ti un pinañgon gi maigo'mu. Lao lokkui' dipendi gi kada taotao, kao amanu chiña i sentiduña gi buruka osino i tinilaika yan kondision i klema anai siña un huñgok un dia ya tisiña gi otro dia.



I ya hululu' nai inefekta i oriya siha (continued)

Frenkas Lina'la': I ma proponi na aksion ma disigna para u suhayi yan u ribaha direktamenti u inefekta i man ma lista gi fiderat na klasin ga'ga'. I buruka ginen i aktibidat trening siha yan i konstruksion siña nina 'guaha tiemporario lao achagu' i tinilaika yan para u inefekta i modun inetnon fanihi. Esti yanggin para u efekta siña unratu ha' yan achagu' gi halom I sakan. I konsuttasion yan i U.S. Fish and Wildlife Service gi Seksiona 7, gi Endangered Species Act trabiha timunhahayan.



Frenkas Kuttura: Seksiona 106 gi papa' National Historic Preservation Act o 1966 ha opbliga i ramas federat na ofisina para u konsidera i haf para u inifekta na propiadat historia gi che'cho nai ma chochogue. I Che'cho' gi papa' Seksiona 106 gi National Historic Preservation Act, i Marine Corps man adiñgan yan i CNMI Historic Preservation Officer and Advisory Council on Historic Preservation, para ma rebaha i haf para u inefekta gi trening giya Tinian yan i propiadat historian kultura ya para u kontinuha ma petmiti i publiku nai chalan entrada halom gi propiadat frenkas kultura.



Frenkas Hanom: Siña inefekta i hanom gi papa' tano' sigun ginen I modelu nai ma ebalua ginen i man mapus yan lokkui' i nisisidat i man mamamaila' na tiempo yan lokkui i nisisidat para i ma proponi gi durantin i trening, operasion, nisisidat konstruksion gi papa' i ma proponi na aksion. Sigun ginen i risuttun i modelu, i ma proponi na aksion ti para u inefekta i hanom gi papa' tano' yan lokkui' ma proponi komu nuebu na hanom tupo' parehu ha' i para ma gimen yan para fagas yan lokkui' i kualidat hanom.

Amanu nai siña bai sodda' i EIS?

I ma ribisa (Revised Draft EIS) siña un download ginen i projek website:

<https://www.cnmjointmilitarytrainingeis.com>

I kopian dokumentu para u gaige lokkui' sigenti siha na library:

Tinian Public Library
Joeten-Kiyu Public Library, Saipan
Antonio C. Atalig Memorial Rota Public Library

Taimamu nai siña yu mama'tinas palabra?

Siña muna'halom hao palabra gi (online) gi projek website, osino (fill out form) na'halom palabra gi durantin I huntan publiku, osino mail i palabra/katta guatu gi

CJMT Project Manager
Naval Facilities Engineering Systems Command
Pacific c/o AECOM
415 Chalan San Antonio Road, Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913



I Marine Corps man nana'i apresiacion put i palabra nai man halom put esti i ma ribisan (Revised Draft EIS) yan i haf siña u fan inefekta i propiadat estoria frenkas kultura sigun gi Seksiona 106 gi National Historic Preservation Act, yan i tiempo mu yan interes mu nu esti i eskalera man ripasan oriyan lugat.



Para mas infotmasion, scan esti i QR Code, osino bisita:
<https://www.cnmjointmilitarytrainingeis.com>



Revised Draft Environmental Impact Statement for Commonwealth of the Northern Mariana Islands Joint Military Training

Hafa Adai, Tirow, and Welcome

Wool **June 6, 2025**, United Staed Marine Corp ebwuli, **75 raan yar towlap le areghi me' issise long kaapas ren Draft ill Enviromental Impact Statement (EIS) ren Commonwealth of the Northern Mariana (CNMI) Joint Military Training**. Marine Corp ekke bweyboogh nger bwughil maleyer towlao ren Revised Draft ill EIS me'meta ebwe towow ngere suwala le effectai historic properties sengi section 106 ren National Historic Preservation Act. Yar towlap aregh me' issise long kkapass ebwe lo fosch ngeni **Agusto 20, 2025**.

Proposed Action

Loll yar ke ferri Proposed Action, Marine Corp essuul ngeni ghatchuul me' ngawaan liwel loll yar maghut le ghutu potch U.S. Armed Forces loll yar rebwe parengi yor ngauw ebwe torrigh ghisch me' bwal consideration ren mwaleyaer me' yar tingarr towlap ikewe eayssisse long ren ngere Wool 2015 Draft ill EIS/Overseas EIS sengirr elected officials me' agencil gubenamentol CNMI, agencies ill Federad, me' towlap. Yar Marine Corp ferri sefali mwaliyal maghutughuterr ren arre training wool Tinian lol falieu ka Militad e Lease lill a fisch, welle me' e amalawa militad le training me' uurri importantly rebwe aghitighita ngere yar sughuuw angawarr school lo'lo' Wool Tinian. Training concept yele re ferri bwele ebwe, ghomm le' schuungi igha leliyel Live Fire, saabol me affeng, tauw sengi San Jose, leliyer tolapp mwey schengil se't, leliyer Tourista le ukkurr, me' iigha elo nere leliyal ngere schuungii cultrural ngre natural resources. Arrowal, reghuleiy importantil ngenirr communication yarr towlap totolng loll ngere wool falieu ka elo loll paille militad, Marine Corps ebwe aayorra on-island Training Area and Range Operation Command (Range Control) bwele ebwe a yorra communication lepeter communication me' militad bwele tolongol loll ngere wool falieu ka militad e akamwuschi loll ngere efisch ngere raan ka esorr training.

Muchelol yarr frerri fisch training concept, lepatal January 2020 me September 2024, Marine Corps ebweluu lepeterre me' CNMI government Virtual me' in person ren yarr apasa titilap me' awewe kapaan, maghutughtuer wool revised training concept me' revised enviromental analysis. Loll Agusto 2023, Marine Corps e ayorra yarr towlap information sharing wool Seipel, Tinian me' Luta bwele towlap rebwe mataf ren revised training concept.

- ▶ **Wool project website:**
www.cnmijointmilitarytrainingeis.com
Arreghi Section 1.2 me' Section 2.1 ren Revised Draft EIS bwe uubwe reppi, mataff ren Proposed Action.



Proposed Action (continued)

Revised training concept, ngere Proposed Action, reauwrru, ghuley fischii ghatchuul me' ngauwaal loll Revised Draft il EIS. Proposed Action allisirr land base expeditionary ground and aviation warfare training loll alongal peiraghurr wool me'loll pwelle ngere falieu militad e yalli mevwool Tinian. Ngere effe immawl ngere leliyel yarr training gne ebwe bwang, tawe yarr ferri physical me'virtual training wool falieuw yey me' ayorra:

- ▶ Ruwow live-fire ranges (Multi-Purpose Maneuver Range me' Explosives Training Range).
- ▶ Ruwow surface radar towers.
- ▶ Landing Zones loll igha militad e Lease lii ye oe yalli ren ground ngere aviation training.
- ▶ Aghatchieuw lo North Field me drop lepetal runways Able me' Charlie.
- ▶ Ruwow liliyql akkamuschuul bwalla.
- ▶ Facilidad we elomo ye U.S. Agency ill Global Media wool Tinian igha rebwe ferri safali le yalli bwe expeditionary Base Camp. Communications Towers ka elo Tinian me' Seipel rebwal aghatchieuw me amalawa bwe rebwe yalli ren communications loll yar maghuut ngere ghutu potch le training.

Bwal arre wutii CNMI fang, yew facilidadol biosecurity ebwe akai uu wool Pantalanil Tinian me yew imwaal Skokie sulolu ebwe akai uu wool falieuw ka elo fale U.S. Air Force Divert wool ngere lol Airpotul Tinian Aleghuurr, ghatchuurr me Malawerr training units ill militad me' towlap, on-island Range Control ebwe schedule lill training me' coordinate fengen me' officials me' towlap.

Purpose and Need

Proposed Action ebwe aghitighiti meta esoor, eselo bwele alilisil joint training gnenir U.S. Armed Forces ill Indo-Pacific area of operations. Proposed Action emwai le apaiirr U.S. Armed Forces le torri yar joint mndates ngere tingar federal law (Tittle 10) bwe re bwe trained me ayora nganerr peiraghuurr le afali U.S. national security.

Alternatives

Alternative 1 (Preferred Alternative)

Fale Alternative 1, land-based militad training wool Tinian, eschuu me yar re bwe ferri live-fire loll ruwow ranges. Tempo ngere anguul training fale Alternative 1 ebwe Lang lo 15 percent wool igha saabb No Action Alternative. Ngere effe immawl ngere leliyel yarr training gne ebwe bwang, tawe yarr ferri physical me'virtual training wool falieuw.

Alternative 2

Alternative 2 gne e tute land-base training wool Tinian usuul kapasal loll Alternative 1, iiwe tempo gnere agnuul ebwe schagh torri 5 percent wool ngere igha No Action Alternative. Akauul imwal ngere leliyel training ischagh me meta emak fale Alternative 1.

No Action Alternative

Fale No Action Alternative, tempo ngere agnuul land-base military training wool Tinian etabwey maghuut me chorrngol mesamwal ussul schagh fale National Environmental Policy Act (NEPA). Esor meta rebwe akai uu bwele ngre No Action Alternative.

- ▶ **Wool project website:**
www.cnmijointmilitarytrainingeis.com.
Arreghi Chapter 3 me' 4 ren Revised Draft EIS bwe uubwe reppi, mataf ren meta ka emwaan ebwe suugh liwelloo me' wool Tinian bwe ren Proposed Action.



Resources Analyzed in the Revised Draft EIS

Revised Draft EIS eayora meta arruruwer ren ghatchuul me' gnawaqn towow uul l sughuwan Proposed Action me' alternatives wool gnere gneni environmental resource kei:

Towlap Tolong me' towwow
Yeyel falieu me' leliyel uurr
Socioeconomics
Biological Resources
Cultural Resources
Visual Resources
Transportation

Air Quality
Public Health me' Safety
Utilities
Topography, Geology, Pwelle
Groundwater me' Hydrology
Surface Water me' Wetlands

Key Environmental Impacts

Minimizing Public Access Restrictions: Loll yar mataf ren malware yar tolap tolong towow me wool ngere sowbol falieu igha Militad e amwuschuu, Marine Corps re angaang me' CNMI leadership bwe live-fire ranges me' yeli training concepts ka ebwe mwai uu ngenirr towap towow tolongol sowb kei. Rele inetena rebwe uur, Falieu ngere sowbb ka ello fele militad rebwe tiling tuu loll 8 training areas, bwe ebwebwaang towap le tolong towow lol sowb igha essor uurr ngere training activities. Bulul ghatchurr me' amalauw, loll akewl training ngere uurr ebwe mwaang towap le tolong towow. Fale akew uurr ngere re training nge rese aiuur lo towap le tolong towow bwerebwe torri uurr wooll meschengei se't me' lelieyerr tourist (Wool Ushi ne' Tinian North Field National Historic Landmark) Towlap emwaan rebwe torri ngere igha mo re ke training ngere uurr.

Range Control: Aleghul malawerr training unit me'towlap loll uurr ngere training events, an on-island Training Area me' Range Operations Command (Range Control) rebwe ferri ngre aiuu. Range Control ebwe schedule lill training me' coordinate fegnan me' officials me' towap, Ayora ngere ferri advance notifications bwe towap ebwe tawa loll mweileleyiin mmalawerr. Arrongrong gnenirr towap rebwe lol me'updated in real time nge illa gne towap rebwe tawe tolong towow loll Military Lease Area. Bwal yew, Marine Corps ebwe agnagn me' CNMI government le'aghikila holidays, festivals, me' raan ka towap rebwe uurr loll Military Lease Area gne ila nge emwaan rebwe fang.

Noise: Chorongol meren arr ground me'aviation training ye suughuu malawerr arramasa ka re lolo Tinian re tabwey tep kewe reyali iwe'Depatamentol Defense atti sengii noise modeling software. Ebwaa meren modeling yel buulilieul chuurong sengi uurr me' wool loll ii me' ruwow proposed live-fire training range, me meren alongal tepel waa wool yaang sengi North Field me' proposed Landing Zones, fale akkew nguul chuurong e uu lo luughuul Military Lease Area (ewaay, lughuul iimwerr aramass, gako, lelien commercial loll San Jose me' sowbol Seipel me' yerr). Chuurong segni training activities e temporario, loll yew raagh nge emwan eghuuss me eghuuss nguul ngungul nge sibwe rongrong, me' yor raan kewe re urr nge sise rongrong chorongurr. Inamo ngere essor training eyor metna sibwe ronrong. Achuurong meren Training emwan ebwe amwaang, nge esse torri arroschroschen kepas, angaawa akabuung, nere feirrei maaier. Amwaangiil achurong gnenir ascheye me' aschey aramas esewewe, eyor raan kewe sisse rongrong churong, maste lessor wool gnuul churong.



Key Environmental Impacts (continued)

Biological Resources: Proposed Action referri bwe ebwe attawei ngere aghitighita direct impacts ngenil ngere woorr species ka etel fale federad. Achuurong meren training me' construction nge temporario, eghus me' eghuus, me' essorrol emwaan ebwe buuliew liewel loll behavioral me' physiological ngenirr Paischey ngere Mariana fruit bats. Esowb amweii nge ebwe schiewloo yew raan mwetengeni muchelol raagh yey. Consultation fengen me' U.S. Fish and Wildlife Service wool ren Section 7 ren Endangered Species Act eschewl pending.



Cultural Resources: Section 106 ren National Historic Preservation Act ill 1966 require liirr federal agencies bwe rebwe consideralil towowuul yar undertakings wool historic properties. Marine Corps loll yar angang longl loll Section 106 ill National Historic Preservation Act, raa collaborated me' consulting parties, tute CNMI Historic Preservation Officer me' Advisory Council wool Historic Preservation, le aghitighiti suughuuwal training wool historic properties ill Tinian me' nganerr towlap yar tolong towow wool historic properties.



Water Resources: Meta ebwe Liwel ren schaal fale pwelle, ren yar arruruu woowool historic me' future tungarr mauwal comunidad fengen me' tungarr mauw sengi training, operation me' bwal maintenance, me' bwal construction fale Proposed Action. Sengii towowuulo modeling, Proposed Action esse ghuula suughu yorraal schaal fale pwelle ngere bwal ren proposed new potable me' non-potable water wells suughu ghatchul me' setil schaal.

Where can the EIS be found?

Revised Draft EIS emwaan rebwe downloaded merren project website:

<https://www.cnmijointmilitarytrainingeis.com>

Kkoppiyal bwele areghreghil ubwe schungil me':

Tinian Public Library
Joeten-Kiyu Public Library, Saipan
Antonio C. Atalig Memorial Rota Public Library



Marine Corps emwaarreitti feedback ren ngere wool Revised Draft EIS, meta emwaan sughuuwan ren historic properties sengi Section 106 ren National Historic Preservation Act, me' yom mwuschel mataf ren environmental review process.

How do I comment?

Esselilong comment online ren project website, makkei taarobwe loll achuchurr towlap, emwaan uubwe afanga yum comment ngeni:

CJMT Project Manager
Naval Facilities Engineering Systems Command
Pacific c/o AECOM
415 Chalan San Antonio Road, Suite 112
Baltej Pavilion Building
Tamuning, Guam 96913



Scan lii QR Code, ngere ito loll:
<https://www.cnmijointmilitarytrainingeis.com>

PROPOSED ACTION



The Proposed Action is to conduct joint land-based expeditionary ground and aviation warfare training for all service components within lands leased by the military on Tinian.

To accommodate the proposed training, the Marine Corps would use modern technology to create a physical and virtual training environment on the island to include:

- ▶ 2 live-fire ranges (Multi-Purpose Maneuver Range and Explosives Training Range)
- ▶ 13 Landing Zones used for aviation or ground training
- ▶ Aviation training on North Field
 - Drop zone cleared of vegetation between runways Able and Charlie
 - Airfield surface called AM2 matting installed on runway Baker
- ▶ Aircraft shelter within U.S. Air Force leased property at the Tinian International Airport
- ▶ Biosecurity facilities
- ▶ Ammunition holding areas
- ▶ Surface radar towers
- ▶ Training support facilities including repurposing the former U.S. Agency for Global Media site for use as a Base Camp on Tinian
- ▶ Repurposing existing communication towers on former U.S. Agency for Global Media sites on Tinian and Saipan

An on-island Training Area and Range Operations Command (Range Control) would be established to communicate the training schedule, coordinate joint use of the Military Lease Area with local officials and the public, and ensure safety during training.

Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to reduce joint training deficiencies for U.S. Armed Forces in the Indo-Pacific area of operations. The Proposed Action is needed to enable U.S. Armed Forces to meet their individual mandates in federal law (Title 10) to be trained and equipped to protect U.S. national security.



ALTERNATIVES AND ENVIRONMENTAL ANALYSIS



Alternative 1 (Preferred Alternative)

Under Alternative 1, land-based military training on Tinian, including live-fire training at two ranges, would be conducted. The training tempo under Alternative 1 would increase by approximately 15 percent over the No Action Alternative. New training infrastructure would create a physical and virtual training environment on the island.



Alternative 2

Alternative 2 would include the same land-based training on Tinian as described for Alternative 1, but the training tempo would only increase by 5 percent over the No Action Alternative. The same infrastructure proposed under Alternative 1 would be constructed.



No Action Alternative

Under the No Action Alternative, land-based military training on Tinian would continue at the current tempo and intensity identified for actions previously analyzed under the National Environmental Policy Act (NEPA). No construction is associated with the No Action Alternative.



Resources Evaluated

- Public Access
- Land Use and Recreation
- Socioeconomics
- Biological Resources
- Cultural Resources
- Visual Resources
- Transportation
- Noise
- Air Quality
- Public Health and Safety
- Utilities
- Topography, Geology and Soils
- Groundwater and Hydrology
- Surface Water and Wetlands



PROPOSED ACTION COMPONENTS



Military Lease Area Range Complex



The Marine Corps is committed to developing an approach for community access that balances the need for military readiness with safe public access to the Military Lease Area.



Range Control would coordinate with Tinian officials to avoid scheduling training on holidays and other important community observances.

On-Island Range Control

- Ensure Safety of Public and Service Members
- Schedule Training
- Coordinate with CNMI and Tinian Municipality
- Advance Notifications
- Maintain and Monitor the Range Complex

We welcome your comments – your input matters!

www.cnmijointmilitarytrainingeis.com



PUBLIC ACCESS



- ▶ Military Lease Area would be subdivided into eight smaller training areas to allow selective closure of certain areas while allowing access in others. Cattle ranching, tourism and recreation, and subsistence activities would be allowed when such access can be safely accommodated
- ▶ The training schedule would be made available in advance by various methods
- ▶ Range Control would coordinate with Tinian officials to avoid scheduling training on holidays and other important community observances
- ▶ Temporary activation of a surface danger zone in waters north of Tinian during live-fire training at the Multi-Purpose Maneuver Range may cause fishers and boaters to travel longer distances to access ocean waters on the west side of the island
- ▶ Shore fishing along Lamanibot Bay from Puntan Lamanibot Sanhilo (Sanhilo) to Puntan Lamanibot Papa would be restored (previously restricted due to hazards from electromagnetic radiation)



BIOLOGICAL RESOURCES



Endangered Species Act Section 7 consultation will be initiated with the U.S. Fish and Wildlife Service in June 2025

Species with potential to occur in the action area



Mariana fruit bat (*Pteropus mariannus mariannus*)
Threatened



Mariana common moorhen (*Gallinula chloropus guami*)
Endangered



Green sea turtle (*Chelonia mydas*)
Endangered



Humped tree snail (*Partula gibba*)
Endangered



Dendrobium guamense
Threatened



Heritiera longipetiolata
Endangered



The Proposed Action was designed to avoid and minimize impacts to federally listed species

- ▶ Specific locations within the Military Lease Area that support federally listed species and sensitive resources would be designated as no-training areas
- ▶ The Proposed Action includes only land-based training with no proposed in-water training or construction
- ▶ Consultations for indirect impacts to marine species will be initiated with National Marine Fisheries Service
- ▶ Proposed implementation of habitat enhancement to offset impacts to listed species
- ▶ Noise has the potential to adversely affect Mariana fruit bat, Mariana common moorhen and green sea turtle via short-term behavioral responses
- ▶ Biosecurity measures will continue to be implemented under Joint Region Marianas program
- ▶ A proposed biosecurity wash rack would be constructed at the Port of Tinian at a location that would be coordinated with the Commonwealth Ports Authority and CNMI Customs and Biosecurity



CULTURAL RESOURCES



Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their proposed projects on historic properties.

Since August 2023, the Marine Corps has worked with consulting parties to identify historic properties and ways to avoid, minimize, or mitigate effects of the Proposed Action. These parties include the Advisory Council on Historic Preservation, the CNMI Historic Preservation Office, National Park Service, The Mayor of Tinian's Office, and the public.



Cultural resources are the tangible and intangible remnants or traces left by prehistoric or historical peoples, reflecting past human activities and accomplishments.

- ▶ This includes historic properties and resources of cultural importance
 - 344 historic properties
 - North Field National Historic Landmark
 - 3 Traditional Cultural Places
 - Approximately 60 other resources of cultural importance



Avoidance and Minimization

- ▶ During training, foot traffic only except on roads and other improved areas
- ▶ Separate training areas
- ▶ Cultural resource training
- ▶ Painting of certain infrastructure to blend into the surrounding environment
- ▶ Archaeological monitoring of construction activities

Resolve Adverse Effects

- ▶ Interpretive signage
- ▶ Virtual tour
- ▶ Interpretive pamphlet
- ▶ Develop a plan for an interpretive center on Tinian
- ▶ Data recovery and recordation

The Marine Corps has developed two agreement documents to avoid, minimize, mitigate, and resolve adverse effects to historic properties and establish alternative review processes for actions with unknown effects:

- ▶ Training: Amended the existing 2022 *Programmatic Agreement Between the Commander, Joint Region Marianas and the Commonwealth of the Northern Mariana Islands State Historic Preservation Officer, Regarding Military Training and Testing on and Within the Surrounding Waters of the Islands of the Commonwealth of the Northern Mariana Islands*
- ▶ Construction: Developed a programmatic agreement



WATER RESOURCES AND UTILITIES



Water Resources

- ▶ Proposed training infrastructure would be located at least 1,400 feet from wetlands with no established stream flow to wetlands
- ▶ Analysis of water availability and quality considered all current and proposed future demand
- ▶ Proposed measures related to water quality and availability include:
 - Water available to ranchers at tank dispensing sites
 - Four groundwater monitoring wells installed at each of the two live-fire ranges with monitoring plan
 - A one-time hydrogeological study funded to establish baseline data that could be used to support monitoring of Tinian's aquifer



Utilities

- ▶ Upgrade and re-use the existing septic system at U.S. Agency for Global Media site
- ▶ Electrical and communication utilities would connect with existing service and follow road corridors where possible
- ▶ Communication towers would be repurposed on Tinian and Saipan
- ▶ Solid waste would be transported off-island until a permitted landfill is available on Tinian
- ▶ A solid waste management plan for military operations on Tinian within the Military Lease Area Range Complex would be developed
- ▶ Waste from military operations would only be disposed of in compliant landfills
- ▶ New water wells would be constructed



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APPENDIX G
TERRESTRIAL BIOLOGY SURVEY REPORT



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Final
**Survey Report for
Surveys of Federally Listed Species**

**Revised Environmental Impact Statement for the Proposed
Commonwealth of the Northern Mariana Islands Joint Military
Training on the Island of Tinian**



Department of the Navy
Naval Facilities Engineering Systems Command, Pacific
258 Makalapa Drive, Suite 100
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Prepared under: Contract N62742-18-D-1802, Task Order N6274222F0161

August 2023

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FINAL
SURVEY REPORT FOR
SURVEYS OF FEDERALLY LISTED SPECIES

REVISED ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS JOINT MILITARY
TRAINING ON THE ISLAND OF TINIAN

Prepared By:
Cardno Government Services – AECOM Pacific
Joint Venture

Prepared For:
Naval Facilities Engineering Systems
Command, Pacific

Purpose: Surveys of Federally Listed Species in
Support of the Revised Environmental Impact
Statement for the Proposed Commonwealth of
the Northern Mariana Islands Joint Military
Training on the Island of Tinian

Date: 25 August 2023

Recommended Citation:

Cardno Government Services – AECOM Pacific Joint Venture. 2023. Final Survey Report for Surveys of Federally Listed Species, Revised Environmental Impact Statement for the Proposed Commonwealth of the Northern Mariana Islands Joint Military Training on the Island of Tinian. Prepared for NAVFAC Pacific under Contract N62742-18-D-1802, Task Order N6274222F0161. August.

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**Final Survey Report for
Surveys of Federally Listed Species**

**Revised Environmental Impact Statement for the Proposed Commonwealth of the
Northern Mariana Islands Joint Military Training on the Island of Tinian**

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ACRONYMS AND ABBREVIATIONS

CJMT	Commonwealth of the Northern Mariana Islands Joint Military Training	GPS	global positioning system
		JV	Joint Venture
CNMI	Commonwealth of the Northern Mariana Islands	NAVFAC	Naval Facilities Engineering Systems Command
EIS	Environmental Impact Statement	U.S.	United States
GIS	geographic information system	USFWS	United States Fish and Wildlife Service

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND AND OVERVIEW

In April 2023, the Cardno GS – AECOM Pacific Joint Venture (JV) team performed surveys of federally listed species (those listed as threatened or endangered under the Endangered Species Act) in support of environmental planning and analysis for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training (CJMT) Revised Environmental Impact Statement (EIS) on the island of Tinian. Naval Facilities Engineering Systems Command (NAVFAC) Pacific is the administering agency for this task order. As outlined in the work plan prepared for the surveys (NAVFAC Pacific 2023), the JV conducted a presence/absence survey of the following federally listed species in the CJMT survey area:

- *Partula gibba* (humped tree snail) (federally endangered)
- *Solanum guamense* (berenghenas halomtano) (federally endangered)
- *Dendrobium guamense* (no common name) (federally threatened)
- *Heritiera longipetiolata* (ufa-halomtano) (federally endangered)

Previous surveys documented the presence of humped tree snail, *D. guamense*, and *H. longipetiolata* on Tinian (Table 1-1; Figures 1-1 and 1-2) (NAVFAC Pacific 2014, 2018, 2019). Historically, *S. guamense* likely occurred on Tinian; however, in recent decades it was only known from the island of Guam. Currently, all known populations of *S. guamense* have been extirpated, including historical populations on Tinian (United States [U.S.] Fish and Wildlife Service [USFWS] 2020).

Table 1-1 lists the three most recent surveys of federally listed species on Tinian, species surveyed for, and species detections.

Table 1-1 Recent Surveys of Federally Listed Species on Tinian

<i>Survey Type</i>	<i>Survey Year(s)</i>	<i>Federally Listed Species Surveyed for and Presence/Absence Results on Tinian</i>
Federally listed snail and plant species	2019	Humped tree snail (<i>Partula gibba</i>) (not detected) <i>Dendrobium guamense</i> (detected in the Mount Lasso region) <i>Heritiera longipetiolata</i> (detected in coastal karst limestone areas)
Federally listed plant species	2016-2018	<i>Solanum guamense</i> (not detected) <i>Dendrobium guamense</i> (detected in the Mount Lasso region) <i>Heritiera longipetiolata</i> (detected in coastal karst limestone areas) <i>Tuberolabium guamense</i> (not detected)
Terrestrial biological resources	2013	Micronesian megapode (<i>Megapodius laperouse</i>) (not detected) Mariana common moorhen (<i>Gallinula chloropus guami</i>) (detected at wetland locations) Humped tree snail (live individuals detected at Dump Coke region of Lamanibot Bay)

Sources: NAVFAC Pacific 2014, 2018, 2019.



Figure 1-1 CJMT Survey Area – Vegetation Communities

1.2 PURPOSE

The purpose of the federally listed species surveys was to document the presence and population status of the four federally listed species identified in Section 1.1. The results of the surveys summarized in this report, as well as data collected from past surveys, will be incorporated into the CJMT Revised EIS and supporting Biological Assessment to assess the potential environmental impacts of the proposed action and to develop avoidance, minimization, and conservation measures, where applicable.

1.3 PROJECT CONTACTS

The Cardno GS–AECOM Pacific Joint Venture Team members involved in performing the project tasks are listed in Table 1-2 along with their project-specific roles.

Table 1-2 Personnel for Surveys of Federally Listed Species on Tinian

<i>Role</i>	<i>Name</i>	<i>Organization</i>
<i>Project Management/Technical Support</i>		
TOCOR	Lesley Matsumoto	NAVFAC Pacific
Alternate TOCOR	Garwin Eng	NAVFAC Pacific
Project Manager	Douglas Gilkey	JV
Terrestrial Project Manager	Ben Berridge	JV
Lead Health and Safety Officer	Lynne Black	JV
GIS Specialist	Travis Gahm	JV
<i>In-Field Survey Leads</i>		
Lead Field Biologist and Onsite Health and Safety Officer	Clint Scheuerman	JV
Terrestrial Biology TPOC	Coralie Cobb	NAVFAC Pacific
<i>Additional Survey Personnel</i>		
Field Biologist	Josh De Guzman	JV
Field Biologist	John Lowenthal	JV
Field Biologist	Aja Reyes	JV
Field Biologist	Todd Finlayson	JV
Field Biologist	Colleen Smith	JV
Field Biologist	Claudine Camacho	Dueñas Camacho & Associates
Field Biologist	Jessica Gross	Dueñas Camacho & Associates
Field Biologist	Joney Rengiil	Dueñas Camacho & Associates
Field Biologist	Domanique Smith	Sundance Consulting Inc.
Field Biologist	Trevor Boykin	Sundance Consulting Inc.
Field Biologist	John Hapdei	Island Eco Services
Field Biologist	Dorian Hadoar	Island Eco Services
Field Biologist	Arnold Ulith	Island Eco Services
Field Biologist	Nicholas Lenger	Island Eco Services

Notes: GIS = geographic information system; JV = Joint Venture; TOCOR = Task Order Contracting Officer Representative; TPOC = Technical Point of Contact; NAVFAC = Naval Facilities Engineering Systems Command.

1.4 SURVEY AREA

The survey area components are located throughout the northern portion of the island, totaling approximately 1,543 acres, and the survey area components and names are reflected in Figure 1-3. For the purpose of this project, and in accordance with the final work plan, the survey area was divided into two distinct transect areas based on the required transect spacing between surveyors, either 30 feet (non-limestone habitats) or 15 feet (limestone habitats) apart. These distinct transect areas are represented in Figure 1-2 and are detailed in Table 1-3.

1.4.1 Vegetation Communities

Figure 1-1 depicts the distinct vegetation communities in the survey area. Table 1-1 provides the vegetation communities and acreages broken out by transect area within the survey area. The dominant vegetation type within the combined survey area is *Leucaena* forest, followed by limestone degraded forest, and, to a lesser degree, limestone native forest.

The vegetation communities in the survey area are described briefly below per the descriptions provided in NAVFAC Pacific (2019) that are based on Amidon (2017) with modifications from NAVFAC Pacific (2018).

Barren

This community classification applies to areas of barren, non-vegetated soil, sand, or rock, and occurs both inland and along the coastline.

Casuarina Forest

Ironwood or Australian pine (*Casuarina equisetifolia*) tolerates dry and salty or exposed conditions. It forms a sparse forest or woodland with little understory. Although it tends to function ecologically as an invasive species, ironwood is generally accepted as native to the Mariana Islands.

Coconut Forest

Coconut forest is a cover type almost exclusively dominated by coconut palm (*Cocos nucifera*). Stands of this forest type can have either minimal understory or can support a relatively diverse understory of mixed native and non-native shrubs, herbs, and/or ferns. Some of these stands may be remnants of previous coconut plantations while others may be the result of natural dispersion.

Developed

These are human-occupied or otherwise highly disturbed areas that include lawns and other anthropogenically landscaped or maintained areas (e.g., mowed fields, utility corridors), buildings, roads, parking lots, and other paved areas.

Leucaena Forest

This plant community is dominated by tangantangan (*Leucaena leucocephala*), and typically occurs on limestone where it can occur in pure stands. In areas where it is adjacent to native forest, *Leucaena* forest can be invasive, mixing with native woody species. While not considered a native vegetation community on Tinian, *Leucaena* forest does provide habitat for some native bird species.

Limestone Coastal Scrub

This native-dominated plant community is present on limestone terraces and cliff edges. The floristic composition may be either simple or complex and composed of a few or many species. Species may include some of those found in limestone native forest, such as fig species (*Ficus* spp.), but are stunted by climactic conditions. Other woody species such as bantigue (*Pemphis acidula*) and great woolly Malayan lilac (*Callicarpa candicans*) occur in this community near coastlines.

Table 1-3 Vegetation within the Survey Area Components

Survey Area Component	Limestone Habitat (15-foot Transect Areas)			Non-limestone Habitats (30-foot Transect Areas)								TOTAL
	Limestone Coastal Scrub	Limestone Degraded Forest	Limestone Native Forest	Barren	Casuarina Forest	Coconut Forest	Developed	Leucaena Forest	Open Water	Other Scrub/Grassland	Scrub/Shrub	
Base Camp Alternative 1 ¹	-	62.74	-	-	19.73	-	1.92	0.16	-	30.87	-	115.42
Base Camp Alternative 2 ²	-	61.17	-	-	11.70	-	0.23	0.01	-	25.31	-	98.42
ETR Options	-	1.41	-	-	-	-	-	5.01	-	3.31	-	9.73
LZ Areas	-	32.25	-	-	0.68	-	-	93.94	-	23.81	6.33	157.01
MPMR Perimeter Road and Firebreak	-	-	-	-	-	-	0.09	11.28	-	-	-	11.37
MPMR	-	-	-	-	-	-	0.12	13.75	-	-	-	13.87
New Roads	-	3.02	-	-	0.26	-	0.02	2.08	-	0.73	0.22	6.33
Primary Utility Corridor	0.07	16.84	-	0.02	0.11	0.03	25.27	21.60	-	19.93	0.42	84.29
Surface Radar Sites	0.08	0.10	-	0.07	0.02	-	0.14	0.03	-	-	-	0.44
Utilities and Access Corridor (Alternatives 1 and 2) ³	-	-	-	-	-	-	-	-	-	-	-	0.00
Mount Lasso Limestone Forest	-	149.64	120.29	-	7.95	-	-	54.22	-	37.39	11.59	381.08
Pina Plateau Limestone Forest	20.51	46.36	57.36	0.53	-	-	2.24	122.67	-	6.68	2.46	258.81
Bateha Wetland Buffer	-	15.49	-	1.02	-	0.06	0.01	0.01	-	19.47	-	36.06
Chiget Limestone Forest	0.06	19.07	37.89	0.39	0.14	-	-	43.50	0.44	0.70	0.58	102.77
Unai Masalok	12.39	-	-	0.53	2.53	-	0.06	1.55	0.18	0.09	4.73	22.06
AHAs	-	1.20	-	-	-	-	-	1.39	-	0.19	-	2.78
North Field Drop Zone	-	-	-	-	8.12	-	12.52	190.75	-	0.02	28.52	239.93
Aircraft Shelter (North Field Drop Zone)	-	-	-	-	-	-	-	2.29	-	-	-	2.29
TOTAL	33.11	409.29	215.54	2.56	51.24	0.09	42.62	564.24	0.62	168.50	54.85	1,542.67

Legend: AHA = Ammo Holding Area; ETR = Explosive Training Range; LZ = Landing Zone; MPMR = Multi-purpose Maneuver Range.

Notes: ¹Total acreage includes Base Camp 1 and 2 areas of overlap.

²Total acreage excludes Base Camp 1 and 2 areas of overlap.

³Occurs in the Base Camp corridor (no additional acreage, and not shown on Figure 1-3).

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Limestone Degraded Forest

This cover type consists of limestone forest plant communities that have been significantly disturbed by clearing, invasive plants, and introduced animals. This vegetation community tends to exhibit one or more of the following characteristics: (1) the dominance of a variety of non-native woody species; (2) substantial forest clearings (visible in aerial imagery); or (3) dominance of sea hibiscus (*Talipariti tiliaceum*) (NAVFAC Pacific 2018). Common non-native tree species in this type of disturbed limestone forest on Tinian include siris tree (*Albizia lebbbeck*), Formosan koa (*Acacia confusa*), flame tree (*Delonix regia*), and Madras thorn (*Pithecellobium dulce*). Native tree species in these forests often include one or more of the following species: headache tree (*Premna serratifolia*), screw pine (*Pandanus tectorius*), fingersop (*Meiogyne cylindrocarpa*), and mapunyo (*Aglaia mariannensis*).

Limestone Native Forest

This native community type is a relatively undisturbed forest that occurs on shallow limestone soils dominated by native tree and shrub species. Forest clearings from ungulate or other disturbances tend to be absent or very limited. The term limestone native forest also describes areas that may have been cleared and have regrown to be dominated by native tree and shrub species. Dominant tree species in these forests usually include one or more of the following: twin-apple (*Ochrosia oppositifolia*), fig species, headache tree, screw pine, fingersop, sea hibiscus, cedar bay cherry (*Eugenia reinwardtiana*), mapunyo, and *Macaranga thompsonii* (no common name). On Tinian, the very large, canopy-emergent trees wrinkle pod mangrove (*Cynometra ramiflora*), *Mammea odorata* (no common name), *H. longipetiolata*, Marianas breadfruit (*Artocarpus mariannensis*), and yoga tree (*Elaeocarpus joga*) may be present.

Open Water

Open water includes areas covered by water with no vegetative cover, such as ocean waters, rivers, and lakes.

Other Shrub/Grassland

This largely, non-native community is characterized by the presence of shrubs and grasses. It may be present in degraded forest areas as clearings with herbaceous vegetation and scattered shrubs. Also included in this category are areas that have been recently cleared or that are actively mowed periodically to prevent forest regeneration. These areas may consist primarily of grassland with limited regrowth of woody species.

Scrub/Shrub

This plant community is characterized by the predominance of low-stature woody vegetation that can occur as a mixture of native and non-native species. The vegetation may be a secondary thicket of woody species but may also include some interspersed herbaceous species. The woody vegetation tends to be too low or sparse to be characterized as forest. This low-stature character may be the result of human disturbance or physical conditions, such as fire, soil saturation, or poor soils.

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CHAPTER 2

SURVEY METHODOLOGY

2.1 SURVEY METHODS

Field surveys were conducted by 16 survey personnel divided into teams of three and one four-person team, for a total of five in-field survey teams. All survey personnel are experienced natural resources experts with the experience and identification skills to conduct surveys in the habitats of Tinian and identify the target species. Surveys were conducted Monday through Saturday from April 3, 2023 to April 24, 2023. Prior to the start of each survey day, the Lead Field Biologist (C. Scheuerman) assigned areas to be covered by each of the five teams. Every morning, the Lead Field Biologist conducted a tailgate safety meeting to discuss potential safety concerns, safety measures, and confirm logistics for the day with each survey team.

Using geographic information system (GIS)-provided boundaries, the field survey teams traversed the entirety of their assigned areas and surveyed along transects that were spatially delineated approximately 15 feet or 30 feet apart (as depicted in Figure 1-2). All accessible areas mapped as having higher quality limestone vegetation (i.e., limestone coastal scrub, limestone degraded forest, and limestone native forest) were surveyed using approximately 15-foot transects. All other vegetation and land cover types of lower habitat quality for the target species were surveyed using approximately 30-foot transects. Each survey team walked in relative parallel fashion along the established transects while the surveyor in the middle position (for 3-person teams) or far end (for the 4-person team) carried a portable global positioning system (GPS) unit with a tracking application to continuously track the movements of the survey team. All survey track logs were stored as polyline layers and are provided on figures in Appendix A.

For 15-foot transect surveys, line-of-sight observations were recorded up to 7.5 feet on each side of the survey transects. For 30-foot transect surveys, line-of-sight observations were recorded up to 15 feet on each side of the survey transect guidelines. Deviations from 15-foot and 30-foot transects were necessary in areas where there were obstacles such as buildings, impassable vegetation, or steep slopes (greater than 40 degrees). Certain areas did not require transect surveys due to lack of habitat, such as paved roads, structures, mowed/cleared fields, and monocultures of invasive/noxious plants (e.g., patches of swordgrass [*Miscanthus floridulus*] and common lantana [*Lantana camara*]). In addition, low-statured limestone coastal scrub habitat was not traversable due to steep, unsafe terrain and dense, stunted vegetation (i.e., Chiget limestone forest, Unai Masalok, and Pina Plateau limestone forest). In such areas, surveyors were able to gain visual observations from the tops of slopes/cliff lines where safe to do so. When areas were unable to be surveyed in full or according to transect guidelines, photos were taken for documentation and notes recorded as to why the area was not surveyed in full or why there was a deviation from the 15-foot or 30-foot transect spacing. Impassable areas are noted accordingly on figures in Appendix A.

When and where federally listed species were identified, surveyors stopped to map the location(s) of species and collect baseline data (refer to Section 2.3 for the types of data collected). Locations of federally listed species were mapped using portable GPS units. When individual plants or animals of interest were observed, a single point was collected on the GPS to map the location of that individual. For

H. longipetiolata groves, the boundaries of the local populations were mapped on the GPS in the form of a polygon.

2.2 SURVEY EQUIPMENT AND STANDARDS

Each survey team was equipped with a portable/handheld Trimble TDC 650 or Geo7x GPS unit with sub-meter level mapping accuracy.

All existing GIS data was preloaded onto the GPS units prior to surveys, including the survey area boundaries, previously mapped species locations, and transect area spacing. Following daily surveys, collected data was synced from the GPS units, backed up, and checked for completeness. Following daily checks of data completeness, survey teams were assigned new areas to cover so as to avoid overlap of survey effort and ensure that all accessible areas were surveyed.

2.3 DATA COLLECTED FOR FEDERALLY LISTED SPECIES

When and where federally listed species were detected, the field survey personnel documented the following on a GPS unit:

1. Species name.
2. GPS location (sub-meter level accuracy).
 - a. For individual occurrences of an organism, a single data point was collected, and relevant data noted.
 - b. For multiple *D. guamense* individuals found growing on the same substrate or host plant, a single data point was collected along with the number of individuals counted on the substrate or host plant.
 - c. For plant species detected that grew in clumps, groves, or stands, the locations were mapped in the form of a polygon along with the number of individuals within the polygon.
3. Host plant species (if applicable).
4. Life stage (e.g., adult, juvenile, sapling, seedling – if applicable and discernible in the field).
5. Reproductive stage (e.g., flowering, fruiting – if applicable and discernible in the field).
6. Condition (e.g., dead, poor, fair, good – if applicable and discernible in the field).

Focus was then temporarily put on habitat in the immediate vicinity, as opposed to continuing straight ahead on a transect path, to ensure that any and all other individuals were accounted for and mapped.

More specific species data types and observations are discussed in Chapter 4.

CHAPTER 3 RESULTS

Results of the 2023 surveys of federally listed species are summarized in Tables 3-1 through 3-3 and are depicted in Figures 3-1 through 3-6. Appendix B contains the complete data matrices for both point and polygon federally listed species observation data collected during the surveys. All survey GIS data collected in the field will be provided to NAVFAC Pacific with submission of the final survey report.

3.1 FEDERALLY LISTED PLANT SPECIES RECORDED

Individuals of both *D. guamense* and *H. longipetiolata* were observed and mapped in multiple locations in 2023. Table 3-1 details the survey point data collected for each location of *D. guamense* that was observed and mapped, and each observation point is depicted in Figures 3-1, 3-2, and 3-3. In total, 208 individual *D. guamense* plants were observed at 23 unique locations, all within the Mount Lasso limestone forest survey area component.

Table 3-1 Summary of *Dendrobium guamense* Observations

<i>Substrate Type/Host Species</i>	<i>Vegetation Community</i>	<i>Number of Living Individuals¹</i>	<i>Overall Condition</i>	<i>Total by Substrate/Host</i>
Dead/downed tree/branch (unidentifiable)	Limestone Native Forest	1	Good	77
	Limestone Native Forest	1	Fair	
	Limestone Native Forest	6	Poor	
	Leucaena Forest	28	Fair	
	Leucaena Forest	10	Fair	
	Limestone Native Forest	5	Good	
	Limestone Native Forest	3	Fair	
	Limestone Native Forest	17	Good	
	Limestone Native Forest	6 ²	Fair	
Dead shrub	Other Scrub/Grassland	6	Good	6
Leaf litter	Other Scrub/Grassland	3	Fair	3
Limestone (organic matter on limestone substrate)	Other Scrub/Grassland	16	Fair	44
	Other Scrub/Grassland	8	Fair	
	Other Scrub/Grassland	9	Good	
	Limestone Native Forest	7	Good	
	Limestone Native Forest	4	Fair	
<i>Ficus</i> sp.	Limestone Native Forest	8	Fair	16
	Limestone Native Forest	8	Fair	
<i>Premna serratifolia</i>	Other Scrub/Grassland	34	Fair	34
<i>Eugenia</i> sp.	Other Scrub/Grassland	4	Fair	16
	Limestone Native Forest	12	Fair	
<i>Meiogyne cylindrocarpa</i>	Limestone Native Forest	5	Fair	5
Unknown shrub	Limestone Native Forest	7	Fair	7
TOTAL				208

Notes: ¹Each row represents a single observation point.

²Nine individuals were located at this location; however, three were noted as dead.

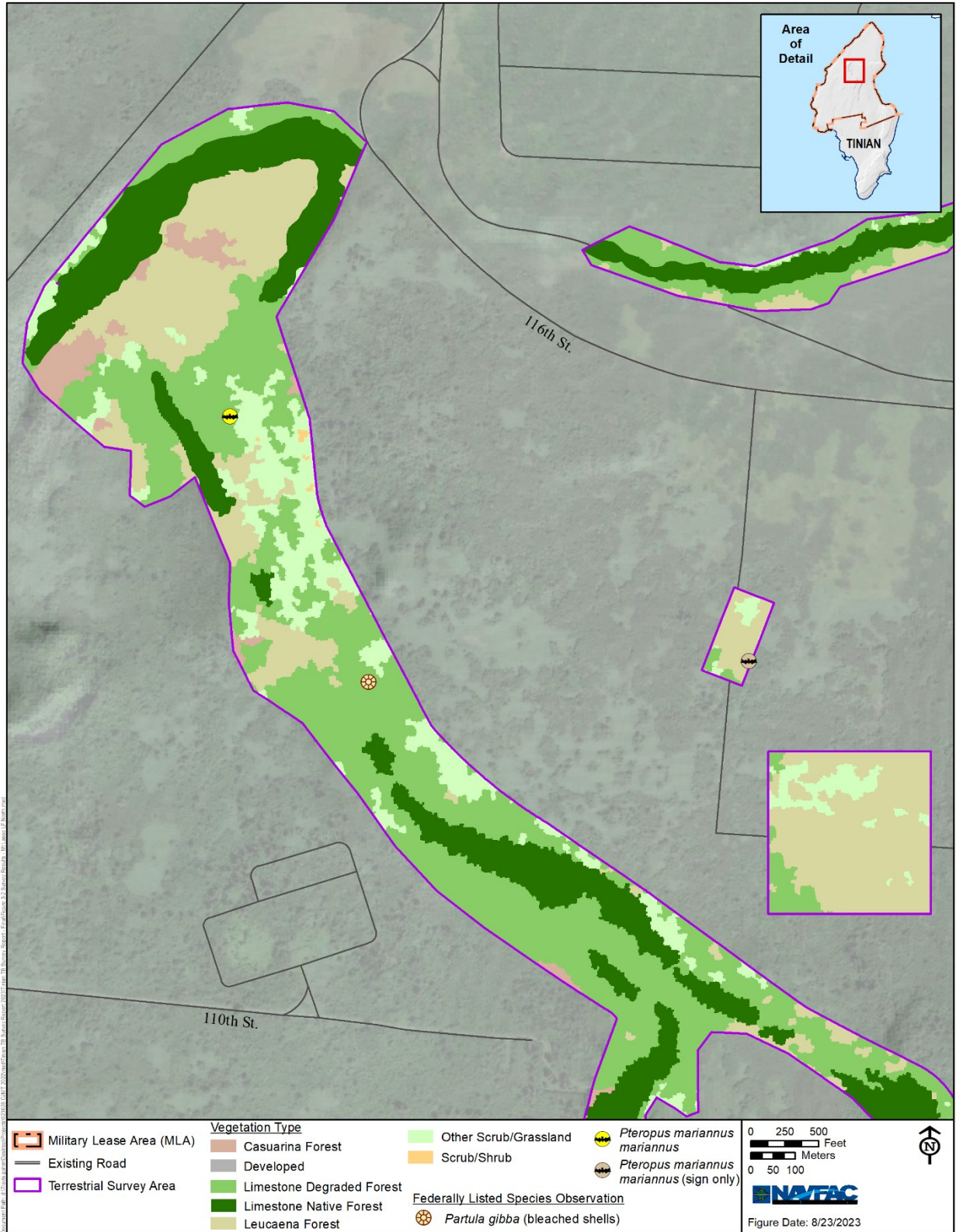


Figure 3-2 Survey Results – Mount Lasso Limestone Forest North

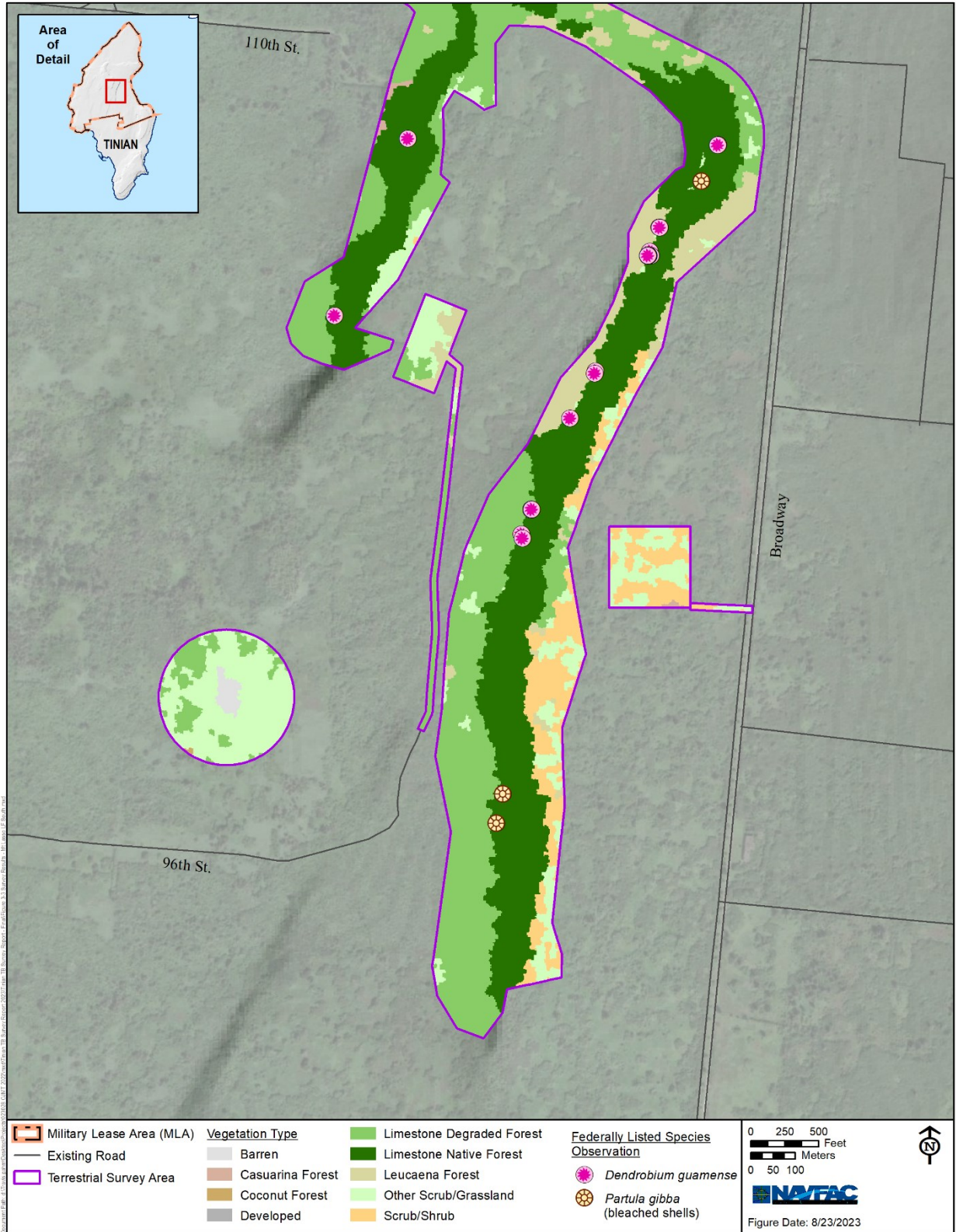


Figure 3-3 Survey Results – Mount Lasso Limestone Forest South

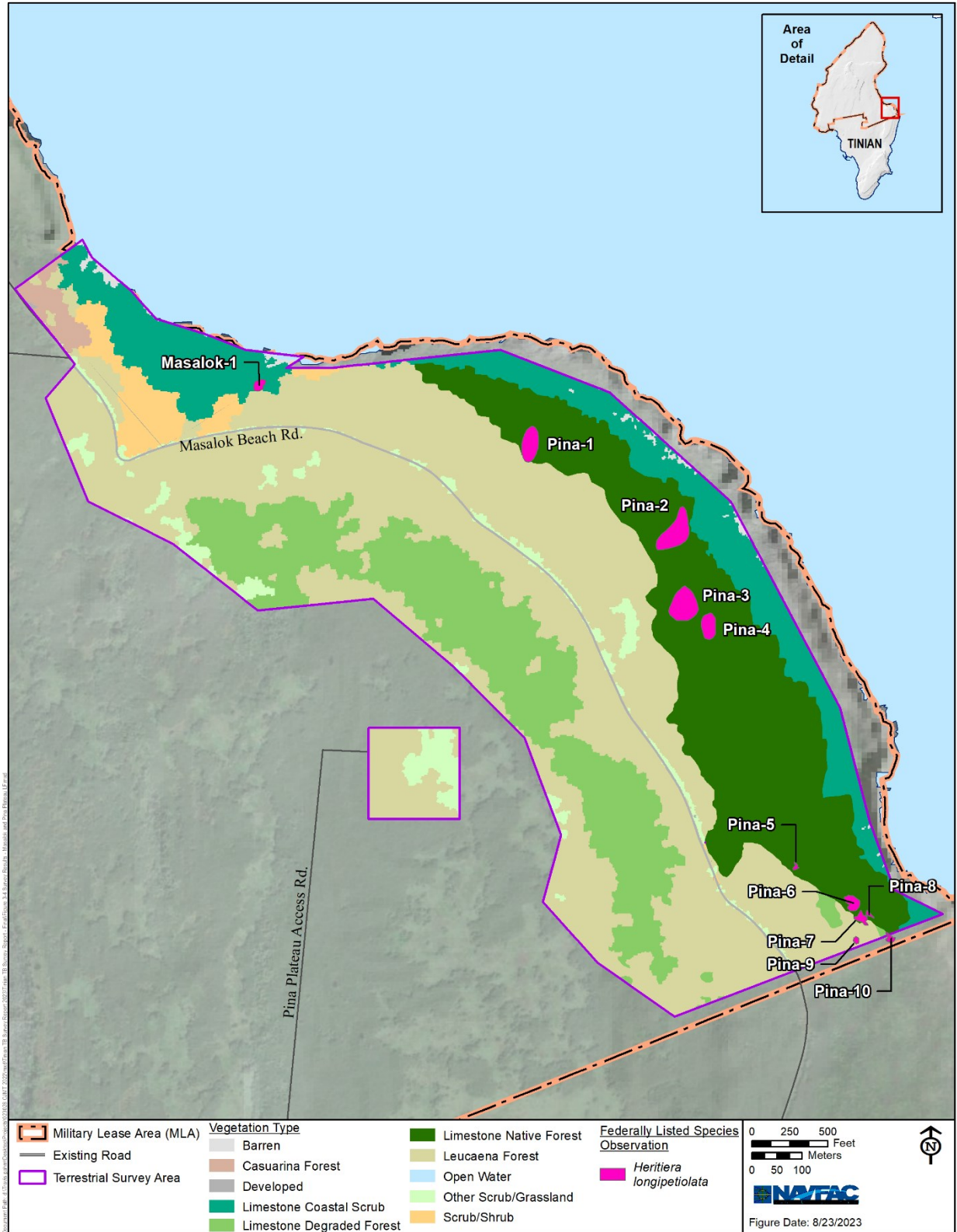


Figure 3-4 Survey Results – Unai Masalok and Pina Plateau Limestone Forest

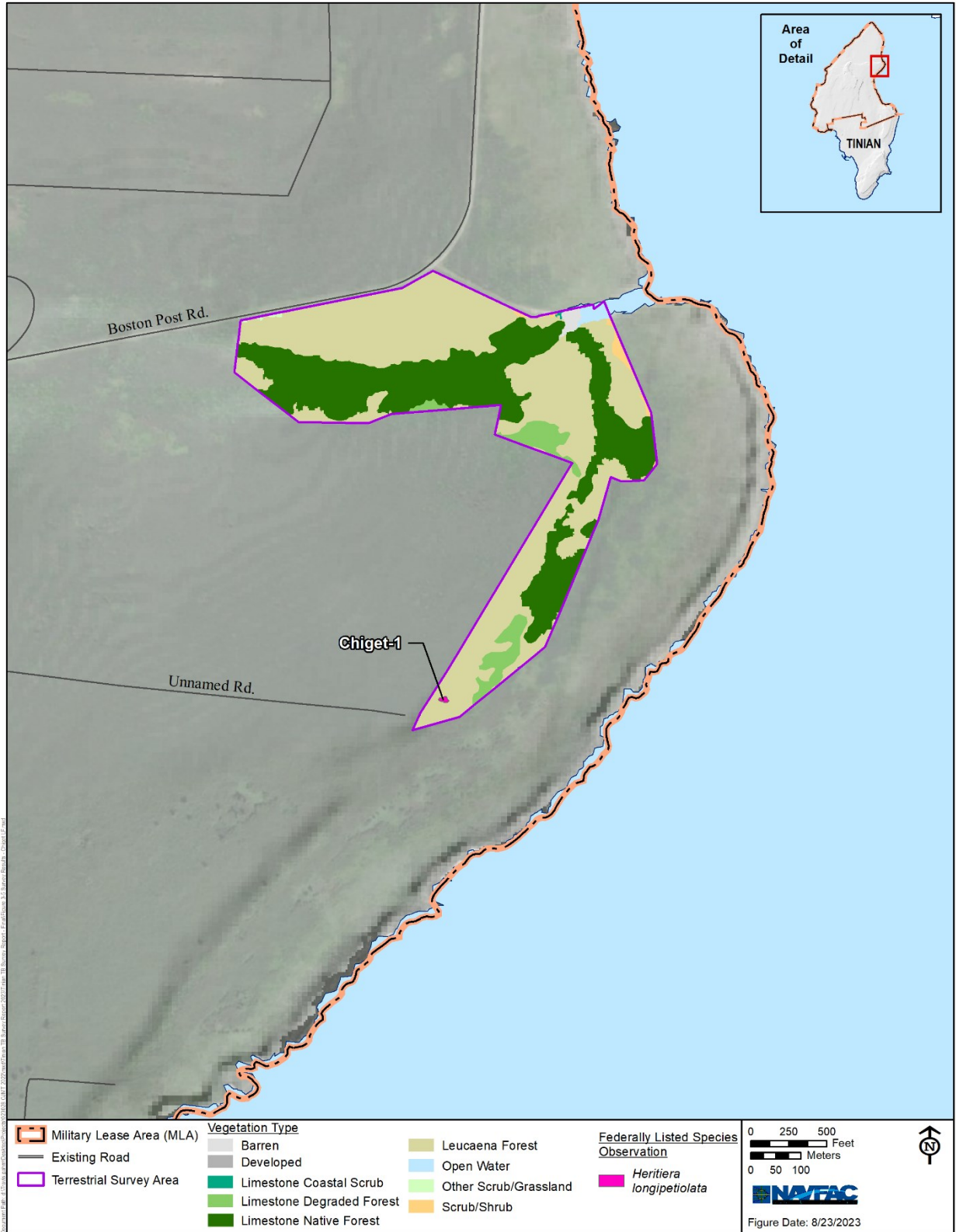


Figure 3-5 Survey Results – Chiget Limestone Forest

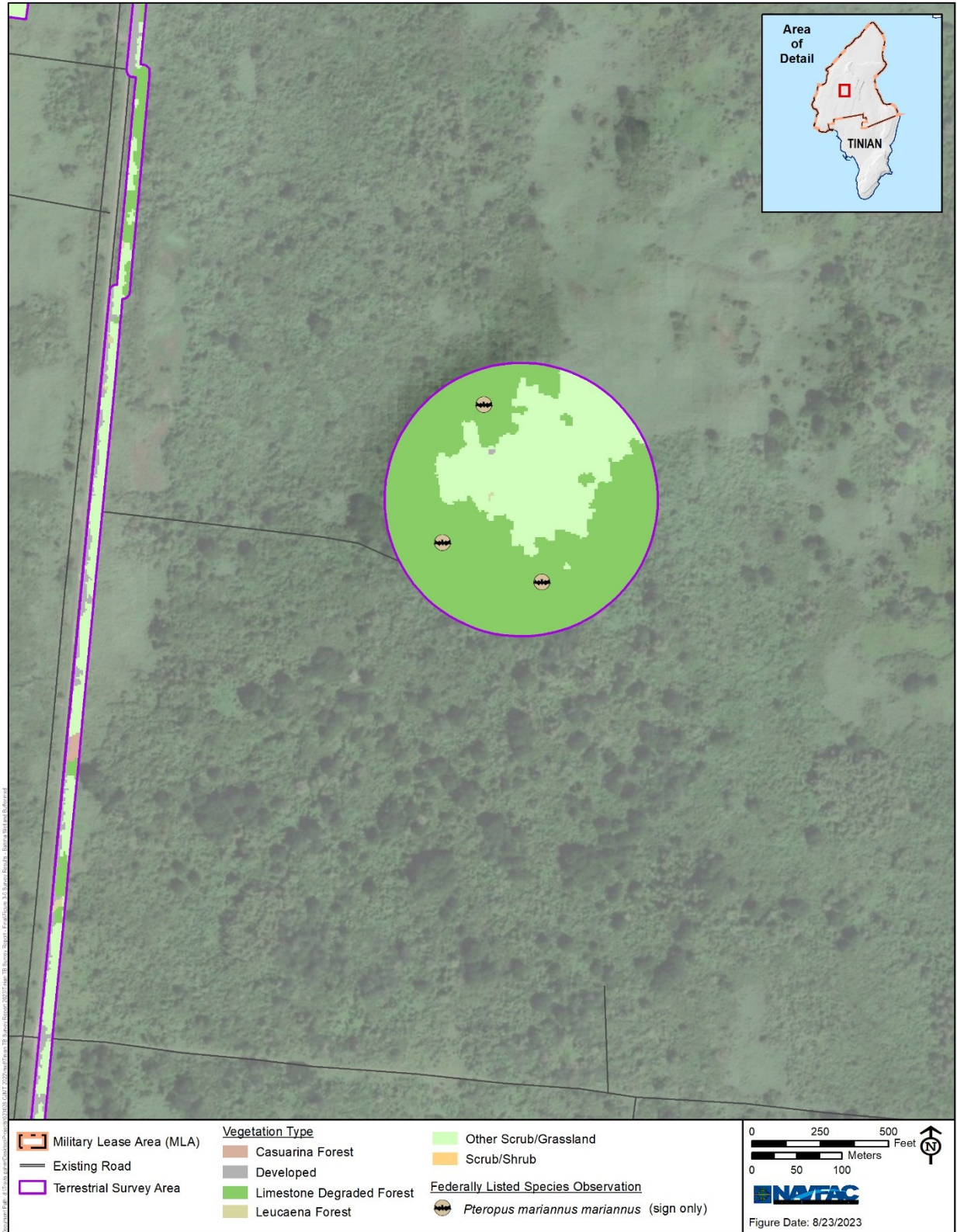


Figure 3-6 Survey Results – Bateha Wetland Buffer

Table 3-2 details the survey data collected for each grove of *H. longipetiolata* that was observed and mapped, and each grove is depicted in Figures 3-1, 3-4, and 3-5. In total, 290 living *H. longipetiolata* trees were observed within 12 unique grove locations. Ten groves occur in the Pina Plateau limestone forest survey area component, a single grove occurs in the Unai Masalok survey area component, and a single grove occurs in the Chiget limestone forest survey area component.

Table 3-2 Summary of *Heritiera longipetiolata* Observations

Grove ID	Survey Area Component	Vegetation Community	Number of Individuals		
			Mature	Seedling/ Sapling	Dying/ Dead
<i>Masalok-1</i>	Unai Masalok	<i>Leucaena</i> Forest	8	5	0
<i>Pina-1</i>	Pina Plateau Limestone Forest	Limestone Native Forest	45	0	0
<i>Pina-2</i>		Limestone Native Forest	40	0	0
<i>Pina-3</i>		Limestone Native Forest	21	0	0
<i>Pina-4</i>		Limestone Native Forest	12	0	1
<i>Pina-5</i>		Limestone Native Forest	6	0	0
<i>Pina-6</i>		Limestone Native Forest	19	5	0
<i>Pina-7</i>		Limestone Native Forest	11	7	1
<i>Pina-8</i>		Limestone Native Forest	20	0	0
<i>Pina-9</i>		<i>Leucaena</i> Forest	1	23	0
<i>Pina-10</i>		Limestone Native Forest	9	0	2
<i>Chiget-1</i>	Chiget Limestone Forest	Limestone Coastal Scrub	58	0	0
TOTAL			250	40	4

3.2 FEDERALLY LISTED WILDLIFE SPECIES RECORDED

Table 3-3 details the survey point data collected for each federally listed wildlife species that was observed and mapped, and each observation point is depicted on Figures 3-1 through 3-6. No living humped tree snails were observed in any survey area component during this 2023 survey. Only bleached, empty shells were observed in four locations in the Mount Lasso limestone forest survey area component.

Although the Mariana fruit bat (*Pteropus mariannus mariannus*) (federally threatened) was not a target species during 2023 surveys, incidental observations were recorded. A single Mariana fruit bat was observed flying over the Mount Lasso limestone forest survey area component (see Figure 3-2). In addition, sign of fruit bat occurrence (feces and/or ejecta) was observed in four separate locations (Figures 3-1, 3-2, and 3-6, and Table 3-3).

Discussions of mapped individuals and populations of federally listed wildlife species is provided in Chapter 4.

Table 3-3 Federally Listed Wildlife Species Summary

<i>Common Name</i>	<i>Observation Type</i>	<i>Survey Area Component</i>	<i>Mapped Individuals¹</i>	<i>Vegetation Community</i>	<i>Life Stage/Condition/Notes</i>
Humped tree snail	Bleached shell(s)	Mount Lasso Limestone Forest	4	Limestone Native Forest	All bleached, empty shells on ground – no living individuals observed
			1	Limestone Native Forest	
			1	Limestone Native Forest	
			1	Limestone Degraded Forest	
Mariana fruit bat	Single individual flying	Mount Lasso Limestone Forest	1	Limestone Degraded Forest	Single individual observed flying over the Mount Lasso limestone forest survey area component, appeared to be healthy
	Sign (ejecta/feces on leaves)	Bateha Wetland Buffer	1	Limestone Degraded Forest	Ejecta and/or feces of fruit bat found on various leaf types in 4 locations
			1	Limestone Degraded Forest	
			1	Limestone Degraded Forest	
		ETR Options	1	<i>Leucaena Forest</i>	

Note: ¹Each row represents a single observation point.

Legend: ETR = Explosives Training Range.

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CHAPTER 4

DISCUSSION

This chapter provides discussion and details of mapped individuals and populations of federally listed species observed and mapped during the 2023 Tinian terrestrial surveys.

4.1 *DENDROBIUM GUAMENSE*

All observations of *D. guamense* during 2023 surveys occurred in the Mount Lasso limestone forest survey area component, primarily in the southern portion of the survey area component (see Figures 3-1 and 3-3). In all, 23 occurrence data points were collected, ranging from single individuals to localized populations of up to 34 individual plants. As noted in Table 3-1, the majority of occurrence locations and individuals were observed growing on dead and/or downed trees or branches that were unidentifiable. Host plant species noted in Table 3-1 are all native species to Tinian, and the majority of *D. guamense* occurrences were in areas previously mapped as limestone native forest habitat (see Table 3-1 and Figure 3-3).

Consistent with past known locations of *D. guamense* in the Mount Lasso limestone forest survey area component (NAVFAC Pacific 2019), all recorded observations were located in the southern portion of the survey area component. However, during 2023 surveys, *D. guamense* occurrences were observed across a larger geographic area, occurring within both southern “legs” of the Mount Lasso limestone forest survey area component (see Figure 3-3), as opposed to only the westernmost of the “legs” (see Figure 1-1).

Example photographs of *D. guamense* individuals observed growing on various substrates during surveys are provided in Appendix C.

4.2 *HERITIERA LONGIPETIOLATA*

All observations of *H. longipetiolata* during 2023 surveys were in the easternmost survey area components, occurring in jagged limestone (karst) habitat along the eastern coast of Tinian. *H. longipetiolata* groves had been previously assessed and mapped during past surveys (NAVFAC Pacific 2019) in the Unai Masalok and Pina Plateau limestone forest survey area components. These groves were revisited and mapped during the 2023 surveys.

A new *H. longipetiolata* grove was discovered during 2023 surveys in the southernmost portion of the Chiget limestone forest survey area component (see Table 3-2 and Figure 3-5). This grove contained 58 individual mature trees with no seedlings or saplings observed and is located at the top of a steep escarpment dominated by low-stature limestone coastal scrub, which was largely impenetrable by surveyors due to the density of vegetation and unsafe slope and terrain.

Although groves Masalok-1 and Pina-9 are noted as occurring in *Leucaena* forest (see Table 3-2 and Figure 3-4), it should be noted that all groves mapped in 2023 occurred in very distinct patches of karst habitat. Although these two groves may have been surrounded by larger areas of *Leucaena* forest, they were in fact observed growing in distinct karst limestone topography.

Across all groves mapped during the 2023 surveys, nearly every individual *H. longipetiolata*, both mature trees and seedlings/saplings, appeared to be vigorous and healthy. No individuals were observed flowering or fruiting during surveys. There were no evident signs of stress, stunted growth, loss of vigor, or stripped vegetation on any of the individuals, except for the four individual trees noted as dying or dead in Table 3-2.

Example photographs of *H. longipetiolata* individuals/groves observed during surveys are provided in Appendix C.

4.3 HUMPED TREE SNAIL

No living humped tree snails were observed during these surveys. Although humped tree snail shells were found in four locations in the Mount Lasso limestone forest survey area component, they were weathered, bleached, and consistent with previous surveys (NAVFAC Pacific 2019), likely many decades old (Table 3-3). Example photographs of the bleached, weathered shells that were discovered during surveys are provided in Appendix C.

4.4 MARIANA FRUIT BAT

A single adult Mariana fruit bat was seen flying on one occasion above the Mount Lasso limestone forest survey area component. Harassed by a pair of adult white terns (*Gygis alba*) that were presumably defending a nest, the fruit bat circled overhead for approximately 90 seconds before disappearing into the adjacent tree line.

Mariana fruit bat sign (ejecta and/or feces) was observed in three different locations in the westernmost Bateha Wetland Buffer survey area component and in one location in the northernmost Explosives Training Range options survey area component. Pteropodid bats feed by squeezing out the juices of plant parts, which they swallow, and then spit out pellets known as “ejecta” that contain the fibers and often seeds of the plant (Aziz et al. 2021). Presence of fruit bat feces/ejecta is a sign that the species is utilizing a given area for movement and/or foraging. Ejecta can also be an indicator of fruit bat day roost locations (Aziz et al. 2021). Example photos of fruit bat ejecta/feces observed and recorded during surveys are provided in Appendix C.

CHAPTER 5

CONCLUSIONS

5.1 SURVEY SUMMARY

The CJMT survey area components were thoroughly surveyed from April 3–24, 2023, as evidenced by the survey track data in Appendix A. As discussed in Section 2.1, certain portions of the survey area were either impassable due to dense and/or noxious patches of weedy vegetation (e.g., swordgrass and common lantana patches), steep slopes and/or cliffs, and habitats that were impenetrable due to safety concerns (e.g., low-statured, dense limestone coastal scrub in jagged, steep karst habitat). Dense patches of weedy vegetation did not contain a diversity of vegetation or high habitat suitability for federally listed species and were often avoided by having survey teams momentarily pause transects, move around them, and reinitiate transects once they were able to get around the patches. Where surveyors encountered steep slopes or cliffs, every effort was made to survey the areas using all means necessary (e.g., using binoculars from the top and bottom of the slope/cliff, finding alternate routes to get up or down, and conducting transects along safe portions of such areas). In the easternmost portions of the survey area components on the east coast, low-statured, dense limestone coastal scrub was often impenetrable and unsafe due to jagged karst topography that was too steep or had deep canyons and crevices. In such areas, surveyors conducted transects up to and along the areas that were accessible and were able to gain visual observations using binoculars over the canopies that stretched down to the coastline. Impassable areas are noted accordingly on figures in Appendix A. Example photographs of impassable areas and weedy vegetation that were avoided are provided in Appendix C.

During the course of conducting survey transects, where and when federally listed species were encountered, focus was temporarily put on habitat in the immediate vicinity, as opposed to continuing straight ahead on a transect path, to ensure that any and all other individuals were accounted for and mapped. This is evidenced by survey transect data presented in Appendix A, specifically in the survey area components that contained a high amount of federally listed species observations (e.g., Mount Lasso limestone forest and Pina Plateau limestone forest).

Consistent with past surveys (NAVFAC Pacific 2014, 2018, 2019), results of the 2023 surveys show high habitat value in the remaining limestone forest areas of Tinian. *D. guamense* was only observed in the Mount Lasso limestone forest survey area component and *H. longipetiolata* was only observed in the easternmost, coastal survey area components in jagged, limestone karst habitat. Although there were observations of these species that occurred in areas mapped as other than limestone habitat (see Tables 3-1 and 3-2), such occurrences were always in areas surrounded by limestone habitat that generally defined the local conditions. No observations of federally listed species occurred in the lowland survey area components that had high amounts of weedy vegetation (e.g., those areas dominated by *Leucaena* forest, *Casuarina* forest, and other areas with high amounts of non-native vegetation and signs of past disturbance).

The lack of *S. guamense* observations during 2023 surveys was expected and is consistent with the current known status of the species – all known populations of *S. guamense* have been extirpated (USFWS 2020). In multiple locations, *S. torvum*, a similar species that was introduced to Tinian (Raulerson 2006) was observed growing in disturbed and/or ruderal habitats.

Similarly, the lack of living humped tree snail observations in any of the 2023 CJMT survey area components is consistent with recent survey results; the species is only known to occur on Tinian in the southern portion of Lamanibot Bay, well outside of the 2023 survey area (NAVFAC Pacific 2014, 2019).

Although not a target species of the 2023 surveys, one Mariana common moorhen (*Gallinula chloropus guami*) (federally endangered) was incidentally observed foraging within a water retention structure on the northern end of the historic Japanese Communications Center, well outside of the survey footprint and outside of the survey window. No further evidence of moorhens (e.g., tracks, sign, calls) was detected anywhere else on the island during the remainder of the survey window.

CHAPTER 6

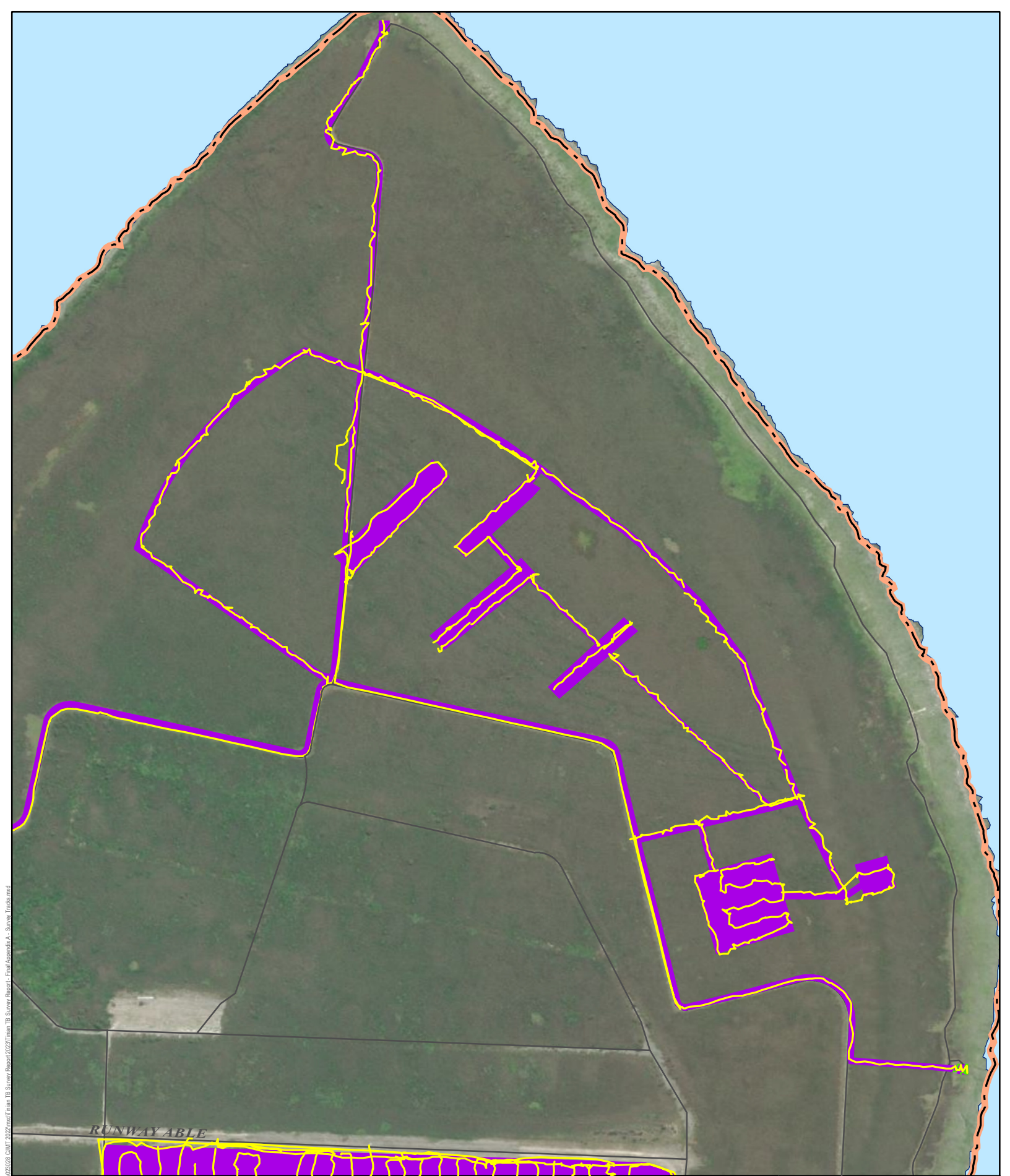
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APPENDIX A SURVEY TRACKS LOG

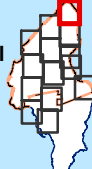
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 Military Lease Area (MLA)	 Terrestrial Survey Track
 Existing Road	Terrestrial Survey Area
	 15 ft Transects
	 30 ft Transects

Area of Detail



01

0 500 1,000 Feet

0 100 200 Meters



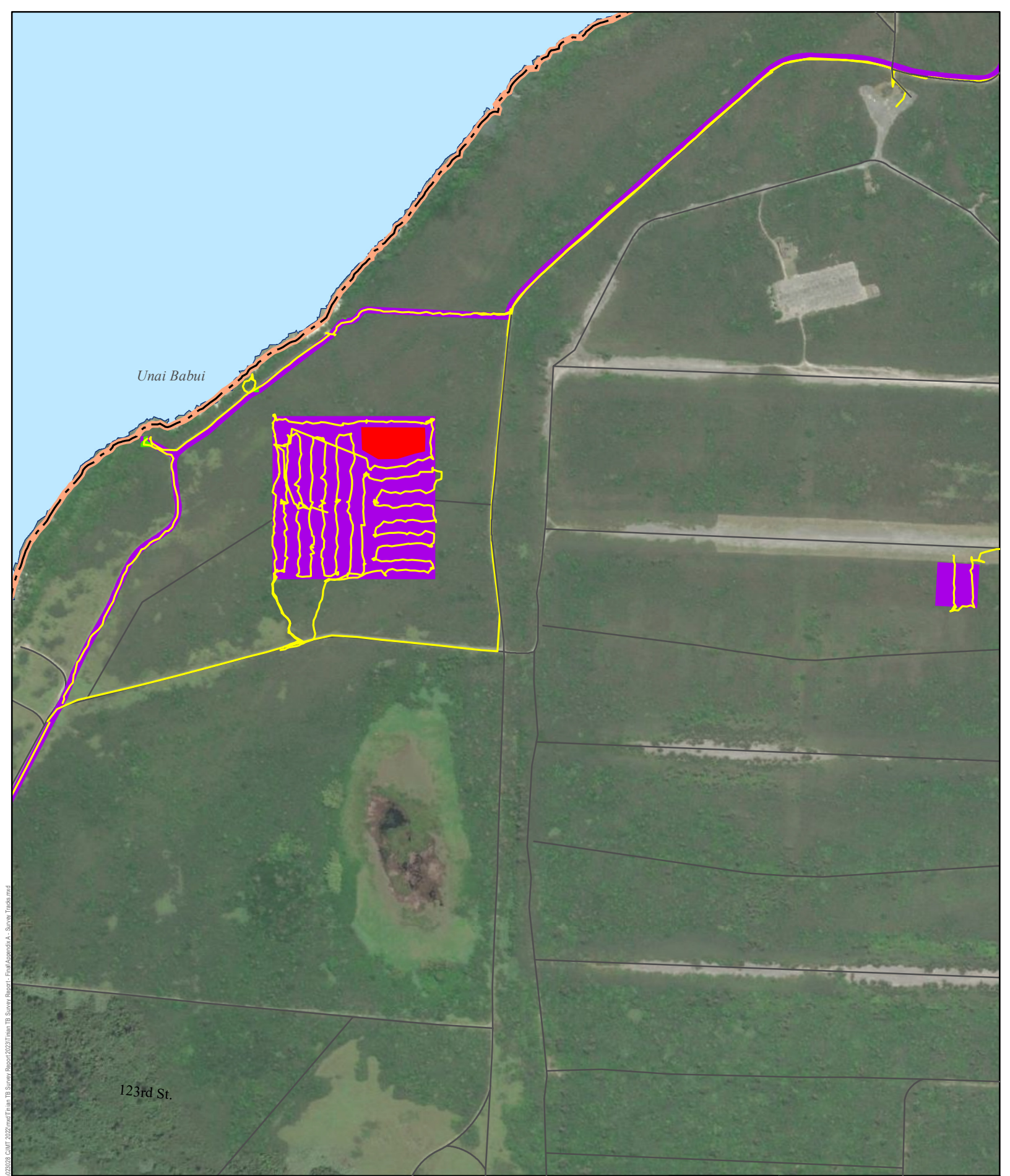









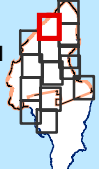
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 Military Lease Area (MLA)	 Terrestrial Survey Track	 Not Surveyed - Impassable Area
 Existing Road	<u>Terrestrial Survey Area</u>	
	 15 ft Transects	
	 30 ft Transects	

Area of Detail



02

0 500 1,000 Feet

0 100 200 Meters



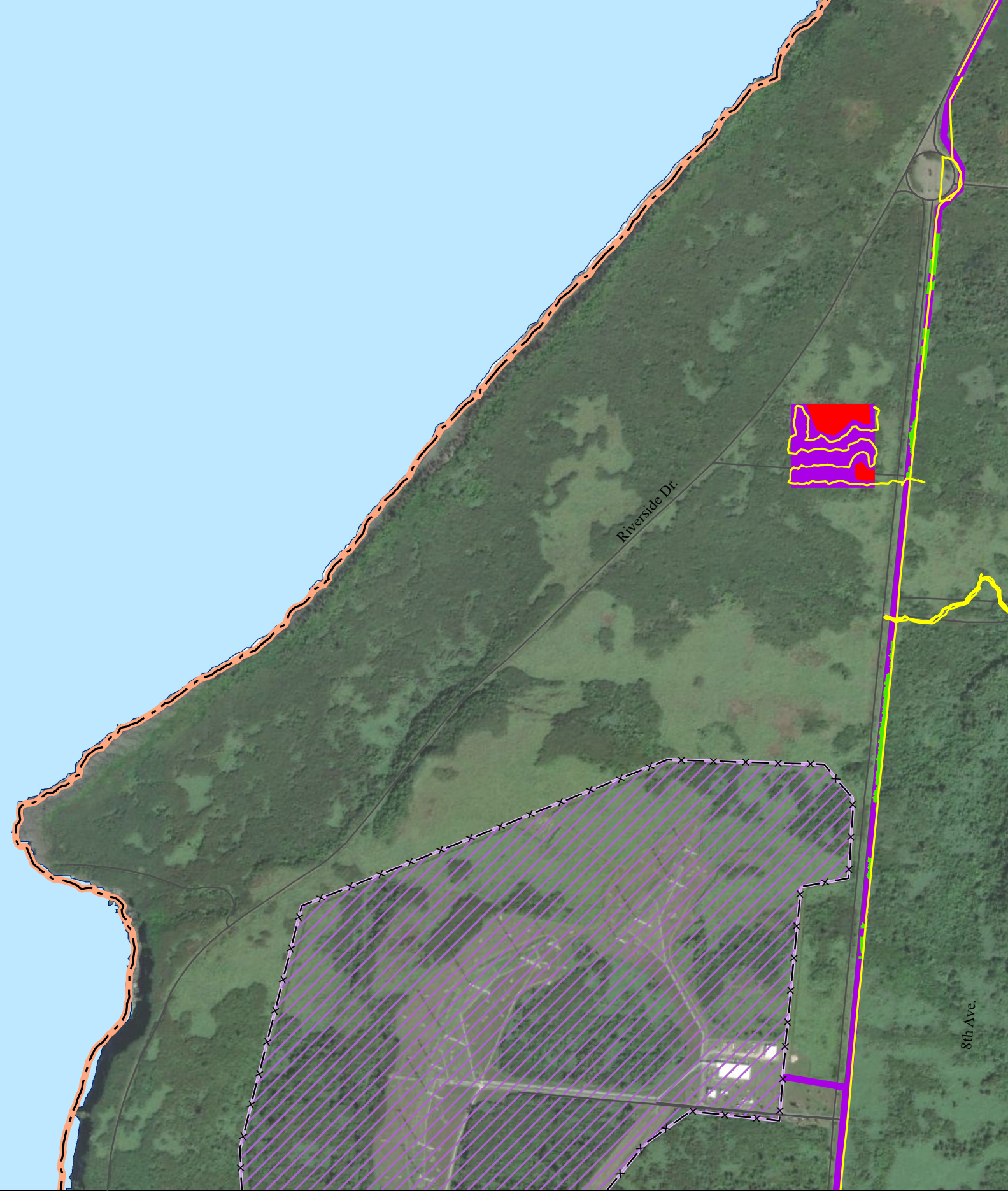










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-  Military Lease Area (MLA)
-  Existing Road
-  Terrestrial Survey Track
- Terrestrial Survey Area**
 -  15 ft Transects
 -  30 ft Transects
-  Not Surveyed - Impassable Area

Area of Detail



03

0 500 1,000 Feet

0 100 200 Meters



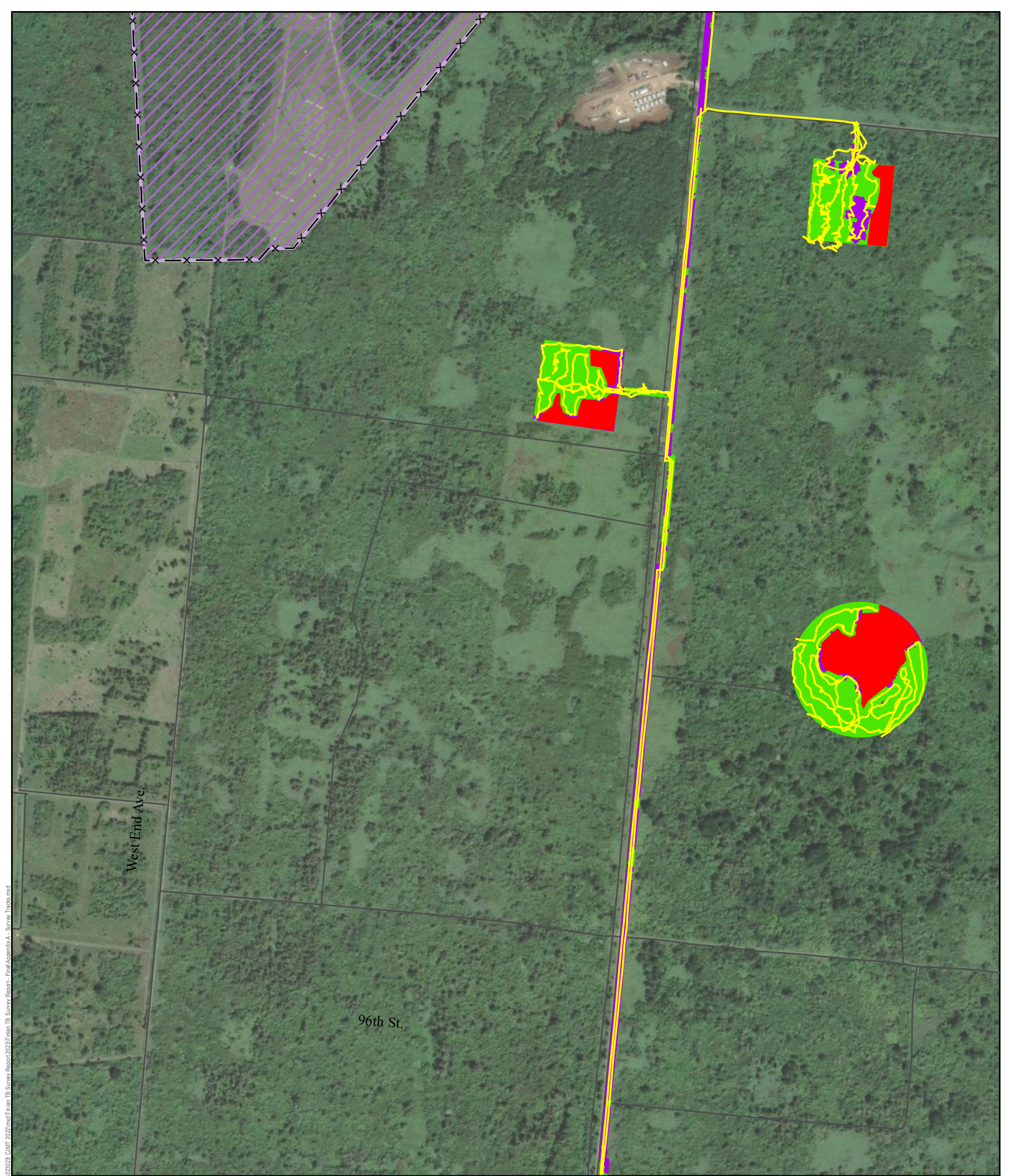









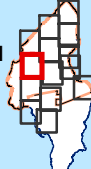
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 Military Lease Area (MLA)	 Terrestrial Survey Track	 Not Surveyed - Impassable Area
 Existing Road	<u>Terrestrial Survey Area</u>	
	 15 ft Transects	
	 30 ft Transects	

Area of Detail



04

0 500 1,000 Feet

0 100 200 Meters



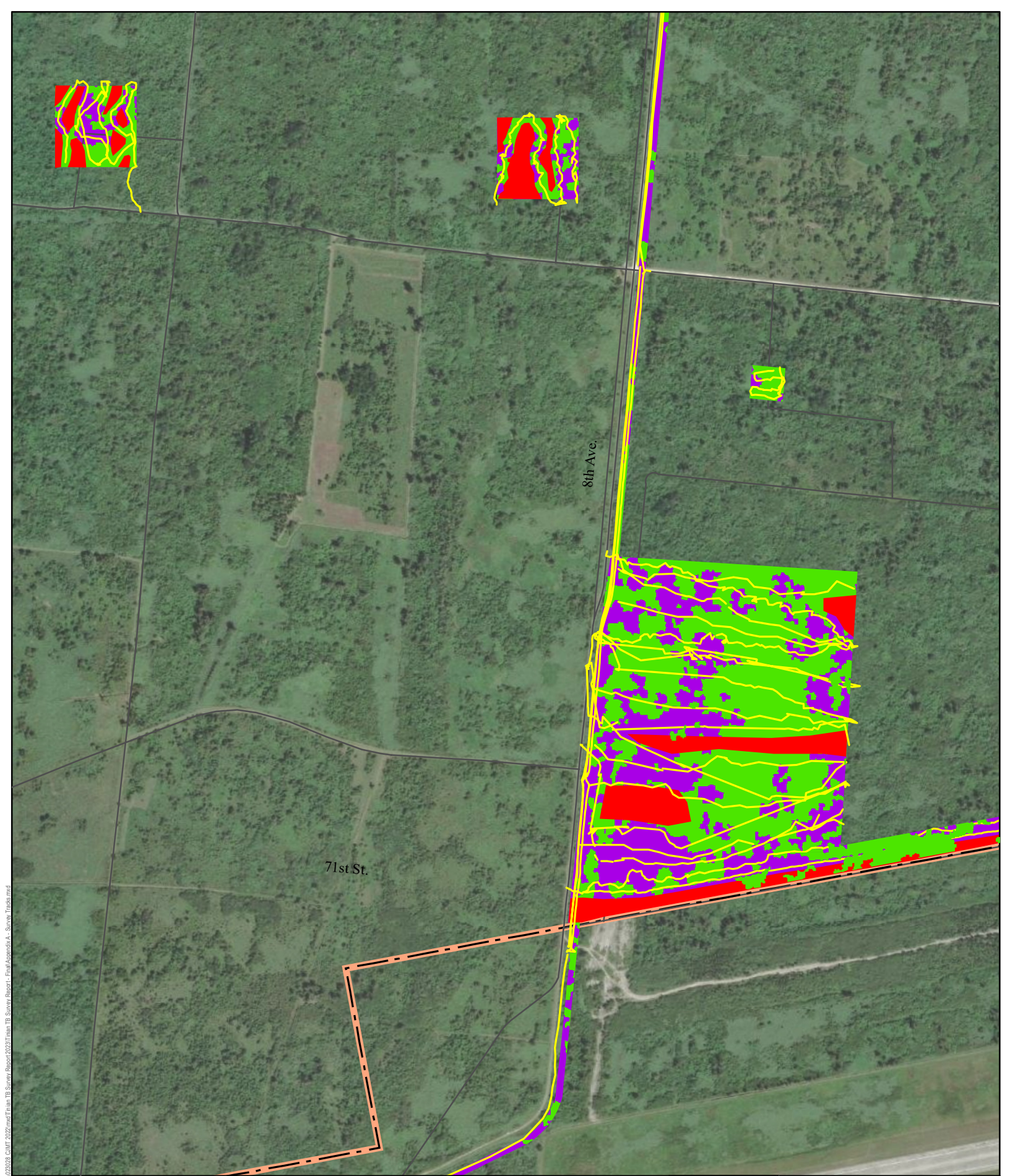










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 Military Lease Area (MLA)	 Terrestrial Survey Track	 Not Surveyed - Impassable Area
 Existing Road	Terrestrial Survey Area	
	 15 ft Transects	
	 30 ft Transects	

Area of Detail



05

0 500 1,000 Feet

0 100 200 Meters



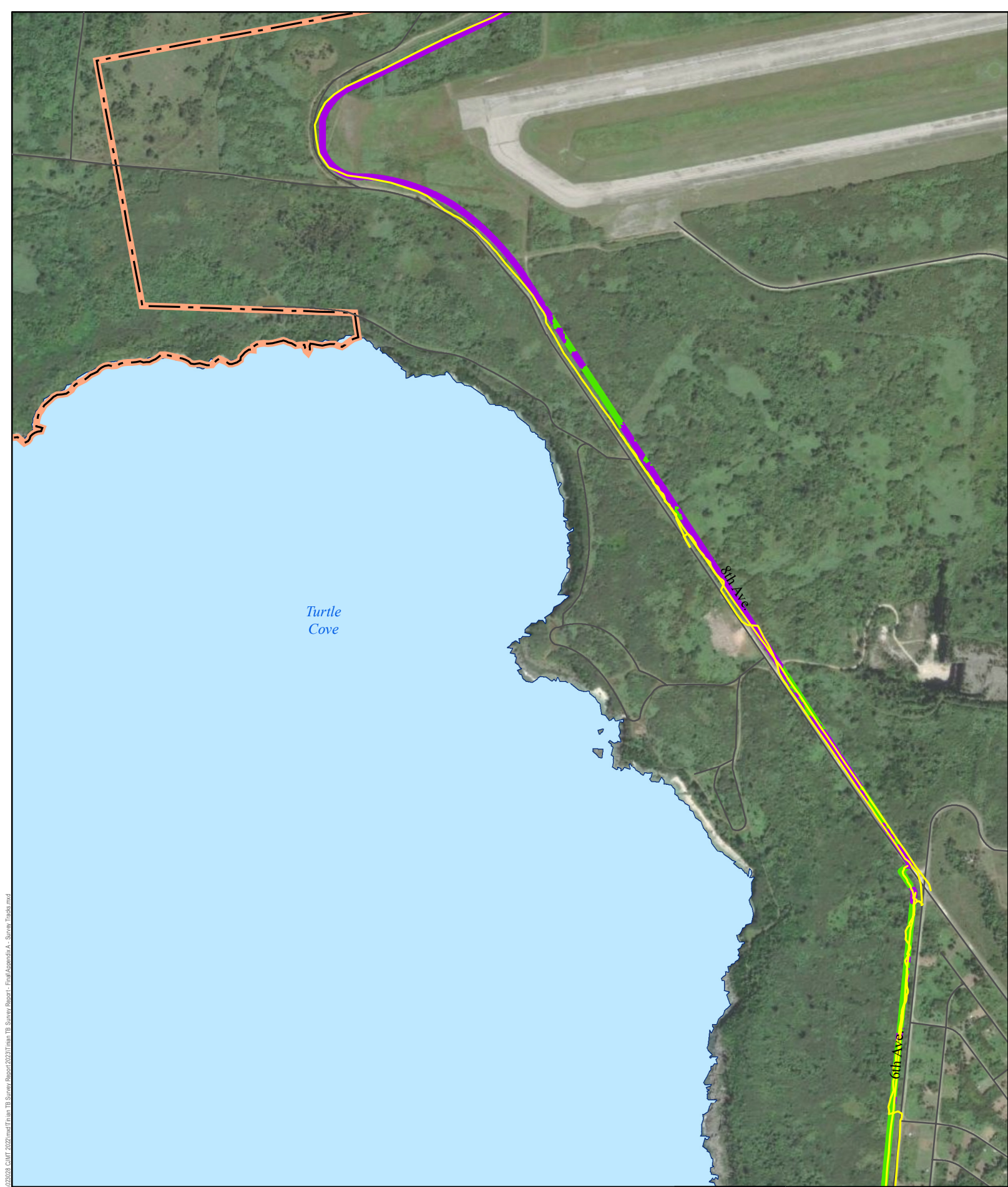








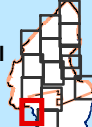
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	Existing Road	<u>Terrestrial Survey Area</u>	
			15 ft Transects
			30 ft Transects

Area of Detail



06

0 500 1,000 Feet

0 100 200 Meters



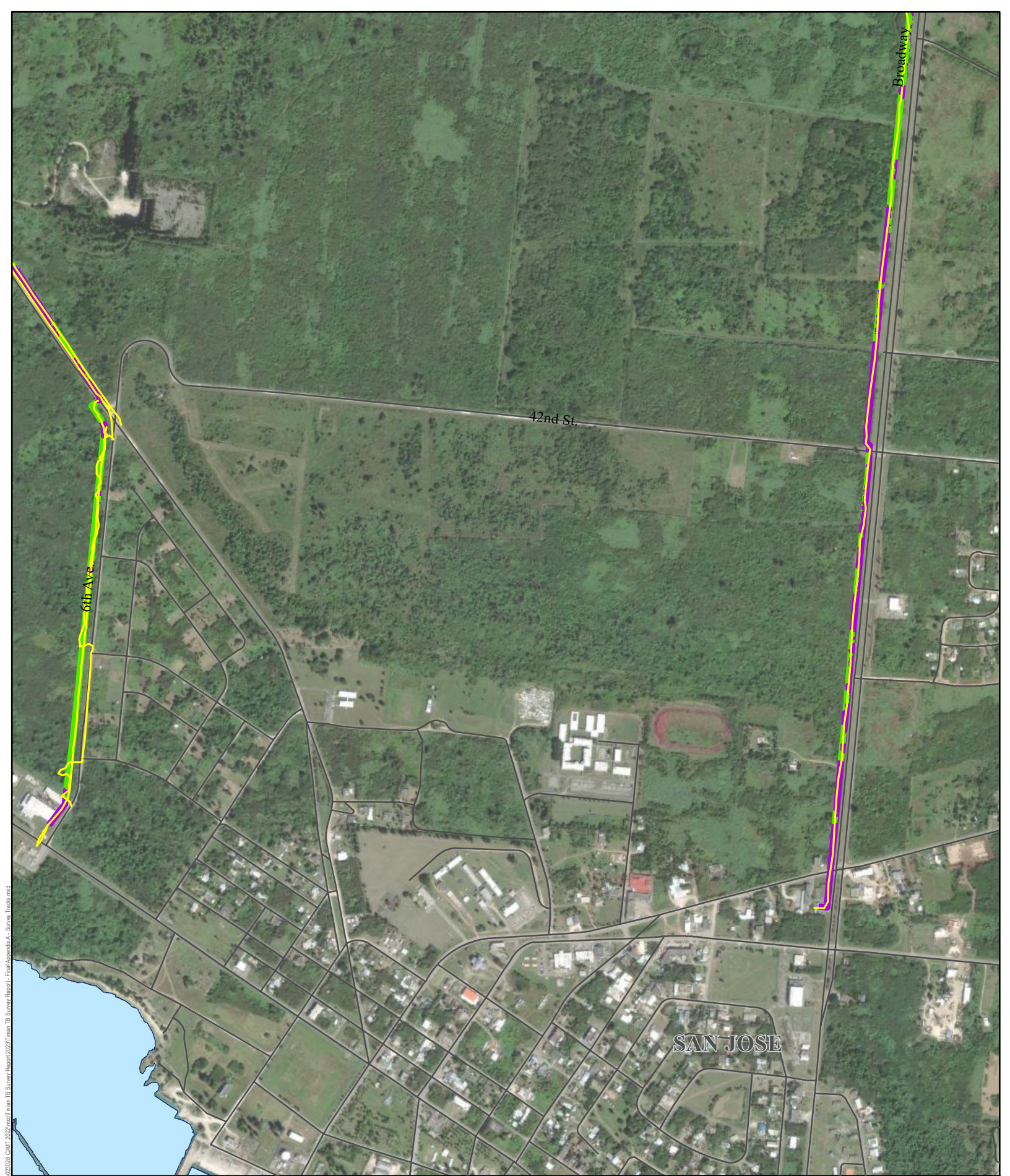






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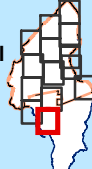


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	Existing Road		15 ft Transects
			30 ft Transects

Terrestrial Survey Area

Area of Detail



07

0 500 1,000 Feet

0 100 200 Meters



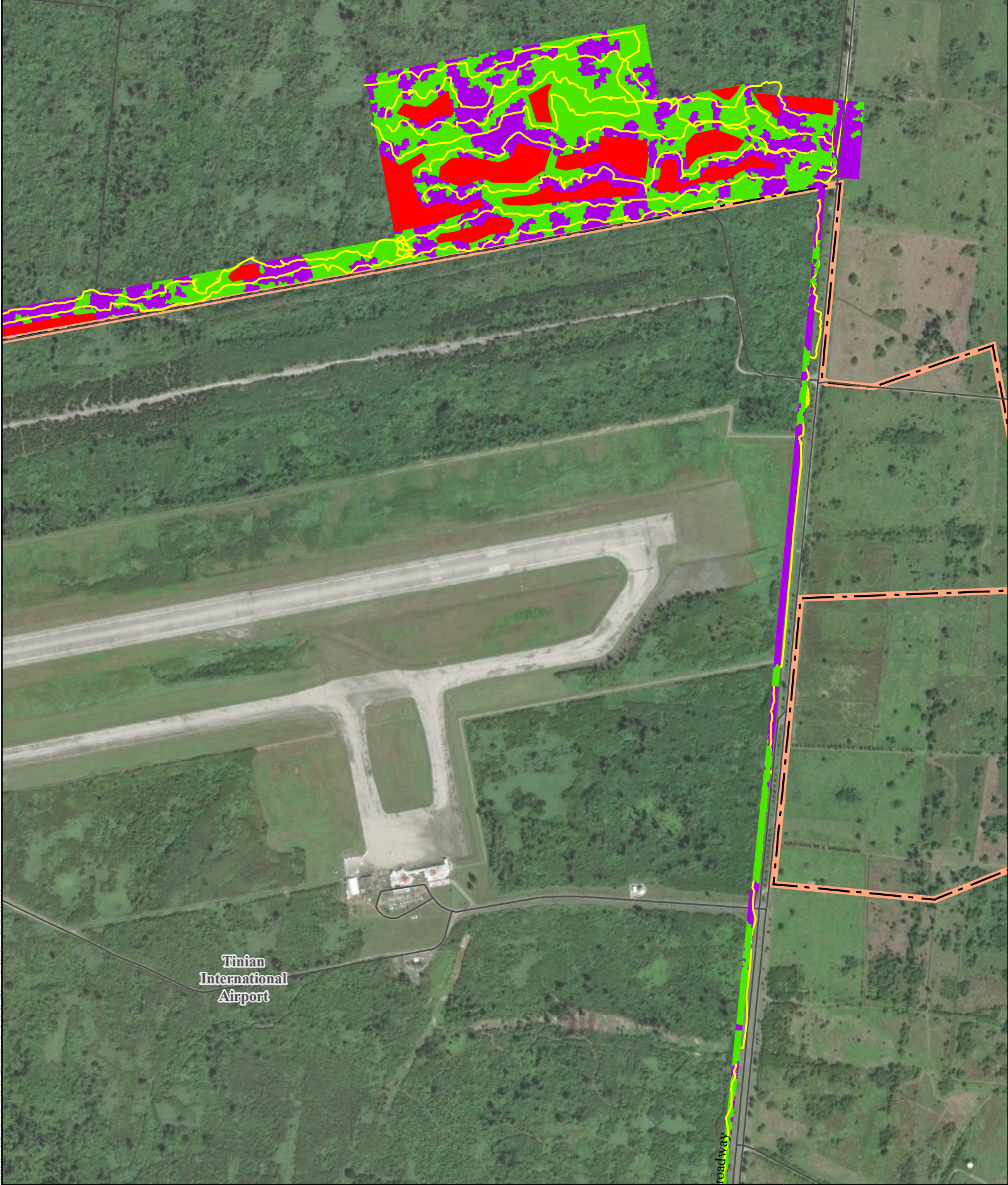









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Tinian International Airport

Broadway

 Military Lease Area (MLA)	 Terrestrial Survey Track	 Not Surveyed - Impassable Area
 Existing Road	Terrestrial Survey Area	
	 15 ft Transects	
	 30 ft Transects	

Area of Detail



08

0 500 1,000 Feet

0 100 200 Meters



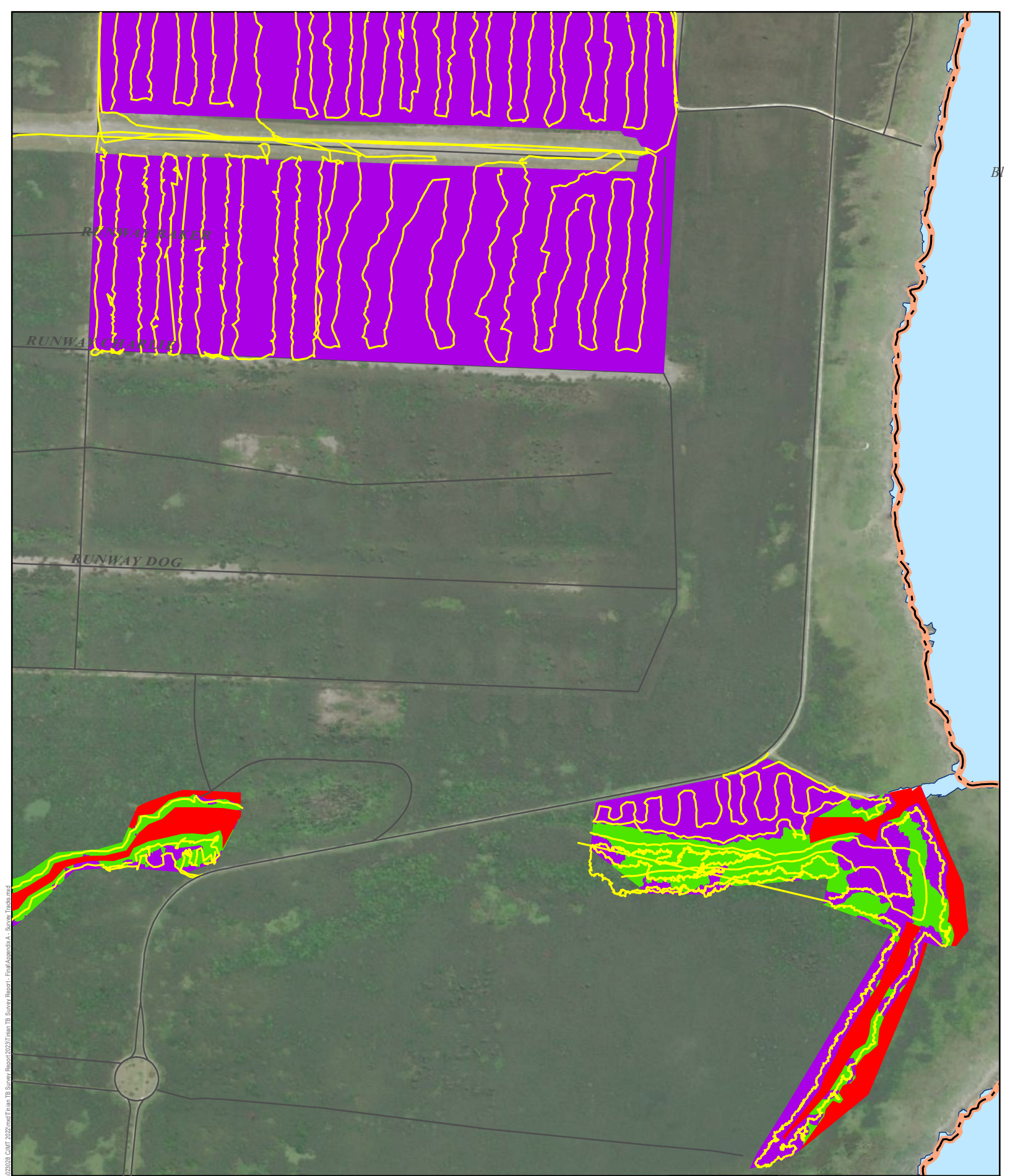









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 Military Lease Area (MLA)	 Terrestrial Survey Track	 Not Surveyed - Impassable Area
 Existing Road	Terrestrial Survey Area	
	 15 ft Transects	
	 30 ft Transects	

Area of Detail



11

0 500 1,000 Feet

0 100 200 Meters



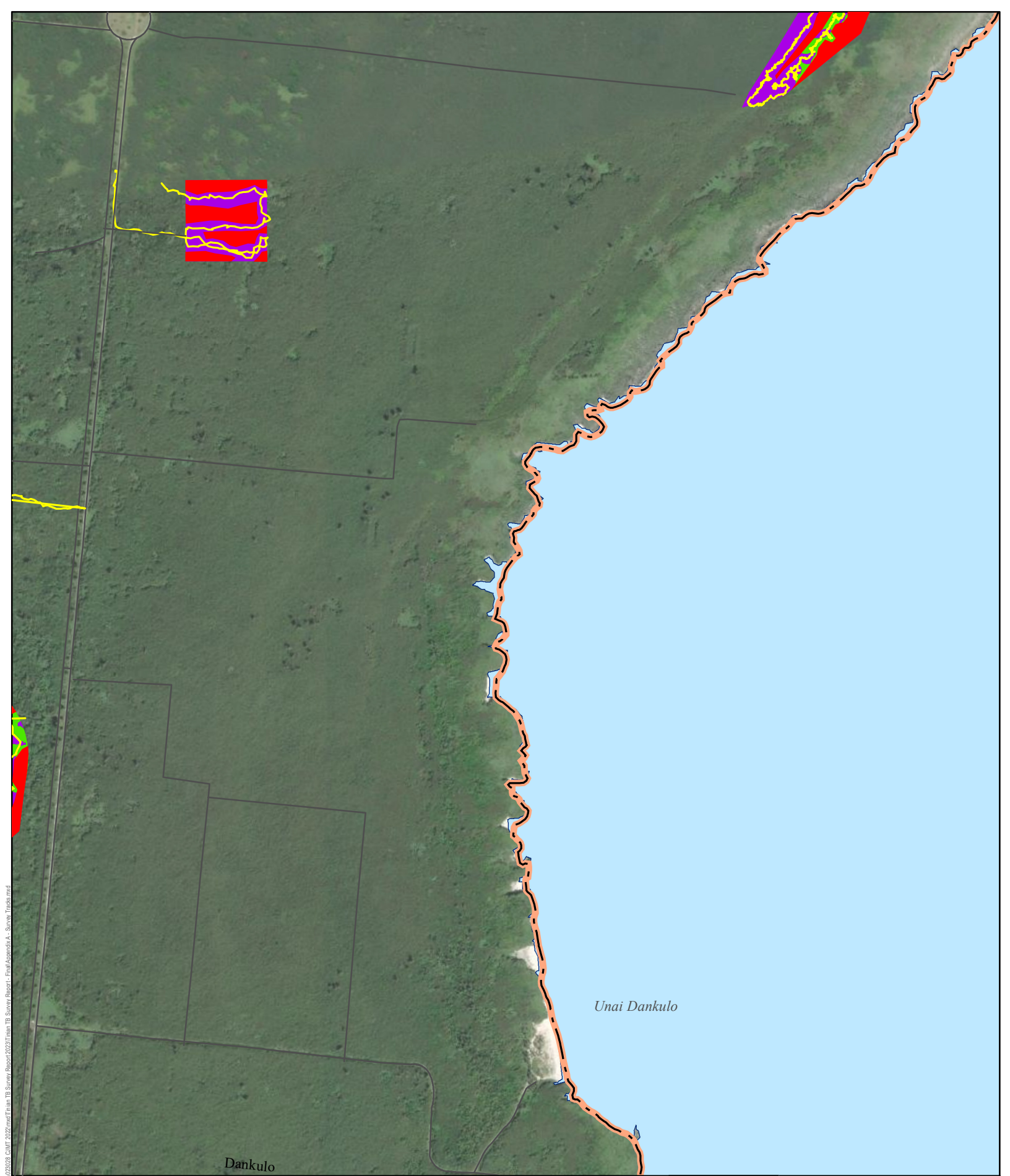








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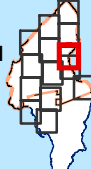




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	Existing Road	<u>Terrestrial Survey Area</u>			
			15 ft Transects		
			30 ft Transects		

Area of Detail



12

0 500 1,000 Feet

0 100 200 Meters



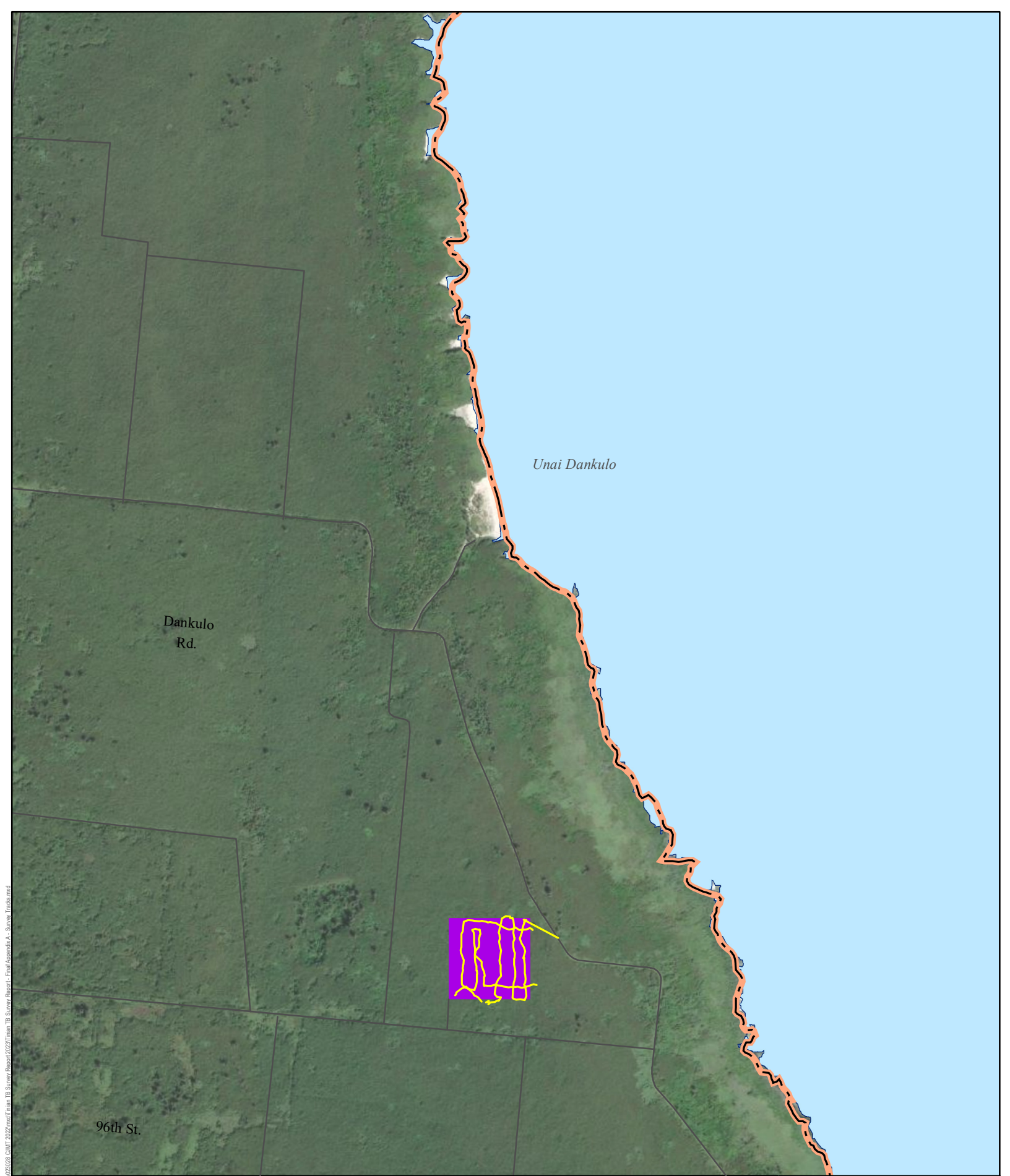


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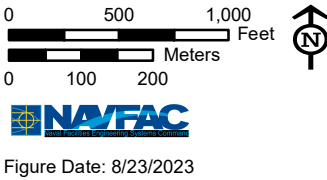
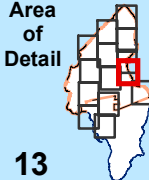


Unai Dankulo

Dankulo Rd.

96th St.





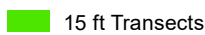
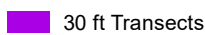
- Military Lease Area (MLA)
- Terrestrial Survey Track
- Existing Road
- Terrestrial Survey Area**
- 15 ft Transects
- 30 ft Transects




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Unai Masalok

Pika
Plavau

-  Military Lease Area (MLA)
-  Existing Road
-  Terrestrial Survey Track
-  Not Surveyed - Impassable Area
- Terrestrial Survey Area**
 -  15 ft Transects
 -  30 ft Transects

Area of Detail



14

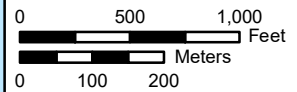


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APPENDIX B SURVEY OBSERVATION DATA MATRICES

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Survey Point Data

Object ID	Species	Quantity	Life Stage	Condition	Host Species/Substrate	Vegetation Community	Date Observed	Notes	Northing (m)	Easting (m)
41	<i>Pteropus mariannus mariannus</i>	1	N/A	N/A	N/A	Limestone Degraded Forest	4/4/2023	fruit bat feces	1662330.9097	351164.3989
42	<i>Pteropus mariannus mariannus</i>	1	Adult	Good	N/A	Limestone Degraded Forest	4/21/2023	Life Stage: 1 adult	1664877.0190	351867.8158
43	<i>Pteropus mariannus mariannus</i>	1	N/A	N/A	N/A	Limestone Degraded Forest	4/4/2023	fruit bat feces	1662484.6955	351210.5939
44	<i>Pteropus mariannus mariannus</i>	1	N/A	N/A	N/A	Leucaena Forest	4/5/2023	fruit bat feces	1664326.3732	353033.8675
45	<i>Pteropus mariannus mariannus</i>	1	N/A	N/A	N/A	Limestone Degraded Forest	4/4/2023	fruit bat feces on leaves	1662286.8285	351275.2580
46	<i>Dendrobium guamense</i>	1	Adult	Good	Dead/downed tree/branch	Limestone Native Forest	4/11/2023	Life Stage: 1 adult; Host: dead tree	1663237.4255	352722.3502
47	<i>Dendrobium guamense</i>	1	Adult	Fair	Dead/downed tree/branch	Limestone Native Forest	4/11/2023	Life Stage: 1 adult; Host: dead tree	1662839.6571	352557.4532
48	<i>Dendrobium guamense</i>	8	Adult	Fair	<i>Ficus</i> sp.	Limestone Native Forest	4/14/2023	Life Stage: 8 adults; Host: <i>Ficus</i>	1663224.4897	353419.3888
49	<i>Dendrobium guamense</i>	8	Adult	Fair	<i>Ficus</i> sp.	Limestone Native Forest	4/14/2023	Life Stage: 8 adults; Host: <i>Ficus</i>	1663223.3444	353418.9580
50	<i>Partula gibba</i>	1	Dead	Dead	Leaf litter	Limestone Native Forest	4/14/2023	Life Stage: 1 dead individual; Host: leaf litter	1663141.9799	353381.8203
51	<i>Dendrobium guamense</i>	16	Adult	Fair	Limestone	Other Scrub/Grassland	4/17/2023	Life Stage: 16 adults; Host: limestone	1663038.5448	353287.3134
52	<i>Dendrobium guamense</i>	8	Adult	Fair	Limestone	Other Scrub/Grassland	4/17/2023	Life Stage: 8 adults; Host: limestone	1663037.5578	353288.0682
53	<i>Dendrobium guamense</i>	34	Adult	Fair	<i>Premna serratifolia</i>	Other Scrub/Grassland	4/17/2023	Life Stage: 34 adults; Host: <i>Premna serratifolia</i>	1662983.8174	353266.0825
54	<i>Dendrobium guamense</i>	6	Adult	Poor	Dead/downed tree/branch	Limestone Native Forest	4/17/2023	Life Stage: 6 adults; Host: dead branch	1662974.7671	353268.5723
55	<i>Dendrobium guamense</i>	6	Adult	Good	Dead shrub	Other Scrub/Grassland	4/17/2023	Life Stage: 6 adults; Host: dead shrub	1662976.6954	353262.4872
56	<i>Dendrobium guamense</i>	7	Adult	Fair	Unknown shrub	Limestone Native Forest	4/17/2023	Life Stage: 7 adults; Host: shrub sp.	1662974.4010	353263.7818
57	<i>Dendrobium guamense</i>	9	Adult	Good	Limestone	Other Scrub/Grassland	4/17/2023	Life Stage: 9 adults; Host: limestone	1662974.4768	353261.9592
58	<i>Dendrobium guamense</i>	4	Adult	Fair	<i>Eugenia</i> sp.	Other Scrub/Grassland	4/17/2023	Life Stage: 4 adults; Host: <i>Eugenia</i> sp.	1662974.3785	353262.2385
59	<i>Dendrobium guamense</i>	28	Adult	Fair	Dead/downed tree/branch	Leucaena Forest	4/17/2023	Life Stage: 28 adults; Host: dead branch	1662974.2153	353261.4755
60	<i>Dendrobium guamense</i>	3	Adult	Fair	Leaf litter	Other Scrub/Grassland	4/17/2023	Life Stage: 3 adults; Host: leaf litter	1662975.3763	353261.9788
61	<i>Dendrobium guamense</i>	10	Adult	Fair	Dead/downed tree/branch	Leucaena Forest	4/17/2023	Life Stage: 10 adults; Host: dead branch	1662974.5615	353261.5257
62	<i>Dendrobium guamense</i>	5	Adult	Good	Dead/downed tree/branch	Limestone Native Forest	4/18/2023	Life Stage: 5 adults; Host: dead branch	1662715.5203	353143.8230
63	<i>Dendrobium guamense</i>	5	Adult	Fair	<i>Meiogyne cylindrocarpa</i>	Limestone Native Forest	4/18/2023	Life Stage: 5 adults; Host: <i>Meiogyne cylindrocarpa</i>	1662710.0770	353142.4288
64	<i>Dendrobium guamense</i>	3	Adult	Fair	Dead/downed tree/branch	Limestone Native Forest	4/19/2023	Life Stage: 3 adults; Host: dead tree	1662608.8206	353086.2493
67	<i>Dendrobium guamense</i>	17	Adult	Good	Dead/downed tree/branch	Limestone Native Forest	4/18/2023	Life Stage: 17 adults; Host: dead log	1662348.4927	352977.6099
68	<i>Dendrobium guamense</i>	7	Adult	Good	Limestone	Limestone Native Forest	4/13/2023	Life Stage: 7 adults; Host: limestone	1662404.7412	352999.5980
69	<i>Dendrobium guamense</i>	4	Adult	Fair	Limestone	Limestone Native Forest	4/18/2023	Life Stage: 4 adults; Host: limestone	1662403.6555	352999.7485
70	<i>Dendrobium guamense</i>	12	Adult	Fair	<i>Eugenia</i> sp.	Limestone Native Forest	4/18/2023	Life Stage: 12 adults; Host: <i>Eugenia</i> sp.	1662403.9472	353000.6160
71	<i>Partula gibba</i>	1	Dead	Dead	N/A	Limestone Native Forest	4/19/2023	Life Stage: 1 dead individual	1661764.6847	352935.4532
72	<i>Partula gibba</i>	4	Dead	Dead	N/A	Limestone Native Forest	4/20/2023	Life Stage: 4 dead individuals, bleached shells	1661699.1614	352921.1672
73	<i>Partula gibba</i>	1	Dead	Dead	N/A	Limestone Degraded Forest	4/21/2023	Life Stage: 1 dead individual	1664279.9677	352179.1110
74	<i>Dendrobium guamense</i>	9	Adult	Fair	Dead/downed tree/branch	Limestone Native Forest	4/21/2023	Life Stage: 6 adults, 3 dead individuals; Host: dead branch	1662339.0201	352979.9433

Survey Polygon Data

Object ID	Species	Polygon ID	Quantity	Vegetation Community	Condition	Date Observed	Notes	Northing (m)	Easting (m)
13	Heritiera longipetiolata	Chiget-1	58	Limestone Coastal Scrub	Good	4/21/2023	Life Stage: 58 adults	1660722.8292	355854.7061
14	Heritiera longipetiolata	Masalok-1	13	Leucaena Forest	Good	4/14/2023	Life Stage: 8 adults, 5 saplings	1664760.2814	355188.1301
15	Heritiera longipetiolata	Pina-5	6	Limestone Native Forest	Good	4/17/2023	Life Stage: 6 adults	1659757.4559	356931.3529
16	Heritiera longipetiolata	Pina-7	19	Limestone Native Forest	Good	4/17/2023	Life Stage: 11 adults, 7 saplings, 1 dead	1659653.5412	357062.6814
17	Heritiera longipetiolata	Pina-10	11	Limestone Native Forest	Good	4/17/2023	Life Stage: 9 adults, 2 dead individuals	1659613.5268	357120.8897
18	Heritiera longipetiolata	Pina-9	24	Leucaena Forest	Good	4/17/2023	Life Stage: 1 adult, 23 saplings	1659609.1155	357052.4685
19	Heritiera longipetiolata	Pina-6	24	Limestone Native Forest	Good	4/19/2023	Life Stage: 19 adults, 5 saplings	1659684.0387	357044.4031
20	Heritiera longipetiolata	Pina-8	20	Limestone Native Forest	Good	4/19/2023	Life Stage: 20 adults	1659661.0531	357079.1356
21	Heritiera longipetiolata	Pina-1	45	Limestone Native Forest	Good	4/21/2023	Life Stage: 45 adults	1660604.2145	356398.0200
22	Heritiera longipetiolata	Pina-4	13	Limestone Native Forest	Good	4/20/2023	Life Stage: 12 adults, 1 dead individual	1660239.3082	356755.9566
23	Heritiera longipetiolata	Pina-3	21	Limestone Native Forest	Good	4/20/2023	Life Stage: 21 adults	1660282.9588	356706.0266
24	Heritiera longipetiolata	Pina-2	40	Limestone Native Forest	Good	4/21/2023	Life Stage: 40 adults	1660431.6038	356686.3722

APPENDIX C PHOTOGRAPHIC RECORD

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Photo 1. *Dendrobium guamense* on a dense understory brush.



Photo 2. *Dendrobium guamense* on a dead branch.



Photo 3. *Dendrobium guamense* in leaf litter.



Photo 4. *Dendrobium guamense* on a live branch.



Photo 5. *Dendrobium guamense* on a limestone cliff.



Photo 6. Mariana fruit bat ejecta



Photo 7. Bleached *Partula gibba* shell.



Photo 8. Bleached *Partula gibba* shell



Photo 8. Bleached *Partula gibba* shell found on forest floor.



Photo 9. Bleached *Partula gibba* shell found in limestone choss.



Photo 10. *Heritiera longipetiolata* found in limestone karst forest.



Photo 11. *Heritiera longipetiolata* found in limestone karst forest.



Photo 12. *Heritiera longipetiolata* growing out of karst crevice at edge of canyon ledge.



Photo 13. Dense *Heritiera longipetiolata* grove growing in karst limestone.



Photo 14 *Heritiera longipetiolata* found amongst limestone karst.



Photo 15. Low-stature, impassable limestone coastal scrub, showing canopy overview



Photo 16. Swordgrass-dominated patch.



Photo 17. Dense patch of mixed invasives typical of clearings on Tinian.

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**APPENDIX H
CULTURAL RESOURCES SUPPORTING INFORMATION**



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APPENDIX H

H.1 CULTURAL RESOURCES SUPPORTING DOCUMENTATION

H.1.1 Historical Overview

On Tinian, few archaeological and architectural resources show evidence of the area's status as a colony of Spain and Germany, while numerous structures and relics attest to the island's role in World War II. Other areas on the island are important because of their historical and traditional use, to the Chamorro as well as to former residents of American, Japanese, and Korean descent.

Pre-Contact Period in the Mariana Islands. The Pre-Latte Period dates from the time of initial settlement, approximately 3,500 years ago to 1,013 years ago. Moore et al. (2002) subdivides the Pre-Latte Period into four phases based on pottery styles: Early Unai, Middle Unai, Late Unai, and Huyong. The Latte Period is distinguished from these earlier periods by the presence of stone structures called *latte*. *Latte* are typically large limestone pillars, or more infrequently basalt, each topped by a capstone. *Latte* are most commonly found along the shorelines of all the major Mariana Islands and can consist of clusters of up to 18 individual structures forming hamlets or villages (although the Mochong site of Rota has at least 47 documented structures). The earliest *latte* structures date to approximately 1,013 years ago and are accompanied by a change in pottery technology.

Post-Contact Period. Western contact in the Mariana Islands is considered to have occurred in 1521, the year Ferdinand Magellan landed on Guam. At the time of western contact, the Mariana Islands were inhabited by a group of people that came to be known as the Chamorro. Spain colonized the Mariana Islands for over 200 years, beginning in 1668 with the arrival of Catholic missionaries. The original Chamorro population in the Mariana Islands was estimated to be between 40,000 and 73,000. On Tinian, however, that number was reduced to 600 by 1825 because of two centuries of Spanish rule that included war, famine, disease, and forced relocation to Spain and Guam (Bowers 1950). Once depopulated, Tinian was not reoccupied by the Chamorro until after World War II.

At the conclusion of the Spanish American War in 1899, Spain sold the islands currently in the CNMI to Germany. The Germans saw the islands as an opportunity to capitalize on economic and commercial endeavors already begun in the Marshall Islands and Palau. In 1914, a Japanese naval squadron seized control of Saipan and the Northern Mariana Islands along with other German possessions in Micronesia. Saipan was placed under military jurisdiction and German nationals were expelled. The League of Nations awarded German Micronesia, including Saipan and the Northern Mariana Islands, to Japan in 1921, with the stipulation it not be fortified for military use. By 1922, the Japanese had developed large-scale sugarcane production on Saipan and then on Tinian and Rota.

Japanese war preparation brought further changes to Saipan, Tinian, Pagan, and Rota. On Saipan, the sugar cane fields near Asurito were developed into an airfield, and two other airfields were quickly built at Marpi Point and on the coastal lowland between Chalan Konoa and Garapan. Two airfields were built on Tinian, and construction of a third airfield was started. The Japanese built barracks and administrative buildings around these airfields.

World War II battles devastated large areas of Saipan and Tinian. In 1944, air strikes destroyed 150 Japanese planes in the battle for Saipan. From Saipan, United States forces began a bombardment of Tinian that ended with an invasion in July 1944. Shortly thereafter, United States forces began construction of the Tinian airfields for the B-29. Tinian would eventually become a critical launching point for the

bombing of Japan, culminating in the dropping of atomic bombs from planes based on Tinian that ended the war.

After World War II, the United States administered the Northern Marianas under a mandate of the United Nations. When Japanese nationals were removed in January and February of 1946, Tinian, Saipan, and Rota were all occupied by American military personnel. Intensive military construction took place on all three islands, including removal of remnants of bombings and battles. Several villages have been resettled or established in the Northern Marianas since World War II, including one on Tinian (San Jose was resettled in 1947 by Chamorro immigrants from Yap Island, who first occupied the former Chulu camp used for Japanese prisoners). Two smaller settlements attempted on Alamagan and Agrihan were unsuccessful. In 1976, the Marianas entered into an agreement with the United States, and its government reorganized as the CNMI.

H.1.2 Cultural Resources Within the Area of Potential Effect

The cultural resources surveys (Table H-1), in addition to the cultural resources that are eligible for or listed in the National Register of Historic Places (Table H-2) and separately the cultural resources that have been evaluated and determined not eligible for the National Register of Historic Places (Table H-3), as discussed in Section 3.5.2.2 are presented below. These studies occur within the Military Lease Area, Tinian International Airport, and 8th Avenue to and including Tinian Harbor, with an indirect APE that extends into the Philippine Sea along the northwest and northeast tip of Tinian.

Table H-1. Cultural Resource Surveys within the Area of Potential Effect

<i>Authors</i>	<i>Year of Publication</i>	<i>Type of Work</i>	<i>Location</i>	<i>Acres</i>
Marche	(1882) 1982	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Hornbostel	1924-1925	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Hasebe	1928	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Spoehr	1957	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Pellet and Spoehr	1961	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Thomas	1980	Excavation	House of Taga/Port of Tinian vicinity	Not Applicable
Pangelinan	1982	Survey, site specific	North Field	1,436
Denfeld	1983	Survey, site specific	North Field	Not Applicable
Moore et al.	1986	Survey and testing	All beaches	1,779
Donham	1986	Survey	North end of North Field	312
Haun	1988	Survey	North end of North Field	80
Haun	1989	Site recording	North end of North Field	80
Haun and Donham	1989a	Site recording	North end of North Field	80
Haun and Donham	1989b	Site recording	North end of North Field	80
Haun et al.	1990	Survey	North end of North Field	37
Jones	1991	Historic architectural survey	Military Lease Area, Tinian Port	17,798

<i>Authors</i>	<i>Year of Publication</i>	<i>Type of Work</i>	<i>Location</i>	<i>Acres</i>
Welch and Bodner	1993	Known site assessments	Military Lease Area	Not Applicable
Welch	1994	Survey, site specific	Unai Chulu, Unai Dankulo	Not Applicable
Craib	1995	Survey	Unai Chiget, roadways	528
Henry and Haun	1995	Survey and testing	Unai Chulu	25
Franklin and Haun	1995a	Survey	Unai Dankulo	200
Franklin and Haun*	1995b	Data recovery excavations	Road corridor (8th Avenue)	83
Eblé et al.	1997	Survey	International Broadcasting Bureau	Small sample of 2,400 area
Putzi et al.	1997	Survey	International Broadcasting Bureau, Area A	192
Athens and Ward	1998	Sediment coring	Lake Hagoi	Not Applicable
Bouthillier	1998	Site recording (Post Contact Period sites)	Exclusive Military Use Area	Not Applicable
Craib	1998	Survey and testing	Exclusive Military Use Area	750
Welch and Tuggle	1998	Site specific assessment	Military Lease Area	Not Applicable
Moore et al.	1998	Survey and testing	Tinian Power Plant/Port of Tinian vicinity	4.94
Bouthillier	1999	Historic architectural survey	Unai Chiget, Unai Chulu, Unai Babui, Unai Dankulo, Unai Masalok	4,000
Craib	1999	Survey and testing	Unai Dankulo, Banderon Nunu, portion of Mount Lasso (also area north of House of Taga)	690
Haun et al.	1999	Survey, testing; excavation	Unai Chulu	Not Applicable
Tuggle and Welch	1999	Site protection plan, selected site mapping	Military Lease Area	Not Applicable
Henry et al.	1999	Survey and testing	Exclusive Military Use Area	4,162
Dixon et al.	2000	Survey	International Broadcasting Bureau, Areas B and C	1,590
Allen et al. Allen and Nees Allen et al. Gosser et al. Gosser et al.	2000 2001 2002 2001 2002	Survey; testing, excavation	Military Lease Back Area	7,710
Dixon and Welch	2002	Survey	Tinian International Airport	494
Denfeld	2002	Military structures survey	Central Pacific	Not Applicable

<i>Authors</i>	<i>Year of Publication</i>	<i>Type of Work</i>	<i>Location</i>	<i>Acres</i>
Moore et al.	2001	Survey and testing	International Broadcasting Bureau Area A	150
Swift et al.	2002a	Survey and monitoring	San Jose Waterline/Port of Tinian and supply route vicinity	1
Swift et al.	2002b	Survey and monitoring	San Jose Route 202/Port of Tinian and supply route vicinity	63
Swift et al.	2005	Survey and monitoring	San Jose Route 205/Port of Tinian and supply route vicinity	84
Dixon et al.	2003	Excavation	8th Avenue realignment/Port of Tinian and supply route vicinity	0.67
Athens	2009	Survey and testing	Military Lease Area	4,597
Griffin et al.	2010	Traditional Cultural Properties Study	Military Lease Area	Not Applicable
Burns	2010	Underwater survey	Near Unai Chulu and Unai Dankulo	60
Fowler et al.	2010	Cultural Landscape study	North Field National Historic Landmark	2,500
Thursby	2010	Architectural survey	Tinian Port	Not Applicable
Carson	2014	Excavation	House of Taga/Port of Tinian vicinity	.02
DoN	2014a	Traditional Cultural Properties Study	Military Lease Area	Not Applicable
DoN	2015c	Survey	Tinian Port/roads/site SC 5029	79
DoN	2017a	Underwater survey/remote sensing	Puntan Diablo	Not Applicable
LeClerc et al.	2018	Survey	West Field	2,906

Table H-2. Historic Properties and Other Resources of Cultural Importance within the Area of Potential Effect

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-4/6-0002	Chulu/Churo Village and Internment Camp	Japanese Administration/ American Administration	A, D	Allen and Nees 2001
TN-4-0004	Mount Lasso Shrine	Japanese Administration	A, C, D	Tuggle 2009
TN-4-0006	Japanese Village (Hagoi) with Railroad Line	Japanese Administration	A, D	Henry et al. 1999
TN-4-0007	Asahi (Sunrise) Shrine, Reconstruction	Japanese Administration/ American Administration	A, C, D	Tuggle 2009
TN-4-0008	NKK Shrine	Japanese Administration	A, C, D	Tuggle 2009
TN-5/6-0009	Radio Complex and Holding Area for Japanese POWs	Japanese Administration/ American Administration	A, C, D	Tuggle 2009
TN-4-0011	86th Street Shinto shrine, part of Kahi Village	Japanese Administration	A, D	Tuggle 2009
TN-1/5-0015	Defensive Caves	Pre-Contact/ Japanese Administration	A, C, D	Tuggle 2009
TN-5/6-0016	Unai Chulu Pillboxes, White Beach 2 (Chulu), Bunkers and WWII Assault Beach	Japanese Administration/ American Administration	A, C, D	Tuggle 2009
TN-5-0018	Ushi Field Drainage Ditch	Japanese Administration	A, C, D	Henry et al. 1999
TN-5-0019	Revetments	Japanese Administration	A, C, D	Tuggle 2009
TN-5-0020	Defensive Tunnels	Japanese Administration	A, C, D	Tuggle 2009
TN-5-0022	Unai Dankulo Defenses	Japanese Administration	A, D	Tuggle 2009
TN-5-0024	Peipeinigul Gun	Japanese Administration	A, C, D	Jones 1991
TN-5/6-0025	Antenna Tower Supports	Japanese Administration/ American Administration	A, C, D	Tuggle 2009
TN-6-0030	West Field	American Administration	A, D	Tuggle 2009
TN-6-0031	58th Wing Headquarters (HQ)	American Administration	A, D	Tuggle 2009
TN-6-0032	107th Naval Construction Brigade (NCB)	American Administration	A, D	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-6-0034	Old Village Cemetery (Camp Churo)	American Administration	A, D	Tuggle 2009
TN-6-0036	313th Bomb Wing HQ	American Administration	A, D	Tuggle 2009
TN-6-0038	Army Hospital	American Administration	A, C, D	Tuggle 2009
TN-6-0039	509th Composite Group	American Administration	A, B, C, D	Jones 1991
TN-6-0041	A Bomb Assembly Area	American Administration	A, B, C, D	Tuggle 2009
TN-6-0042	17th Anti-Aircraft Artillery (AAA) Recreational Structure	American Administration	A, B, C, D	Tuggle 2009
TN-6-0043	Munitions Quonsets, Masalok Bomb Dump	American Administration	A	Tuggle 2009
TN-6-0045	Masalok Revetments	American Administration	A, D	Allen and Nees 2001
TN-6-0049	462nd Bomb Group	American Administration	A, D	Tuggle 2009
TN-6-0050	Army Garrison Depot	American Administration	A, D	Tuggle 2009
TN-6-0051	Guard Rail	American Administration	D	Jones 1991
TN-6-0056	504th BG Camp	American Administration	A, D	Tuggle 2009
TN-1-0071	San Hilo Pictographs	Pre-Contact	A, D	Moore et al. 1986
TN-1-0072	Sabanaten Famalaoan West Coast Latte Site	Pre-Contact	A, C, D	Henry et al. 1999
TN-1-0073	Unai Chulu Latte Complex	Pre-Contact	A, C, D	Tuggle 2009
TN-1-0074	Unai Babui Latte Set	Pre-Contact	A, D	Henry et al. 1999
TN-1-0075	Unai Lamlam Ceramics	Pre-Contact	A, D	Moore et al. 1986
TN-1-0076	Puntan Tahgong Latte Complex	Pre-Contact	A, C, D	Tuggle 2009
TN-1-0077	Unai Chiget Latte Sets	Pre-Contact	A, C, D	Tuggle 2009
TN-1-0078	Unai Dangkulo Latte Sets	Pre-Contact	A, C, D	Tuggle 2009
TN-4-0353	Cistern	Japanese Administration	D	Henry et al. 1999
TN-5-0354	Defensive Enclosure	Japanese Administration	A, D	Henry et al. 1999
TN-5/6-0355	Unai Babui Defenses	Japanese Administration/ American Administration	A, C, D	Henry et al. 1999
TN-5-0356	Gun Position	Japanese Administration	A, D	Donham 1986
TN-6-0357	Gun Position	American Administration	A, D	Henry et al. 1999
TN-6-0358	Gun Position	American Administration	A, D	Henry et al. 1999

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-6-0359	Landing Craft	American Administration	A, D	Henry et al. 1999
TN-1-0360	Pottery Scatter	Pre-Contact	D	Craib 1998
TN-4-0361	Trash Scatter	Japanese Administration	D	Henry et al. 1999
TN-6-0362	509th Composite Group Service Area	American Administration	A, C, D	Henry et al. 1999
TN-5-0363	Gun Emplacement	Japanese Administration	A, C, D	Henry and Haun 1995
TN-6-0364	North Field Runways and Aprons	American Administration	A, B, C, D	Thompson 1984
TN-6-0365	Atomic Bomb Loading Pits	American Administration	A, B, C, D	Denfeld 1983
TN-5-0373	Ushi Field Storage Bunker	Japanese Administration	A, C, D	Donham 1986
TN-5-0374	Ushi Field Storage Bunker	Japanese Administration	A, C, D	Donham 1986
TN-5-0375	Ushi Field Gun Positions	Japanese Administration	A, C, D	Donham 1986
TN-5/6-0378	Ushi Field Gun Position and Defensive Complex	Japanese Administration/ American Administration	A, D	Tuggle 2009
TN-6-0380	Debris and Equipment	American Administration	D	Donham 1986
TN-1-0381	Pottery Scatter	Pre-Contact	D	Donham 1986
TN-6-0382	A Battery, 17th AAA	American Administration	A, D	Tuggle 2009
TN-6-0390	Dump	American Administration	D	Henry et al. 1999
TN-5-0391	Gun Complex	Japanese Administration	A, D	Henry et al. 1999
TN-1-0392	Ceramics	Pre-Contact	A, D	Henry et al. 1999
TN-1-0396	Ceramics	Pre-Contact	D	Henry et al. 1999
TN-6-0398	U.S. Marine Corps Former Cemetery	American Administration	A	Tuggle 2009
TN-6-0399	Dump	American Administration	D	Henry et al. 1999
TN-5-0400	Gun Enclosure	Japanese Administration	D	Craib 1998
TN-6-0401	313th Wing Base Service Command	American Administration	A, D	Tuggle 2009
TN-6-0402	B-29 Service Apron	American Administration	A, B, D	Donham 1986
TN-6-0403	Aircraft Debris	American Administration	D	Donham 1986
TN-1-0404	Pottery Scatter	Pre-Contact	D	Donham 1986
TN-5-0405	Gun Position	Japanese Administration	A, D	Donham 1986

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-5-0407	Unai Babui Defenses	Japanese Administration	A, C, D	Craib 1998
TN-6-0408	Amtrak	American Administration	A, C, D	Henry and Haun 1995
TN-1-0421	Ceramics	Pre-Contact	D	Henry et al. 1999
TN-?-0422***	Bulldozed Debris	Historic	D	Henry et al. 1999
TN-6-0423	U.S. Enclosure, Earthen Pit, Storage	American Administration	D	Henry et al. 1999
TN-6-0424	Dump	American Administration	D	Henry et al. 1999
TN-6-0425	Dump	American Administration	D	Henry et al. 1999
TN-6-0426	121st Construction Battalion (CB) Service Area	American Administration	A, B, C, D	Henry et al. 1999
TN-1-0431	Ceramics	Pre-Contact	D	Henry et al. 1999
TN-1/5-0432	Laderan Chiget Defenses, Rock Shelters	Pre-Contact/ Japanese Administration	A, C, D	Tuggle 2009
TN-1-0433	Latte Sets Above Chiget Cliffs	Pre-Contact	A, C, D	Tuggle 2009
TN-5-0439	Laderan Gatot Defensive Caves	Japanese Administration	A, D	Tuggle 2009
TN-1-0441	Ceramics	Pre-Contact	D	Henry et al. 1999
TN-6-0442	Central Bomb Dump	American Administration	A	Tuggle 2009
TN-1/6-0453	Artifact Scatter and Temporary Encampment	Pre-Contact/ American Administration	D	Henry et al. 1999
TN-5-0458	Laderan Lasu Defenses	Japanese Administration	A, C, D	Henry et al. 1999
TN-?-0460***	Road	Historic	D	Henry et al. 1999
TN-4-0461	Fourth Farm District (VI)	Japanese Administration	D	Tuggle 2009
TN-5-0463	Mount Lasso Defenses	Japanese Administration	A, C, D	Henry et al. 1999
TN-5-0468	Laderan Gagot Defenses	Japanese Administration	A, D	Tuggle 2009
TN-6-0471	67th NCB Camp	American Administration	A, D	Tuggle 2009
TN-5/6-0472	Dump	Japanese Administration/ American Administration	A, C, D	Henry et al. 1999
TN-6-0478	Fuel Tanks, East H-14-C, North Field	American Administration	A, D	Tuggle 2009
TN-6-0480A	121st NCB Camp	American Administration	A, D	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-6-0480B	9th NCB Camp	American Administration	A, D	Tuggle 2009
TN-6-0481	18th NCB, Temporary 509th Comp. Camp	American Administration	A, B, D	Tuggle 2009
TN-5-0488	Gun position, Fuel Drum, Japanese Defenses	Japanese Administration	A, D	Tuggle 2009
TN-6-0489	C Battery, 17th AAA	American Administration	A, C, D	Tuggle 2009
TN-6-0491	Mine Depot Number 4	American Administration	D	Tuggle 2009
TN-5/6-0493	Defenses	Japanese Administration/ American Administration	A, D	Henry et al. 1999
TN-6-0494	Debris in Cave	American Administration	D	Henry et al. 1999
TN-4-0502	Farmstead	Japanese Administration	A, C, D	Henry et al. 1999
TN-5-0503	San Hilo Defenses	Japanese Administration	A, D	Henry et al. 1999
TN-4-0505	Farmstead	Japanese Administration	A, C, D	Henry et al. 1999
TN-5-0506	Defensive Depression	Japanese Administration	D	Henry et al. 1999
TN-4-0507	Railroad Bed	Japanese Administration	C, D	Henry et al. 1999
TN-4-0512	Farmstead	Japanese Administration	A, C, D	Henry et al. 1999
TN-6-0513	Munitions Storage	American Administration	A, D	Henry et al. 1999
TN-1-0521	Sinkhole with Artifacts	Pre-Contact	D	Henry et al. 1999
TN-1-0522	Rock Overhang	Pre-Contact	A, D	Henry and Haun 1995
TN-6-0525	Defensive Platform	American Administration	D	Henry et al. 1999
TN-5-0526	Defensive Platform	Japanese Administration	A, D	Henry et al. 1999
TN-5-0527	Cliff line Defenses/Japanese Defensive Caves	Japanese Administration	A, C, D	Tuggle 2009
TN-5-0528	Observation Post	Japanese Administration	A, D	Henry et al. 1999
TN-6-0529	Debris	American Administration	D	Henry et al. 1999
TN-?-0530***	Road on Maga	Historic	D	Henry et al. 1999
TN-6-0531	West H-14C Fuel Tanks	American Administration	D	Henry et al. 1999
TN-5-0532	Gun Enclosure	Japanese Administration	D	Henry et al. 1999

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-4-0533	Cisterns	Japanese Administration	D	Henry et al. 1999
TN-1-0534	Ceramics	Pre-Contact	D	Henry et al. 1999
TN-4-0535	Farmstead	Japanese Administration	A, D	Henry et al. 1999
TN-4-0537	Farmstead	Japanese Administration	A, D	Henry et al. 1999
TN-4-0538	Farmstead	Japanese Administration	D	Henry et al. 1999
TN-5-0543	Radio Direction Finding (RDF) Tower Bases, Radio Station	Japanese Administration	A, C, D	Donham 1986
TN-6-0544	B Battery, 17th AAA and ABCD Annex	American Administration	A, C, D	Henry et al. 1999
TN-6-0545	Quonset Hut	American Administration	A, C, D	Denfeld 1983
TN-?-0546***	Airplane Wreck	Historic	D	Henry et al. 1999
TN-6-0547	Landing Craft	American Administration	A, D	Henry et al. 1999
TN-6-0549	Gun Enclosure	American Administration	D	Henry et al. 1999
TN-5-0553	Overhang with Trash	Japanese Administration	D	Henry et al. 1999
TN-6-0554	Landing Craft	American Administration	A, D	Henry et al. 1999
TN-6-0555	Water Pumping Station, 12th CB	American Administration	A, D	Henry et al. 1999
TN-6-0556	U.S. Cistern	American Administration	D	Henry et al. 1999
TN-5-0558	Gun Position	Japanese Administration	A, D	Henry et al. 1999
TN-1-0559	Pottery Scatter	Pre-Contact	D	Craib 1998
TN-4-0561	Land Boundary Marker	Japanese Administration	D	Craib 1998
TN-1-0563	Pre-Contact Petroglyphs in Cave	Pre-Contact	A, C, D	Tuggle 2009
TN-6-0567	U.S. Quarry, Camp Churo Cesspool and Drainage Ditch	American Administration	D	Tuggle 2009
TN-5-0574	JPN Concrete Terraced Structure (Possible Water Management)	Japanese Administration	D	Tuggle 2009
TN-1/?-0588***	Rock Shelter, Latte Set, Cistern	Pre-Contact/ Historic	A, D	Dixon et al. 2000
TN-5-0589A	JPN Airfield No. 2	Japanese Administration	A, C	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-5/6-0589B	JPN Airfield No. 2; U.S. West Field Runway No. 4	Japanese Administration/ American Administration	A	Tuggle 2009
TN-5/6-0589C	JPN Airfield No. 2; U.S. West Field Runway No. 4	Japanese Administration/ American Administration	A	Tuggle 2009
TN-1/2-0590	Latte Sets and Pottery	Pre-Contact/ Spanish Administration	A, D	Gosser et al. 2001
TN-1/2-0591	Latte Sets	Pre-Contact/ Spanish Administration	A, D	Dixon et al. 2000
TN-1/2/4-0592	Latte Sets	Pre-Contact/ Spanish Administration/ Japanese Administration	A, D	Allen and Nees 2001
TN-1-0593	Rock Shelter, Mortar	Pre-Contact	A, D	Gosser et al. 2001
TN-1-0594	Mortar and Pottery	Pre-Contact	D	Moore et al. 1986
TN-1-0595	Surface Material	Pre-Contact	D	Moore et al. 1986
TN-1-0596	Surface Material	Pre-Contact	D	Dixon et al. 2000
TN-6-0598	Radio Transmission Station	American Administration	D	Tuggle 2009
TN-4/6-0599	Agricultural Facility and 696 Signal Aircraft Warning Company	Japanese Administration/ American Administration	A, C, D	Tuggle 2009
TN-6-0601	444th Bomb Group	American Administration	A, D	Tuggle 2009
TN-6-0602	6th Bomb Group and Church	American Administration	A, D	Tuggle 2009
TN-6-0603	9th Bomb Group	American Administration	A, D	Tuggle 2009
TN-6-0604	468th Bomb Group	American Administration	A, D	Tuggle 2009
TN-6-0605	40th Bomb Group	American Administration	A, D	Gosser et al. 2001
TN-6-0606	87th and 25th Service Corps	American Administration	A, D	Tuggle 2009
TN-6-0609	C Battery, 18th AAA	American Administration	A, D	Dixon and Welch 2002
TN-5-0609	Anti-Aircraft Bunker	Japanese Administration/ American Administration	A, C, D	Dixon and Welch 2002
TN-6-0610	A Battery, 18th AAA	American Administration	A, D	Tuggle and Welch 1999

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-6-0611	HQ Light Anti-Aircraft, 18th AAA	American Administration	A, D	Tuggle 2009
TN-6-0612	Extension of West Field Runway No. 4	American Administration	A	Tuggle 2009
TN-6-0613	D Battery, 18th AAA	American Administration	A, D	Tuggle 2009
TN-6-0619	U.S. Fuel Farm, East H-14-A	American Administration	A, D	Tuggle 2009
TN-6-0623	U.S. Military Butchering Facility and Corral	American Administration	A, D	Tuggle 2009
TN-4-0631	Japanese Concrete Structure	Japanese Administration	A, D	Tuggle 2009
TN-4-0648	Farmstead	Japanese Administration	A, D	Dixon et al. 2000
TN-5-0649	Defenses	Japanese Administration	A, C, D	Dixon et al. 2000
TN-1-0650	Latte Sets Disturbed	Pre-Contact	D	Dixon et al. 2000
TN-1-0651	Latte Sets Disturbed	Pre-Contact	D	Dixon et al. 2000
TN-1-0653	Rock Shelters, Latte Sets	Pre-Contact	D	Dixon et al. 2000
TN-1-0654	Latte Sets Disturbed	Pre-Contact	D	Dixon et al. 2000
TN-1/5-0655	Aguidun Area Rock Shelter	Pre-Contact/ Japanese Administration	D	Dixon et al. 2000
TN-1-0656	Latte Sets	Pre-Contact	D	Dixon et al. 2000
TN-5-0657	Rock Shelters	Japanese Administration	A, C, D	Dixon et al. 2000
TN-1-0658	Aguidun Area Rock Shelter and Latte Site	Pre-Contact	C, D	Dixon et al. 2000
TN-1/5-0659	Rock Shelters	Pre-Contact/ Japanese Administration	D	Dixon et al. 2000
TN-1/5-0660	Latte Sets and Rock Shelter Refuge Defenses	Pre-Contact/ Japanese Administration	A, D	Dixon et al. 2000
TN-6-0664	Military Machinery	American Administration	D	Dixon et al. 2000
TN-4-0681	Railroad Bed	Japanese Administration	A, C, D	Dixon and Welch 2002
TN-4-0682	Farmstead	Japanese Administration	A, D	Dixon and Welch 2002
TN-4-0683	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-0690	Anti-Aircraft Defenses	Japanese Administration	A, C, D	Dixon and Welch 2002
TN-1-0691	Artifact Scatter	Pre-Contact	D	Dixon and Welch 2002
TN-1-0907	Dankulo Petroglyphs	Pre-Contact	A, C, D	Allen and Nees 2001
TN-5-0936	Battleline	American Administration	A, C, D	Allen and Nees 2001

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-6-0971	C Battery, 17th Anti-Aircraft Gun Position	American Administration	A, D	Tuggle 2009
TN-4-1004	JPN Defenses	Japanese Administration	A, D	Tuggle 2009
TN-4-1010	NKK Administration Building and Laboratory Building	Japanese Administration	D	Dixon et al. 2015
TN-5-1013	JPN Defenses (Expanded)	Japanese Administration	A, D	Tuggle 2009
TN-5-1015	JPN Defenses	Japanese Administration	A, D	Tuggle 2009
TN-5-1025	JPN Defenses, Foxhole Complex	Japanese Administration	A, D	Tuggle 2009
TN-1/5-1033	Artifacts and Straggler Cave	Pre-Contact/ Japanese Administration	D	Allen and Nees 2001
TN-5-1034	Defensive Shelter	Japanese Administration	D	Allen and Nees 2001
TN-4-1035	Agricultural Boundary Marker	Japanese Administration	D	Allen and Nees 2001
TN-4-1036	Agricultural Field Mounds	Japanese Administration	D	Allen and Nees 2001
TN-6-1037	U.S. Dump	American Administration	D	Allen and Nees 2001
TN-4-1044	Agricultural Boundary Wall	Japanese Administration	D	Allen and Nees 2001
TN-5-1045	Bunkers	Japanese Administration	A, C, D	Allen and Nees 2001
TN-1/5-1046	Artifacts and Sinkhole Use	Pre-Contact/ Japanese Administration	D	Allen and Nees 2001
TN-5-1047	Defensive Enclosure	Japanese Administration	D	Allen and Nees 2001
TN-5-1048	Defensive Ravine	Japanese Administration	A, C, D	Allen and Nees 2001
TN-1/2/4-1049	Artifacts and Ravine Farming	Pre-Contact/ Spanish Administration/ Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1050	Rock Shelter Use	Japanese Administration	A, D	Allen and Nees 2001
TN-4-1051	Agricultural Feature	Japanese Administration	D	Allen and Nees 2001
TN-4-1052	Cistern	Japanese Administration	D	Allen and Nees 2001
TN-4-1053	Agricultural Wall	Japanese Administration	D	Allen and Nees 2001

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-4-1054	Farmstead	Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1055	Farmstead	Japanese Administration	A, D	Allen and Nees 2001
TN-4-1056	Road	Japanese Administration	A, D	Allen and Nees 2001
TN-4-1057	Agricultural Enclosure	Japanese Administration	D	Allen and Nees 2001
TN-5-1058	Defensive Rock Shelter	Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1059	Agricultural Enclosure	Japanese Administration	D	Allen and Nees 2001
TN-1/5-1060	Defensive Cave and Artifacts	Pre-Contact/ Japanese Administration	D	Allen and Nees 2001
TN-5-1063	Defensive Rock Shelter	Japanese Administration	A, C, D	Allen and Nees 2001
TN-5-1064	Defensive Rock Shelter	Japanese Administration	A, C, D	Allen and Nees 2001
TN-5-1065	Defensive Rock Shelter	Japanese Administration	A, C, D	Allen and Nees 2001
TN-5-1068	Defensive Rock Shelter	Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1071	Farmstead	Japanese Administration	A, D	Allen and Nees 2001
TN-4-1077	Road	Japanese Administration	A, D	Allen and Nees 2001
TN-5-1078	Defensive Pits and Walls	Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1079	Agricultural Boundary Marker	Japanese Administration	D	Allen and Nees 2001
TN-5-1080	Gun Position Enclosure	Japanese Administration	D	Allen and Nees 2001
TN-5-1081	Gun Position Trench	Japanese Administration	A, D	Allen and Nees 2001
TN-4-1082	Agricultural Structures	Japanese Administration	D	Allen and Nees 2001
TN-5-1089	JPN Defenses (Expanded)	Japanese Administration	A, C, D	Tuggle 2009
TN-4/5-1096	Farmstead and Defenses	Japanese Administration	A, C, D	Allen and Nees 2001
TN-4-1098	Agricultural Mounds	Japanese Administration	D	Allen and Nees 2001
TN-4-1099	Railroad Berm	Japanese Administration	D	Allen and Nees 2001
TN-1-1100	Latte Set and Mortar	Pre-Contact	D	Allen and Nees 2001
TN-4-1102	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-4-1103	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1104	Farmstead (Mortar Also in Area)	Pre-Contact/ Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1105	Rock Shelters, Defense	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1106	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1107	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1108	Agricultural Feature (Rock Enclosure)	Japanese Administration	D	Gosser et al. 2001
TN-1-1109	Rock Shelter with Pottery, Mortar	Pre-Contact	D	Gosser et al. 2001
TN-1/2-1110	Latte Set and Tool Manufacturing	Pre-Contact/ Spanish Administration	D	Gosser et al. 2001
TN-4-1111	Farmstead Plus Mortar	Pre-Contact/ Japanese Administration	A, C, D	Gosser et al. 2001
TN-1-1112	Prehistoric, Latte Set	Pre-Contact	D	Gosser et al. 2001
TN-4-1113	Rock Shelter (Farm Shelter)	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1114	Agricultural Feature (Rock Wall)	Japanese Administration	D	Gosser et al. 2001
TN-4-1115	Road	Japanese Administration	D	Gosser et al. 2001
TN-4-1116	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-1/5-1117	Rock Shelters with Ceramics, Defensive Use, Probably 75-millimeter (mm) Gun Position	Pre-Contact/ Japanese Administration	D	Gosser et al. 2001
TN-4-1118	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1119	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-1-1120	Cave with Artifacts	Pre-Contact	D	Gosser et al. 2001
TN-1/5-1121	Cave with Artifacts, Defensive Use (HQ?), and Straggler Shelter	Pre-Contact/ Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1122	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-1/5-1123	Cave with Pictographs, Military Shelter	Pre-Contact/ Japanese Administration	C, D	Gosser et al. 2001
TN-4-1124	Farmstead	Japanese Administration	A, D	Gosser et al. 2001

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-1/5-1125	Cave with Ceramics, Defensive Position	Pre-Contact/ Japanese Administration	D	Gosser et al. 2001
TN-5-1126	Japanese, Defensive Position, Rock Structures	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1127	Cave, Defense	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1128	Gun Position, Rock Features, Pits	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1129	Cave, Gun Position	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1130	Rock Shelter, Defense	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1131	Cave, Defense	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1132	Cave, Gun Position	Japanese Administration	A, D, D	Gosser et al. 2001
TN-5-1133	Cave, 20 mm Anti-Aircraft Gun Position	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1134	Cave, Shelter	Japanese Administration	A, D	Gosser et al. 2001
TN-6-1135	Communication Tower Foundations, West Field	American Administration	A, C, D	Gosser et al. 2001
TN-4-1136	Processing Facility, Possibly for Tofu	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1137	Agricultural Use, Excavated Area	Japanese Administration	D	Gosser et al. 2001
TN-4-1138	Gun Position	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1139	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1140	Defensive Position, Sandbags; “Probably One of the Few Japanese Machine Gun Check Points Left”	Japanese Administration	A, C, D	Gosser et al. 2001
TN-5-1151	Quarried Area, Associated with Kahi Airfield	Japanese Administration	D	Gosser et al. 2001
TN-5-1152	Quarried Area, Associated with Kahi Airfield	Japanese Administration	D	Gosser et al. 2001
TN-4-1153	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1154	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-5-1155	Anti-Aircraft Gun Position	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1156	Agriculture Feature	Japanese Administration	D	Gosser et al. 2001
TN-4-1157	Agriculture Feature	Japanese Administration	A, C, D	Gosser et al. 2001

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
TN-5-1165	Gun Position	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1166	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1167	Railroad Station	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1169	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1170	Cistern	Japanese Administration	D	Gosser et al. 2001
TN-4-1171	Cistern	Japanese Administration	D	Gosser et al. 2001
TN-4-1177	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1178	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1179	Farmstead and Kiln	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1180	Farmstead	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1181	Farmstead	Japanese Administration	A, D	Gosser et al. 2001
TN-4-1182	Japanese Railroad	Japanese Administration	A, C, D	Gosser et al. 2001
TN-4-1186	Wall	Japanese Administration	D	Gosser et al. 2001
SC-5003	East Hagoi Farm District (II) and Artifacts	Pre-Contact/ Japanese Administration	A, D	Tuggle 2009
SC-5007A	Third Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5007B	Third Farm District (II)	Japanese Administration	A, D	Tuggle 2009
SC-5008	Camp Churo Cemetery	Japanese Administration	A, D	Tuggle 2009
SC-5009A	Chulu Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5009B	Chulu Farm District (II)	Japanese Administration	A, C, D	Tuggle 2009
SC-5010	Churo Latte (Disturbed)	Pre-Contact	D	Tuggle 2009
SC-5011	Earth Terraces	Japanese Administration	A, C, D	Tuggle 2009
SC-5012	Defensive Rock Shelters	Japanese Administration	A, D	Tuggle 2009
SC-5013	Defensive Rock Shelters	Japanese Administration	A, D	Tuggle 2009
SC-5017	Fourth Farm District (III)	Japanese Administration	A, C, D	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
SC-5018	Fourth Farm District (V)	Japanese Administration	A, C, D	Tuggle 2009
SC-5019	Latte, Mount Lasso (Disturbed)	Pre-Contact	D	Tuggle 2009
SC-5020	Defensive Caves	Japanese Administration	A, D	Tuggle 2009
SC-5021	Defenses and Farms	Japanese Administration	A, D	Tuggle 2009
SC-5022	Second Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5023	Fourth Farm District (VII)	Japanese Administration	A, D	Tuggle 2009
SC-5024	Fourth Farm District (IX)	Japanese Administration	A, D	Tuggle 2009
SC-5027	112th NCB Camp	American Administration	Not Evaluated	Tuggle 2009
SC-5031	Fourth Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5034	Kahi Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5036	Mound of Bulldozed farmhouse Debris	Japanese Administration	D	Tuggle 2009
SC-5038	U.S. gun position and other	American Administration	A, D	Tuggle 2009
SC-5039	Kahi Farm District (II)	Japanese Administration	A, D	Tuggle 2009
SC-5040	Kahi Administrative Center (Portion)	Japanese Administration	A, D	Tuggle 2009
SC-5041	Defensive Position	Japanese Administration	A, D	Tuggle 2009
SC-5042	Third Farm District (III)	Japanese Administration	A, D	Tuggle 2009
SC-5043	Third Farm District (IV)	Japanese Administration	A, D	Tuggle 2009
SC-5044	Kahi Farm District (III)	Japanese Administration	A, C, D	Tuggle 2009
SC-5045	Defensive Caves	Japanese Administration	A, D	Tuggle 2009
SC-5046	Kahi Farm District (IV)	Japanese Administration	A, D	Tuggle 2009
SC-5047	Dangkulo Beach Deposit (BAA-A)	Pre-Contact	A, D	Tuggle 2009
SC-5048	Shinminato Farm District (I)	Japanese Administration	A, D	Tuggle 2009
SC-5049	Shinminato Farm District (II)	Japanese Administration	A, D	Tuggle 2009
SC-5050	Shinminato Village (Portion)	Japanese Administration	A, D	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>NRHP Criteria**</i>	<i>Primary Reference</i>
SC-5053	U.S. Quarry	American Administration	D	Tuggle 2009
SC-5054	Shinminato Farm District (III)	Japanese Administration	A, D	Tuggle 2009
SC-5055	Fourth Farm District (IV)	Japanese Administration	A, D	Tuggle 2009
SC-5056	Fourth Farm District (II)	Japanese Administration	A, D	Tuggle 2009
SC-5058	Experimental Agricultural Station	Japanese Administration	A, D	Tuggle 2009
SC-5059	Defensive Complex	Japanese Administration	A, D	Tuggle 2009
SC-5060	Fourth Farm District (VIII)	Japanese Administration	A, D	Tuggle 2009
SC-5061	Fourth Farm District (X)	Japanese Administration	A, D	Tuggle 2009
SC-5062	Fourth Farm District (XI)	Japanese Administration	A, D	Tuggle 2009
SC-5065	Second Farm District (III)	Japanese Administration	A, D	Tuggle 2009
SC-5066	Second Farm District (IV)	Japanese Administration	A, D	Tuggle 2009
SC-5067	Second Farm District (V)	Japanese Administration	A, D	Tuggle 2009
SC-5068	Second Farm District (VI), Piña section	Japanese Administration	A, D	Tuggle 2009
1537-T-60	Ceramic Scatter	Pre-Contact	D	Henry and Haun 1995
1537-T-62	Artifact Scatter	Pre-Contact	D	Henry and Haun 1995
1537-T-63	Concrete Slab Fragments	American Administration	D	Henry and Haun 1995
HDR-18-07	Japanese gun emplacement with historic and prehistoric artifact scatter	Pre-Contact/ Japanese Administration	D	LeClerc and Gilmore 2018
3028	Tinian Harbor	American Administration	A, C	Thursby and Rudolph 2010
T-0009	Artifact Scatter	Pre-Contact/ Japanese Administration	D	Dixon et al. 2015
Unai Chulu	Traditional Cultural Place (Fishing and Recreation)	N/A	A	Griffin et al. 2015
Unai Dankulo	Traditional Cultural Place (Fishing and Recreation)	N/A	A	Griffin et al. 2015
Puntan Masalok	Traditional Cultural Place (Fishing and Recreation)	N/A	A	Griffin et al. 2015
Mount Lasso^	Shrine (TN-4-0004) and additional cultural resources	N/A	N/A	Griffin et al. 2015
Ushi Point^ Cross and Memorial	Cross and Memorial at Ushi Point on the northern tip of the island	N/A	N/A	N/A

Legend: CNMI = Commonwealth of the Northern Mariana Islands; GPS = Global Positioning System; HPO = Historic Preservation Office; HQ = headquarters; JPN = Japanese; NRHP = National Register of Historic Places; U.S. = United States; WWII = World War II.

Notes: NA – not applicable

*TN-series numbers are assigned by the CNMI HPO, all other site numbers are temporary numbers assigned at the time of documentation.

**NRHP criteria for significance contained in Federal Regulation 36 CFR 60.4.

*** ? = general historic, specific component unknown.

^Significant cultural resource under the National Environmental Policy Act.

Table H-3. NRHP In-Eligible Cultural Resources within the Area of Potential Effect

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>Primary Reference</i>
T-0001	GROPAC 6 Encampment	American Administration	Dixon et al. 2015
T-0002	Metal Tank Debris	Japanese Administration	Dixon et al. 2015
T-0003	Railroad Debris	Japanese Administration	Dixon et al. 2015
T-0004	Concrete and Metal	Japanese Administration	Dixon et al. 2015
T-0005	Railroad Car Debris	Japanese Administration	Dixon et al. 2015
T-0006	Metal Barrels	American Administration	Dixon et al. 2015
T-0010	Tinian Harbor WWII Structures	American Administration	Dixon and Welch 2002
TN-6-0393	B Battery, 17th AAA	American Administration	Tuggle 2009
TN-1-0394	Ceramics	Pre-Contact	Tuggle 2009
TN-6-0597	505th Bomb Group	American Administration	Tuggle 2009
TN-6-0600	Hospital	American Administration	Tuggle 2009
TN-6-0607	240th Ordnance Ammunition Company, 813, 827, 891 Chemical Companies	American Administration	Tuggle 2009
TN-1-0684	Possible <i>Latte</i> Stones and a Telephone Pole	Pre-Contact/American Administration	Dixon and Welch 2002
TN-6-0686	Telephone Pole, Rock Pile	American Administration	Dixon and Welch 2002
TN-1-0693	Ceramic Scatter	Pre-Contact	Dixon and Welch 2002
TN-6-0694	Telephone Pole	American Administration	Dixon and Welch 2002
TN-4-0695	Railroad Cart	Japanese Administration	Dixon and Welch 2002
SC-5000	East Hagoi Farm District (IV) (bulldozed)	Japanese Administration	Tuggle 2009
SC-5001	17th AAA Camp (Camp Stinson)	American Administration	Tuggle 2009
SC-5002	17th AAA Camp (Remnant)	American Administration	Tuggle 2009
SC-5004	East Hagoi Farm District (II)	Japanese Administration	Tuggle 2009
SC-5005	U.S. Military Activity	American Administration	Tuggle 2009
SC-5006	Ordnance Area	Historic	Tuggle 2009
SC-5014	U.S. Coral Pit Number 5	American Administration	Tuggle 2009

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>Primary Reference</i>
SC-5015	U.S. Military (Unknown)	American Administration	Tuggle 2009
SC-5016	U.S. North Asphalt Aggregate Quarry and Tank Facility	American Administration	Tuggle 2009
SC-5025	Fourth Farm District (XII)	Japanese Administration	Tuggle 2009
SC-5026	Fourth Farm District (XII)	Japanese Administration	Tuggle 2009
SC-5028	Second Farm District (II)	Japanese Administration	Tuggle 2009
SC-5029	1st Sep. Engineer Battalion	American Administration	Tuggle 2009
SC-5030	U.S. Fuel Farm; East, 8-14-C, West Field	American Administration	Tuggle 2009
SC-5032	U.S. Military Activity	American Administration	Tuggle 2009
SC-5033	East Hagoi Farm District (I)	Japanese Administration	Tuggle 2009
SC-5037	107th NCB Park	American Administration	Tuggle 2009
SC-5051	U.S. Military Activity	American Administration	Tuggle 2009
SC-5052	U.S. Quarry and Associated Activity	American Administration	Tuggle 2009
SC-5057	U.S. Tank Farm (Water?)	American Administration	Tuggle 2009
SC-5063	West Hagoi Farm District	Japanese Administration	Tuggle 2009
SC-5064	U.S. Coral Pit Number 4	American Administration	Tuggle 2009
1537-T-61	Ceramic Scatter	Pre-Contact	Henry and Haun 1995
1537-T-64	Ceramic Scatter	Pre-Contact	Henry and Haun 1995
1537-T-65	Artifact Scatter, Concrete Slab	Japanese Administration	Henry and Haun 1995
1537-T-66	Ceramic Scatter	Japanese Administration	Henry and Haun 1995
HDR-18-01	Historic period multi-use dump	American Administration	LeClerc and Gilmore 2018
HDR-18-02	Small historic-era depression with subterranean chamber	Historic	LeClerc and Gilmore 2018
HDR-18-03	Small historic-era depression	Historic	LeClerc and Gilmore 2018
HDR-18-04	Push pile with WWII-era debris	American Administration	LeClerc and Gilmore 2018
HDR-18-05	Push pile	American Administration	LeClerc and Gilmore 2018

<i>Site Number*</i>	<i>Site Description</i>	<i>Time Period</i>	<i>Primary Reference</i>
HDR-18-06	Push pile with WWII-era debris	American Administration	LeClerc and Gilmore 2018
HDR-18-08	Possible road or railroad grade	Japanese Administration	LeClerc and Gilmore 2018
HDR-18-09	Large berm or push pile	American Administration	LeClerc and Gilmore 2018
HDR-18-10	Large berm or push pile	American Administration	LeClerc and Gilmore 2018
TPP Site	Tinian Power Plan	Japanese Administration	Moore et al. 1998

Legend: WWII = World War II.

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**DRAFT AMENDMENTS TO THE MARCH 2022 PROGRAMMATIC
AGREEMENT FOR MILITARY TRAINING AND TESTING ON AND WITHIN
THE SURROUNDING WATERS OF THE ISLANDS OF THE
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**



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JRM Military Training Location
CNMITIN2A

Tinian
Section 106



Legend

- Military Training Location**
- Airfield Expeditionary
 - Amphibious Assault
 - Amphibious Raid
 - Anti-terrorism Force Protection
 - Bivouac
 - Combat Search and Rescue (CSR)
 - Direct Action (CQB)
 - Embassy Reinforcement
 - Field Training Exercise
 - Humanitarian Assistance
 - Intelligence, Surveillance, Reconnaissance (ISR)
 - Insertion/Extraction
 - Maneuver (Convoy, Land Navigation)
 - Marine Air-Ground Task EX (Amphibious)
 - Maritime Security Operations (MSO)
 - Non-Combatant Evacuation Operation
 - Personnel Insertion/Extraction
 - Seize Airfield
 - Small Boat Operations
 - Special Purpose Marine Air-Ground TF EX
 - Underwater Survey Area
 - Unmanned Underwater Vehicle Training
 - Urban Warfare Training
 - Water Purification (Desalination)
 - Military Area

Coordinate System: UTM Zone 55 North
 Projection: Transverse Mercator
 Datum: D WGS 1984
 Sheet Size: 22" Width x 17" Length
 Scale: 1 inch = miles
 0 0.25 0.5 0.75 1 Miles
 0 0.5 1 1.5 2 Kilometers



PREPARED BY
NAVFAC
 Date: 5/9/2025
 Contact: XXXXX XXXXX

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CNMI Tinian MLA – CNMITIN2C				
Training Activity	Location	Descriptions	Mitigations	CR Stressors
Live-Fire	On Land	<p>The Multi-Purpose Maneuver Range (MPMR) occupies approximately 200 acres at the northern tip of Tinian for small arms live-fire and ground maneuvers. Military units use objective areas that contain objects of military value such as a simulated opposing force target to be captured or neutralized by the training unit. Training units use live-fire to engage fixed, portable, and robotic targets and explosive breaching of an obstacle. Live-fire includes small arms (.50 caliber and below). No dud-producing munitions are used on this range.</p>	<p>Foot traffic only except on improved or unimproved roads. No digging allowed. Access is restricted at the range and the surface danger zones when live-fire events are occurring. Access updates are communicated via Range Control. The MLA has also been subdivided into smaller training areas that allow Range Control to schedule training in discrete areas of the MLA while allowing safe public access in other areas.</p>	<p>Physical disturbance and strike.</p>



JRM Military
Training Location
CNMITIN2C

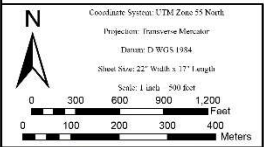
Tinian
Section 106



Legend

Military Training Location

-  Live-Fire
-  Military Area



PREPARED BY:
NAVFAC

Date: 9/18/2024

Contract: NFM Geospatial's Center (671) 339-3429

This is a site control plan for the JRM Military Training Location. It is not a map and should not be used for navigation. It is a site control plan for the JRM Military Training Location. It is not a map and should not be used for navigation. It is a site control plan for the JRM Military Training Location. It is not a map and should not be used for navigation.


CNMI Tinian MLA – CNMITIN2D

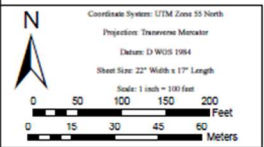
Training Activity	Location	Descriptions	Mitigations	CR Stressors
Explosive Live-Fire	On Land	The Explosive Training Range (ETR) occupies approximately 2.5 acres for the employment of demolitions and military explosives for offensive and defensive operations of both fragmentation and non-fragmentation detonations with a net explosive weight of 50 pounds. Explosive ordnance disposal and combat engineer personnel conduct training operations which include unexploded ordnance disposal, breaching operations, and mine and countermine operations.	Foot traffic only except on improved or unimproved roads. Access is restricted at the range and the surface danger zones when live-fire events are occurring. Access updates are communicated via Range Control. The MLA has also been subdivided into smaller training areas that allow Range Control to schedule training in discrete areas of the MLA while allowing safe public access in other areas.	Physical disturbance and strike.



JRM Military Training Location
CNMTIN2D
Timian
Section 106



- Legend**
-  Explosives Training
 -  Military Range



PRODUCED BY:

 Date: 2/6/2025
 Contact: NFM GeoReadiness Center (671) 339-3420

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**DRAFT PROGRAMMATIC AGREEMENT REGARDING JOINT MILITARY
TRAINING CONSTRUCTION ON THE ISLAND OF TINIAN**



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1 **WHEREAS**, the USMC, in consultation with the CNMI HPO, has defined the undertaking’s
2 area of potential effect (APE) as the MLA, Tinian International Airport, and 8th Avenue to,
3 Tinian Harbor, and the United States Agency of Global Media (USAGM) site on the
4 southwestern tip of Saipan, with an indirect APE that extends into the Philippine Sea along the
5 northwest and northeast tip of Tinian, in accordance with 36 CFR § 800.4(b)(1)(ii) and (iv), and
6 as depicted in Appendix A; and

7 **WHEREAS**, JRM completed the *Integrated Cultural Resources Management Plan for the*
8 *Commonwealth of the Northern Mariana Islands* in 2015 that lists and describes existing historic
9 properties as well as Standard Operating Procedures (SOP); and

10 **WHEREAS**, the term “historic properties” includes prehistoric or historic districts, sites,
11 buildings, structures or objects included in, or eligible for, inclusion in the National Register of
12 Historic Places (NRHP), including properties of traditional religious and cultural importance that
13 meet the NRHP criteria; and

14 **WHEREAS**, the US Air Force (USAF) developed a draft Historical Interpretive Plan for the
15 Island of Tinian as stipulated in the 2016 *Programmatic Agreement Among the Pacific Air*
16 *Forces, Directorate of Strategy, Plans, and Programs, the Commonwealth of the Northern*
17 *Mariana Islands State Historic Preservation Office, and the Advisory Council on Historic*
18 *Preservation Regarding the Proposed Construction and Operation of Divert Activities and*
19 *Exercises within the Commonwealth of the Northern Mariana Islands* to resolve adverse effects
20 from the Operation of Divert Activities and Exercises within the CNMI; and

21 **WHEREAS**, the USMC has consulted on the entirety of the undertaking and its individual
22 components, as listed in Appendix B, through a series of consultation correspondence dated 18
23 July 2023, 17 November 2023, 11 April 2024, 23 July 2024, and 12 February 2025, as well as
24 consultation meetings in August 2023, September 2023, December 2023, May 2024, August
25 2024, and February 2025; and

26 **WHEREAS**, in consultation, the USMC has determined that certain undertaking components,
27 including the Ammunition Holding Area 1, Explosive Training Range, Landing Zones 9 and 13,
28 Multi-Purpose Maneuver Range, Surface Radar Towers 1 and 2, and Public Access, will have an
29 adverse effect to historic properties as listed in Appendix B; and

30 **WHEREAS**, not all effects on historic properties can be fully determined prior to approval of
31 the undertaking pursuant to 36 CFR § 800.14(b)(1)(ii), and previously defined undertaking
32 components may involve modifications requiring an alternate Section 106 review process; and
33

34 **WHEREAS**, in accordance with 36 CFR § 800.6(a)(1), the USMC requested the participation of
35 the Advisory Council on Historic Preservation (ACHP) and the ACHP has chosen to participate
36 in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

37 **WHEREAS**, the APE includes the *Tinian Landing Beaches, Ushi Point Field, and North Field,*
38 *Tinian Island National Historic Landmark* (NHL), and as such, the USMC invited the National
39 Park Service (NPS) to consult on this undertaking pursuant to 36 CFR § 800.10(c); and

1 **WHEREAS**, the USMC has consulted with the CNMI HPO, the ACHP, the NPS, and the Mayor
2 of the Municipality of Tinian pursuant to 36 CFR § PART 800, the regulations implementing
3 Section 106 of the National Historic Preservation Act (54 USC § 306108); and

4 **WHEREAS**, pursuant to 36 CFR § 800, which implement 54 USC § 306107 of the National
5 Historic Preservation Act (NHPA), and including 36 CFR § 800.14(b), the USMC has invited the
6 ACHP and CNMI HPO to sign this PA as Signatories, and invited NPS and the Municipality of
7 Tinian to sign this PA as Concurring Parties.

8 **NOW, THEREFORE**, the USMC, JRM, the ACHP, and the CNMI HPO agree that the
9 undertaking shall be implemented in accordance with the following stipulations in order to take
10 into account the known and unknown effects of the undertaking on historic properties thereby
11 fulfilling its responsibilities under Section 106 of the NHPA.

12 **STIPULATIONS**

13 The USMC and JRM shall ensure that the following measures are carried out:

14 I. **APPLICABILITY**

15 This PA resolves adverse effects related to the undertaking in support of joint military training
16 on the island of Tinian and addresses effects that could not be fully determined at the time of
17 consultation.

- 18 A. Undertaking components include those with effects that were assessed and agreed upon
19 in consultation. A detailed list of known undertaking components and the effect is
20 provided in Appendix B.

21 II. **STANDARDS**

- 22 A. All work to meet the Stipulations of this PA shall be carried out by, reviewed by, or
23 under oversight or supervision of a person or persons meeting the applicable
24 professional standards as described in the Secretary of the Interior’s Historic
25 Preservation Professional Qualifications Standards (finalized and adopted in 1983 in
26 Federal Register Vol. 48, No. 190, p.44716-44740) (“Qualified Personnel”).

- 27 B. Contracts utilized for work that may affect historic properties, shall follow all federal
28 acquisition requirements, and shall include minimum qualifications for historic
29 preservation experience and be developed with participation of qualified personnel.

- 30 C. For the purposes of this PA, the term “day” means consecutive calendar days inclusive
31 of weekends and holidays.

32

33

1 III. RESOLVING ADVERSE EFFECTS

2 A. The following avoidance, minimization, and mitigation measures shall be implemented
3 to resolve adverse effects to historic properties consistent with the consultation with
4 consulting parties.

5 1. Cultural Resource Training

6 a. All personnel associated with construction activities pursuant to this PA shall
7 complete Cultural Resource Training prior to beginning work. The existing
8 JRM training shall be electronically shared with personnel.

9 b. The number of personnel who complete the training shall be documented in
10 accordance with Stipulation VIII.

11 2. Painting of Undertaking Components

12 The surface radar towers and the water tanks supporting the MPMR shall be painted
13 in an inconspicuous color to blend in with the surrounding landscape.

14 B. Consulting parties shall be afforded thirty (30) days to review and provide comments
15 on draft deliverables associated with the following mitigation. The following
16 interpretive elements (Stipulation B.1, B.2, and B.3) will be completed within four
17 years of the specific MILCON funding appropriation.

18 1. Interpretive Signage

19 a. The USMC shall produce and install four weather resistant interpretive signs to
20 be placed at the Atomic Bomb pits and Mt. Lasso.

21 b. Topics and themes of the signs shall be informed by the USAF draft Historical
22 Interpretive Plan for the Island of Tinian.

23 c. Each sign shall be in both Chamorro and English with a QR code (for a virtual
24 version) and shall be 2 x 3 feet in size.

25 2. Virtual Tour

26 a. The USMC shall produce a virtual tour focusing on the NHL and its
27 contributing resources. The tour shall include, but not be limited to, a historical
28 overview and timeline, photographs, maps, and references.

29 b. Topics and themes of the signs shall be informed by the USAF draft Historical
30 Interpretive Plan for the Island of Tinian.

31 c. The virtual tour shall be made available for consulting parties to host and
32 maintain on their websites, and thereby made available to the public.

33 d. The virtual tour shall utilize geospatial data.

1 3. Interpretive Pamphlet

- 2 a. The USMC shall produce and print an interpretive pamphlet on Chamorro
3 history and culture.
- 4 b. The pamphlet would focus on historical themes and contexts as well as
5 interpretations of Chamorro sites and practices without providing specific
6 locational information.
- 7 c. The brochure shall be two pages, front and back, in an 8 1/2 by 14-inch trifold
8 format with professional color quality.
- 9 d. The USMC shall print 1,000 copies and distributed to the Mayor of Tinian,
10 Commonwealth Bureau of Military Affairs, NPS, and the Joeten Kiyu Public
11 Library. An electronic copy of the document shall also be provided to the CNMI
12 HPO for additional future printing at its expense.

13 4. Interpretive Center

- 14 a. The USMC recognizes the importance of artifacts recovered from sites on
15 Tinian and the desire to create an interpretive center on Tinian to display such
16 artifacts. Therefore, within three years of execution of this PA, the USMC, in
17 collaboration with other Military Services, shall work to develop a plan
18 including milestones to fund an interpretive center on Tinian that is sized
19 appropriately to meet the above stated needs.
- 20 b. Should within five years of execution of this PA, the USMC finds that this
21 mitigation measure cannot be met, the USMC shall consult with consulting
22 parties whether to consider other measures with the intent to agree on an
23 alternate plan for mitigation within ninety (90) days of the start of those
24 discussions.

25 5. Data Recovery

- 26 a. While the preference is to avoid and preserve in place, data recovery and
27 recordation methods will be implemented when adverse effects to character
28 defining features are unavoidable.
- 29 b. Historic properties with adverse effects associated with undertaking components
30 and identified for data recovery during consultation are listed in Appendix B
31 and include SC-5009A (Explosive Training Range), TN-6-0401 (Multi-Purpose
32 Maneuver Range/Landing Zone 13/Ammunition Holding Area 1), TN-6-0042
33 (Surface Radar Tower 2), and TN-6-0442 (Landing Zone 9).
- 34 c. Data recovery strategies shall include collection and recordation. Collection
35 shall focus on diagnostic samples of historic and faunal remains that are
36 consistent with research questions.
- 37 d. Recordation shall include, but not be limited to drawings, measurements, black-
38 and-white photographs, stratigraphic profiles, geographic information system
39 data, and soil samples.
-

- e. The USMC shall develop one Data Recovery and Archaeological Monitoring Plan applicable to all construction activities and shall identify existing collections to avoid redundant collection.
- f. The Data Recovery and Archaeological Monitoring Plan shall incorporate provisions consistent with the ACHP's "Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites" (Appendix C), and consistent with confidentiality restrictions imposed by ARPA (16 U.S.C. 470hh).
- g. The draft Data Recovery and Archaeological Monitoring Plan shall be submitted to consulting parties for a thirty (30) day review period, and comments incorporated or responded to in the final document. Should consulting parties not reply within this timeframe, the Data Recovery and Archaeological Monitoring Plan shall be finalized.
- h. Qualified personnel shall submit reports of archaeological data recovery projects to the CNMI HPO for a forty-five (45) day review prior to being finalized. Hard copies of final documents shall be provided to the CNMI HPO.

IV. ALTERNATE SECTION 106 REVIEW PROCESS

Should the undertaking require additional Section 106 review and consultation for new or changing undertaking components and/or the review of undertaking components with unknown effects listed in Appendix B, and for post-review discoveries pursuant to 36 CFR 800.13, the alternate streamlined review process shall be followed:

A. Component Footprint

- 1. Area of Potential Effect (APE) has been defined pursuant to 36 CFR 800.16(d) and in consultation with Signatories and Concurring Parties. For each individual undertaking component that requires additional Section 106 review, a qualified individual shall define the components footprint and determine the geographic extent of the component's effects. This component footprint shall be delineated by the scale and nature of the component and shall not require individual consultation with the consulting parties.
- 2. The APE, as defined during the initial consultation, is not expected to change. If the APE does need to be changed, the USMC will consult with CNMI HPO.

B. Finding of Effect

- 1. No Historic Properties Affected - When qualified personnel find that an undertaking with the potential to affect historic properties will not affect listed, contributing, or eligible historic properties or no historic properties are present per 36 CFR § 800.4(d)(1), no further review under this PA is required. The review shall be documented in accordance with Stipulation VIII.
-

- 1 2. No Adverse Effect - When qualified personnel find that an undertaking has the
2 potential to affect historic properties but will have no adverse effect or if a
3 property affected by an undertaking is modified or conditions are imposed in
4 accordance with the Secretary of the Interior’s Standards for the Treatment of
5 Historic Properties to avoid adverse effects per 36 CFR § 800.5(b), notification
6 shall be provided to consulting parties for a fifteen (15) day review period. Any
7 input will be considered by USMC and a written response provided. If there is no
8 response from consulting parties after the review period, the undertaking shall
9 commence. The review shall be documented in accordance with Stipulation VIII.
- 10 3. Adverse Effect - When qualified personnel find that an undertaking may have an
11 adverse effect on a historic property, the USMC shall initiate a fifteen (15) day
12 consultation with consulting parties to identify available avoidance and/or
13 minimization measures. After consultation, if the USMC determines that adverse
14 effect cannot be avoided, the USMC shall implement data recovery or recordation
15 per Stipulation III.B.5. A separate Memorandum of Agreement or amendment to
16 this PA shall not be required. The review shall be documented in accordance with
17 Stipulation VIII.

18 C. Undertaking Modifications

- 19 1. If during the implementation of a previously reviewed undertaking component,
20 there are modifications that may result in a change to the component footprint
21 and/or the finding of effect, qualified personnel shall follow Stipulation IV.A and
22 Stipulation IV.B.

23 V. EMERGENCY PROCEDURES

24 Should an emergency occur pursuant to 36 CFR § 800.12(a), the SOP for “Emergency
25 Situations” as defined in the JRM ICRMP and included in Appendix D shall be followed and
26 documented in accordance with Stipulation VIII.

27 VI. ARCHAEOLOGICAL MONITORING

28 Ground disturbing activities associated with construction, including undertaking components
29 reviewed under Stipulation IV, shall be monitored by qualified personnel. Prior to construction,
30 the USMC shall develop one Data Recovery and Archaeological Monitoring Plan for all ground
31 disturbing activities. The Data Recovery and Archaeological Monitoring Plan shall use all
32 available background research and geospatial data, including LiDAR to support in-field
33 identification of existing historic properties and features. The draft Data Recovery and
34 Archaeological Monitoring Plan shall be submitted to consulting parties for a thirty (30) day
35 review and comment period. Should consulting parties not reply within this timeframe, the Data
36 Recovery and Archaeological Monitoring Plan shall be finalized.

37 VII. INADVERTENT DISCOVERIES

38 If previously unknown human remains, and/or historic or prehistoric properties are discovered or
39 unanticipated effects on known historic properties occur, work shall stop and USMC shall
40 implement one or more of the following SOPs “Inadvertent Discovery of Archaeological

1 Remains” and/or “Inadvertent Discovery of Human Remains,” which are included in Appendix
2 E. Work may continue in another area after a 10-meter buffer has been established.

3 VIII. REPORTING

4 Qualified personnel shall provide an Annual Report to ACHP, CNMI HPO, NPS, and the Mayor
5 of Tinian for the previous federal fiscal year by December 15 of each year that the PA is
6 applicable. Electronic reporting shall be utilized as the preferred method to transmit the Annual
7 Report. The Annual report shall include a summary of:

- 8 A. Finding of effect assessments conducted in accordance with Stipulation IV.B;
- 9 B. Emergencies responded to pursuant to Stipulation V;
- 10 C. Inadvertent discoveries reported pursuant to Stipulation VII;
- 11 D. The total number of personnel who completed the cultural resource training specified in
12 Stipulation III.A.1;
- 13 E. Anticipated undertaking components to begin in the following federal fiscal year;
- 14 F. Mitigation status within Stipulation III, to also include archaeological monitoring and
15 data recovery/recordation projects; and
- 16 G. Proposed scheduling changes, problems encountered, and any disputes and objections
17 received in the USMC’s efforts to carry out the terms of this PA.

18 IX. DISPUTE RESOLUTIONS

19 Should any Signatory to this PA object to any actions proposed or the manner in which the terms
20 of this PA are implemented, the USMC shall consult with such party to resolve the objection. If
21 the USMC determines that such objection cannot be resolved, the USMC shall:

- 22 A. Forward all documentation relevant to the dispute, including the USMC’s proposed
23 resolution, to the ACHP. The ACHP shall provide the USMC with its advice on the
24 resolution of the objection within thirty (30) days of receiving adequate documentation.
25 Prior to reaching its final decision on the dispute, the USMC shall prepare a written
26 response that takes into account any timely advice or comments regarding the dispute
27 from the ACHP, signatories and concurring parties, and provide them with a copy of
28 this written response. The USMC shall then proceed according to its final decision.
 - 29 B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day
30 time period, the USMC may make a final decision on the dispute and proceed
31 accordingly. Prior to reaching a final decision, the USMC shall prepare a written
32 response that takes into account any timely comments regarding the dispute from the
-

1 signatories to the PA and provide them and the ACHP with a copy of such written
2 response.

3 X. DURATION

4 This PA shall expire if its terms are not carried out within twenty (20) years from the date of its
5 execution. Prior to such time, the USMC may consult with the signatories to reconsider the terms
6 of the PA and amend it in accordance with Stipulation XI below.

7 XI. AMENDMENT

8 This PA may be amended when such an amendment is agreed to in writing by all signatories.
9 The amendment shall be effective on the date a copy, signed by all signatories, is filed with the
10 ACHP.

11 XII. TERMINATION

12
13 A. If any Signatory to this PA determines that its terms shall not or cannot be carried out,
14 that party shall immediately provide notice to all signatories explaining the reasons for
15 the proposed termination. The signatories shall consult to seek mutual agreement, per
16 Stipulation IX, or such other action as would avoid termination. This PA may be
17 amended in accordance with Stipulation XI.

18 B. If this PA is not amended as provided for in this Stipulation or should any Signatory
19 wish to continue termination of the PA after first pursuing consultation under
20 Stipulation IX, any Signatory may continue with terminating this PA by notifying all
21 Signatories in writing and providing a written explanation of the reasons for
22 termination. If ACHP concurs with the justification, the PA shall be terminated when
23 the final notice of termination is received by all signatories.

24 C. Once the PA is terminated, and prior to work continuing on the undertaking, USMC
25 must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into
26 account, and respond to the comments of the ACHP under 36 CFR § 800.7. The USMC
27 shall notify all signatories as to the course of action it shall pursue.

28 XIII. ANTI-DEFICIENCY ACT

29 The USMC's obligations under this PA are subject to the availability of appropriated funds, and
30 the stipulations of this PA are subject to the provisions of the Anti-Deficiency Act. The USMC
31 shall make reasonable and good faith efforts to secure the necessary funds to implement its
32 obligations under this PA. If compliance with the Anti-Deficiency Act alters or impairs the
33 USMC's ability to implement its obligations under this PA, the USMC shall consult in
34 accordance with the amendment and/or termination procedures found in Stipulations XI and XII.

35 Execution of this PA by the USMC, ACHP, CNMI HPO, and Commander JRM and
36 implementation of its terms evidence that the USMC has taken, and shall, take into account the

1 effects of the undertaking on historic properties within the APE. Each of the undersigned
2 certifies that they have full authority to bind the party that they represent for purposes of entering
3 into this agreement.

4

DRAFT

1 SIGNATORIES

2 UNITED STATES MARINE CORPS

3 _____
4 United States Marine Corps

5 JOINT REGION MARIANAS

6 _____
7 Rear Admiral Brent de Vore, Commander

8

9 ADVISORY COUNCIL ON HISTORIC PRESERVATION

10 _____
11 Reid Nelson, Executive Director

12 CNMI HISTORIC PRESERVATION OFFICE

13 _____
14 Frank M. Rabauliman, Historic Preservation Officer

15

16

1 CONCURRING PARTIES

2 NATIONAL PARK SERVICE

3 _____

4 Add Name Here

5

6 MUNICIPALITY OF TINIAN

7 _____

8 Edwin P. Aldan, Mayor

9

DRAFT
