

APPENDICES

Final

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS, COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS United States Air Force



July 2020

PRIVACY ADVISORY

This Supplemental Environmental Impact Statement (SEIS) is provided to the public in accordance with the National Environmental Policy Act, the President's Council on Environmental Quality National Environmental Policy Act Regulations (40 Code of Federal Regulations §§ 1500–1508), and 32 Code of Federal Regulations § 989, Environmental Impact Analysis Process.

Letters or other comments provided on this SEIS may be published. Providing personal information is voluntary. Any personal information provided will be used only to identify an individual's desire to make a statement during the Waiting Period or to fulfill requests for copies of the SEIS, Record of Decision (ROD), or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of this SEIS or ROD. Personal home addresses and telephone numbers will not be published in the ROD.



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APPENDIX A

Cooperating Agency Requests and Acceptance Letters



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DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

13 Apr 2018

AFCEC/CZN
2261 Hughes Ave, Ste 155
JBSA Lackland, TX 78236

Mr. Gordon Wong
Federal Aviation Administration
Western-Pacific Region Airports Division
Honolulu Airports District Office
PO Box 50244
Honolulu, HI 96850-0001

Dear Mr. Wong

The Air Force requested, by letter dated October 21, 2011 (Attachment 1), FAA's formal participation as a Cooperating Agency during preparation of an Environmental Impact Statement (EIS) for the Divert Activities and Exercises, Guam and Commonwealth of the Northern Mariana Islands. FAA accepted, by letter dated November 15, 2011 (Attachment 2), and participated in preparation of the EIS. The Final EIS for Divert Activities and Exercises was completed in September 2016, and the Record of Decision (ROD) was signed December 7, 2016.

After the ROD was signed, the Air Force conducted further evaluation of the fuel requirement and identified the need for additional infrastructure. The Air Force now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, and to improve certain existing roads that would be used to support Divert-related projects. These proposed actions require preparation of a Supplemental EIS (SEIS).

The Air Force would like to continue the Cooperating Agency relationship with FAA established for the original EIS to assist during planning and preparation of the upcoming SEIS. An SEIS project schedule is provided as Attachment 3. FAA participation in the Tinian Divert Infrastructure Improvements SEIS is anticipated to facilitate review and approval of revisions to the Airport Layout Plan should an alternative be selected that affects existing plans. It is recognized that the FAA has special agency expertise and jurisdiction to assist in development of the SEIS.

The Air Force would like to request that the FAA confirm in writing your agency's desire to continue to participate as a Cooperating Agency. Please direct any questions, concerns, or issues to Ms. Melissa L. Markell, 210-925-2728, melissa.markell@us.af.mil.

Sincerely,

A handwritten signature in black ink that reads "Renae Fischer". The script is cursive and fluid.

RENAE FISCHER, REM, GS-14, DAF
Chief, NEPA Division

Attachments

1. AF Letter to FAA
2. FAA Letter to AF
3. SEIS Project Schedule



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

Western-Pacific Region
Office of Airports

Federal Aviation Administration
15000 Aviation Boulevard, Suite 3012
Lawndale, CA 90261

MAY 16 2018

Ms. Renae Fischer
Chief, NEPA Division
Department of the Air Force
Air Force Civil Engineering Center
2261 Hughes Avenue, Suite 155
Joint Base San Antonio Lackland, TX 78236

SUBJECT: Section 106 Participation for U.S. Air Force Divert Activities and Exercises in the Commonwealth of the Northern Mariana Islands

Dear Ms. Fischer:

Thank you for your letter requesting the Federal Aviation Administration (FAA) participate as a cooperating agency in the Supplemental Environmental Impact Statement (SEIS) for Tinian Divert Infrastructure Improvements, Commonwealth of the Northern Mariana Islands.

The FAA is pleased to participate in the SEIS in accordance with the National Environmental Policy Act of 1969 as amended and its implementing regulations.

Mr. Gordon Wong, Manager of the FAA's Honolulu Airports District Office will be the FAA's point of contact for the SEIS. Please contact Mr. Wong at (808) 312-6028 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. McClardy', with a long, sweeping horizontal line extending to the right.

Mark A. McClardy
Director, Office of Airports
Western-Pacific Region

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DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

13 Apr 2018

AFCEC/CZN
2261 Hughes Ave, Ste 155
JB SA Lackland, TX 78236

Rear Admiral Shoshana Chatfield
Commander, Joint Region Marianas
PSC 455, Box 195
FPO AP 96540-2937

Dear RDML Chatfield

The Air Force requested, by letter dated September 20, 2011 (Attachment 1), Navy's formal participation as a Cooperating Agency during preparation of an Environmental Impact Statement (EIS) for the Divert Activities and Exercises, Guam and Commonwealth of the Northern Mariana Islands. The Navy accepted, by letter dated November 4, 2011 (Attachment 2), and participated in preparation of the EIS. The Final EIS for Divert Activities and Exercises was completed in September 2016, and the Record of Decision (ROD) was signed December 7, 2016.

After the ROD was signed, the Air Force conducted further evaluation of the fuel requirement and identified the need for additional infrastructure. The Air Force now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, and to improve certain existing roads that would be used to support Divert-related projects. These proposed actions require preparation of a Supplemental EIS (SEIS).

The Air Force would like to continue the Cooperating Agency relationship with the Navy established for the original EIS to assist during planning and preparation of the upcoming SEIS. An SEIS project schedule is provided as Attachment 3. Navy participation in the Tinian Divert Infrastructure Improvements SEIS is anticipated to facilitate coordination with agencies throughout the region. It is recognized that the Navy, and Joint Region Marianas (JRM) has special agency expertise and jurisdiction to assist in development of the SEIS.

The Air Force would like to request that the Navy confirm in writing your agency's desire to continue to participate as a Cooperating Agency. Please direct any questions, concerns, or issues to Ms. Melissa L. Markell, 210-925-2728, melissa.markell@us.af.mil.

Sincerely,

A handwritten signature in black ink that reads "Renae Fischer". The script is cursive and fluid.

RENAE FISCHER, REM, GS-14, DAF
Chief, NEPA Division

Attachments

1. AF Letter to Navy
2. Navy Letter to AF
3. SEIS Project Schedule



DEPARTMENT OF THE NAVY
JOINT REGION MARIANAS
PSC 455 BOX 211
FPO AP 96540-1000

4000
Ser J00/0243
July 18, 2018

Renae Fischer, REM, GS-14, DAF
Chief, NEPA Division
AFCE/CZN
2261 Hughes Ave, Ste 155
JBSA Lackland, TX 78236

Dear Ms. Fischer:

SUBJECT: JOINT REGION MARIANAS COOPERATING AGENCY STATUS

In reference to your letter of April 13, 2018 Joint Region Marianas (JRM) accepts your invitation to continue participating as a Cooperating Agency for the Divert project proposed Divert Fuel Pipeline Supplemental Environmental Impact Statement (SEIS).

My point of contact for this matter is Mr. Randel Sablan, Commonwealth of the Northern Mariana Islands (CNMI) JRM Coordination Office, and may be reached at 671-682-5069 or via e-mail at randel.sablan@fe.navy.mil. You may also contact Mr. John Salas, J45 Joint Region Marianas Naval Facilities Engineering Command, and may be reached at 671-349-4420 or via e-mail at john.f.salas@fe.navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "S. S. Chatfield", is positioned above the printed name.

S. S. CHATFIELD
Rear Admiral, U.S. Navy
Commander

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APPENDIX B

Public Scoping Materials



Appendix B: Table of Contents

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PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING: 10:00 a.m., Friday, April 20, 2018.

CHANGES IN THE MEETING: The time of the meeting has changed. This meeting will now be held at 9:45 a.m. on Friday, April 20, 2018.

CONTACT PERSON FOR MORE INFORMATION: Christopher Kirkpatrick, 202-418-5964.

Natise L. Allen,
Executive Assistant.

[FR Doc. 2018-08287 Filed 4-17-18; 4:15 pm]

BILLING CODE 6351-01-P

DEPARTMENT OF DEFENSE

Department of the Air Force

Notice of Intent To Prepare a Supplemental Environmental Impact Statement for Tinian Divert Infrastructure Improvements, Commonwealth of the Mariana Islands

AGENCY: Department of the Air Force, Department of Defense.

ACTION: Notice of Intent.

SUMMARY: The United States Air Force (USAF) is issuing this notice to advise the public of the intent to prepare a Supplemental Environmental Impact Statement (SEIS) for the proposed Tinian Divert Infrastructure Improvements. The SEIS will assess the potential environmental consequences of the construction of a fuel pipeline and associated support facilities, and improvements to existing roadways, on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI).

DATES: USAF invites the public, stakeholders, and other interested parties to attend an open house public scoping meeting from 5 p.m. to 8 p.m. on Thursday, May 17, 2018 at the Tinian Elementary School cafeteria. A Chamorro/Carolinian interpreter will be available at the meeting and can assist with translation of meeting materials and written comments.

ADDRESSES: The project website www.PACAFDivertMarianasEIS.com provides more information on the SEIS and can be used to submit scoping comments. Scoping comments may also be submitted to Ms. Melissa Markell, (210) 925-2728, AFCEC/CZN; Attn: Tinian Divert SEIS; 2261 Hughes Ave, Suite 155; JBSA Lackland, TX 78236-9853, melissa.markell@us.af.mil. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the USAF has sufficient time to consider public input in the preparation of the

Draft SEIS, scoping comments should be submitted in English to the website or the address listed above by May 27, 2018.

SUPPLEMENTARY INFORMATION: The USAF intends to prepare an SEIS to address changes made since the September 2016 completion of the Final EIS for Divert Activities and Exercises and the signature of the Record of Decision (ROD), signed December 7, 2016, announcing the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52) and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

After the ROD was signed in December 2016, the USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. The USAF now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, and associated infrastructure at the seaport, rather than using fuel trucks for fuel transfer. In addition, recent reconnaissance surveys of the routes proposed for Divert-related vehicles, and coordination with Tinian leadership, indicate the existing surface road network is inadequate to support heavy vehicle traffic required for Divert activities, and is in need of improvements. Therefore, the USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects.

Scoping and Agency Coordination: To effectively define the full range of issues to be evaluated in the SEIS, the USAF will determine the scope of the analysis by soliciting comments from interested local, state and federal elected officials and agencies, as well as interested members of the public and others. A scoping meeting will be held on Tinian and the scheduled date, time, and location for the scoping meeting will also be published in local media a minimum of 15 days prior to the scoping meeting. The USAF also welcomes comments under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800) regarding the identification of or effects on historic properties.

If you have comments or would like to become a consulting party in the Section 106 process, please visit the project website or contact Ms. Melissa

Markell, AFCEC/CZN at the address above.

Henry Williams,
Acting Air Force Federal Register Liaison Officer.

[FR Doc. 2018-08199 Filed 4-18-18; 8:45 am]

BILLING CODE 5001-05-P

DEPARTMENT OF DEFENSE

Department of the Army

Environmental Impact Statement for Area Development Plan, Davison Army Airfield, Fort Belvoir, VA

AGENCY: Department of the Army, DOD.

ACTION: Notice of intent.

SUMMARY: The Department of the Army (Army) announces its intent to conduct public scoping under the National Environmental Policy Act (NEPA) and solicit public comments to gather information to prepare an Environmental Impact Statement (EIS) for a proposed Area Development Plan (ADP) for Davison Army Airfield (DAAF), U.S. Army Garrison Fort Belvoir (Fort Belvoir), Virginia. The EIS will analyze the potential environmental impacts that would result from implementing the projects identified in the ADP (Proposed Action). The Proposed Action consists of multiple new construction, replacement, demolition, and renovation projects at DAAF. The Proposed Action does not include, nor would it require, substantial changes in missions, air operations, or the number of aircraft or personnel. The scoping process will help identify reasonable alternatives, potential environmental impacts, and key issues of concern to be analyzed in the EIS. The Army intends to comply with the requirements of Section 106 of the National Historic Preservation Act in parallel with this NEPA process, and invites federally recognized tribes and the State Historic Preservation Office to participate in the consultation process.

DATES: Comments must be sent by May 21, 2018.

ADDRESSES: Please send written comments to: U.S. Army Corps of Engineers, ATTN: Heather Cisar, Planning Division, 2 Hopkins Plaza, 10th Floor, Baltimore, MD 21201.

FOR FURTHER INFORMATION CONTACT: Heather Cisar at: FortBelvoirNOI@usace.army.mil

SUPPLEMENTARY INFORMATION: DAAF is located on Fort Belvoir's North Post in Fairfax County, VA. DAAF is home to The Army Aviation Brigade's (TAAB)



NOTICE OF INTENT AND NOTICE OF PUBLIC SCOPING MEETING UNITED STATES AIR FORCE



The U.S. Air Force invites you to attend the Public Scoping Meeting for the proposed Tinian Divert Infrastructure Improvements Supplemental Environmental Impact Statement.

The U.S. Air Force (Air Force) will host an open house public scoping meeting to discuss the proposal to construct a fuel pipeline from the Tinian seaport to Tinian International Airport, to include a booster pump house, a boom storage building, and associated infrastructure at the Tinian seaport. The Air Force also proposes to improve certain existing roads between the Tinian seaport and airport that would be used to support Divert-related projects.

In September 2016, the Air Force completed the Final Environmental Impact Statement (EIS) for Divert Activities and Exercises and the Record of Decision (ROD) was signed December 7, 2016, which announced the Air Force decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52) and specifically the North Option (Final EIS, Section 2.5.2, page 2- 28), as a future Divert location. After the ROD was signed in December 2016, the Air Force conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. The Air Force now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, and associated infrastructure at the seaport, rather than using fuel trucks for fuel transfer. In addition, recent reconnaissance surveys of the routes proposed for Divert-related vehicles, and coordination with Tinian leadership, indicate the existing surface road network is inadequate to support heavy vehicle traffic required for Divert activities, and is in need of improvements. Therefore, the Air Force also proposes to improve certain existing roads between the Tinian seaport and airport that would be used to support Divert-related projects.

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS). Pursuant to the National Environmental Policy Act, the Air Force will prepare an SEIS, which will assess the potential environmental consequences of the proposed infrastructure improvements on Tinian, Commonwealth of the Northern Mariana Islands.

PUBLIC SCOPING MEETING. The public is encouraged to attend an “open house” scoping meeting to learn more about the proposal and assist the Air Force in scoping issues to evaluate in the SEIS. The meeting will be arranged in a “come and go” format with no formal Air Force presentation or opportunity for public testimony. Written comments will be accepted at the meeting; your input is valuable and assists the Air Force in making more informed decisions. **Please drop in anytime between 5 p.m. and 8 p.m. on May 17, 2018 (ChST) at the Tinian Elementary School cafeteria.** A Chamorro/Carolinian interpreter will be available at the scoping meeting to assist with translation of meeting materials and written comments.

PUBLIC COMMENT. The Air Force welcomes comments, suggestions, and relevant information on the proposal. Please submit comments in English at the public scoping meeting, by visiting www.PACAFDivertMarianasEIS.com, or contacting Ms. Melissa Markell at the address below. Address comments to:

Ms. Melissa Markell, AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236-9853

The Air Force also welcomes comments under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800) regarding the identification of or effects on historic properties. If you have comments or would like to become a consulting party in the Section 106 process, please visit the project website or contact Ms. Melissa Markell, AFCEC/CZN at the address above.

To ensure the Air Force has sufficient time to consider public input in the Draft SEIS and the Section 106 process, please submit comments by May 31, 2018.

www.PACAFDivertMarianasEIS.com



DEPARTMENT OF THE AIR FORCE PACIFIC AIR FORCES

11 April 2018

MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, PUBLIC GROUPS, GOVERNMENT AGENCIES AND OTHERS

FROM: HQ PACAF/A5/8D
25 E Street, Suite B-200
Joint Base Pearl Harbor-Hickam HI 96853-5420

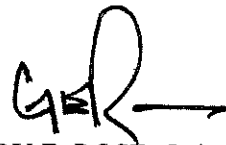
SUBJECT: Tinian Divert Infrastructure Improvements

1. The United States Air Force (USAF) intends to prepare a Supplemental Environmental Impact Statement (SEIS) to assess the potential environmental consequences associated with the proposed Tinian Divert Infrastructure Improvements. A Notice of Intent for this SEIS is being published in the Federal Register. Per 32 Code of Federal Regulations (CFR) 989.17, this letter serves as notification of the start of the environmental impact analysis process and the USAF invites you to review and provide comments on the proposal.
2. In September 2016, the USAF completed the Final EIS for Divert Activities and Exercises. The Record of Decision (ROD) was signed December 7, 2016, which announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52) and specifically the North Option (Final EIS, Section 2.5.2, page 2- 28), as a future Divert location. After the ROD was signed, the USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. The USAF now proposes to construct a fuel pipeline, and associated infrastructure at the seaport, to transport fuel from the seaport to the airport, rather than using fuel trucks for fuel transfer. In addition, recent reconnaissance surveys of the routes proposed for Divert-related vehicles, and coordination with Tinian leadership, indicate the existing surface road network is inadequate to support heavy vehicle traffic required for Divert activities, and is in need of improvements. Therefore, the USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects. Additional information about the Proposed Action is provided in the attached information sheet and is also available on the project website at www.PACAFDivertMarianasEIS.com.
3. While public scoping is not required for an SEIS per 32 CFR 989.20; the USAF has determined that conducting public scoping for the proposed infrastructure improvements will help inform interested stakeholders, elicit valuable community input, and provide transparency through a mutual exchange of information. The USAF will host a public, drop-in type "open house" scoping meeting on Tinian. The purpose of the meeting and of public scoping is to solicit comments on the scope of environmental issues to be analyzed in depth in the SEIS. The USAF invites the public, stakeholders, and other interested parties to attend the open-house public scoping meeting from 5 p.m. to 8 p.m. on May 17, 2018 (ChST) at the Tinian Elementary School cafeteria. A Chamorro and Carolinian interpreter will be available at the

scoping meeting and can assist with translating meeting materials and written comments. The attached flier provides details about the public scoping meeting and can be reproduced or distributed.

4. Public, agency, and stakeholder comments provided at the scoping meeting, through postal mail, and on the project website will be considered in the preparation of the SEIS. The USAF also welcomes comments under Section 106 of the National Historic Preservation Act (36 CFR 800) regarding the identification of or effects on historic properties. To ensure we have sufficient time to consider your input in the Draft SEIS and Section 106 process, please submit scoping comments by May 31, 2018.

5. If you have comments or questions on this project, or would like to become a consulting party in the Section 106 process, please submit them in English by visiting the project website or contacting Ms. Melissa Markell, AFCEC/CZN; Attn: Tinian Divert SEIS; 2261 Hughes Ave, Suite 155; JBSA Lackland, TX 78236-9853.



GARY E. ROSE, Colonel, USAF
Deputy Director of Strategy, Plans, and
Programs

2 Attachments:

1. Tinian Divert Infrastructure Improvements Information Sheet
2. Tinian Divert Infrastructure Improvements Scoping Meeting Informational Flier

Tinian Divert Infrastructure Improvements Scoping Distribution List

Title	Organization	City	State
Commander	36th Wing, Andersen AFB, Guam	APO	AP
Program Analyst	Advisory Council on Historic Preservation	Washington	D.C.
Administrator	CNMI Bureau of Environmental and Coastal Quality	Saipan	MP
Tinian Ports Manager	CNMI Commonwealth Ports Authority	Tinian	MP
Director	CNMI Department of Lands and Natural Resources, Division of Fish and Wildlife	Saipan	MP
	CNMI Historic Preservation Review Board	Saipan	MP
Vice Speaker	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Speaker	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Floor Leader	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 6	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
President	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Vice President	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Floor Leader	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Senator	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Senator	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Governor	Commonwealth of the Northern Mariana Islands	Saipan	MP
Lt. Governor	Commonwealth of the Northern Mariana Islands	Saipan	MP
Executive Director	Commonwealth Ports Authority Board of Directors	Saipan	MP
Member	Commonwealth Ports Authority Board of Directors	Saipan	MP
Member	Commonwealth Ports Authority Board of Directors	Saipan	MP
Member	Commonwealth Ports Authority Board of Directors	Saipan	MP
Member	Commonwealth Ports Authority Board of Directors	Saipan	MP
Secretary	Commonwealth Ports Authority Board of Directors	Saipan	MP
Vice Chairman	Commonwealth Ports Authority Board of Directors	Saipan	MP
Chairman of the Board	Commonwealth Ports Authority, Board of Directors	Saipan	MP
Director	Commonwealth Utilities Corporation	CK, Saipan	MP
Director	CRMO	CK, Saipan	MP
Historic Preservation Officer	Department of Community and Cultural Affairs	Saipan	MP
HPO Archaeologist	Department of Community and Cultural Affairs	Saipan	MP
Secretary	Department of Public Lands	Saipan	MP
Secretary	Department of Public Works	Gualo Rai, Saipan	MP
Director	DEQ	Saipan	MP
Air Traffic Manager	FAA Guam ARTCC	Barrigada	GU
CNMI Military Liaison	Governor's Office	Saipan	MP
Manager	Honolulu Airports District Office (ADO)- FAA	Honolulu	HI
Commander, Joint Region Marianas	Joint Region Marianas	FPO AP	GU

Title	Organization	City	State
Mayor	Municipality of Saipan	Saipan	MP
Mayor	Municipality of Tinian and Aguiguan	Tinian	MP
Cultural Resources Program Manager	National Park Service- War in the Pacific National Historic Park	Hagatna	GU
Superintendent	National Park Service- War in the Pacific National Historic Park	Hagatna	GU
Legal Counsel	Office of the Governor, Commonwealth of the Northern Mariana Islands	Saipan	MP
Field Supervisor	Pacific Islands Office- USFWS	Honolulu	HI
President	Saipan Chamber of Commerce	Saipan	MP
President	Tinian Chamber of Commerce	Tinian	MP
Tinian Mil Liaison	Tinian Mayor's Office	Tinian	MP
Sector Commander	U.S. Sector Guam- USCG	FPO AP	GU
Congresswoman, Guam	US House of Representatives	Hagatna	GU
Congressman, Northern Mariana Islands	US House of Representatives	Saipan	MP
FAA Airports Division Manager	Western-Pacific Region	Los Angeles	CA
Chief Executive Officer	Alter City Group	Saipan	MP
	Alternative Zero Coalition	Saipan	MP
Legal Counsel	CNMI Bureau of Environmental and Coastal Quality	Saipan	MP
Nonpoint Source and Marine Monitoring Program Manager	CNMI Bureau of Environmental and Coastal Quality	Saipan	MP
Congressman Sablan's Office	CNMI Congressional Delegate, CNMI District Office	Saipan	MP
Secretary	CNMI Department Community & Cultural Affairs	Saipan	MP
Secretary	CNMI Department of Lands and Natural Resources	Saipan	MP
Director	CNMI Department of Lands and Natural Resources, Division of Parks and Recreation	Saipan	MP
Commissioner	CNMI Department of Public Safety, Office of the Commissioner	Saipan	MP
Director	CNMI Department of Public Safety, Tinian Fire Division	Saipan	MP
Administrative office	CNMI Department of Public Works	Rota	MP
Representative, District 5	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 1	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 5	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 1	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 1	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 4	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 1	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 2	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 4	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 1	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP
Representative, District 3	CNMI House of Representatives, 20th Commonwealth Legislature	Saipan	MP

Title	Organization	City	State
Press Secretary	CNMI Public Information and Protocol Office	Saipan	MP
Senator	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Senator	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Senator	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Legislative Secretary	CNMI Senate, 20th Commonwealth Legislature	Saipan	MP
Regulatory Branch Chief	Dept. of the Army, USACE, Honolulu District, Regulatory Office	Fort Shafter	HI
Lead Program Manager	Federal Aviation Administration	Honolulu	HI
	FPA Pacific Corp	Tinian	MP
Chairman	House Armed Services Committee (HASC)	Washington	DC
Ranking Member	House Armed Services Committee (HASC)	Washington	DC
	Joint Region Marianas	FPO AP	
	MARFORPAC, Attn: DPRI	Camp Smith	HI
Managing Director	Marianas Visitors Authority	Saipan	MP
Pacific West Regional Director	National Park Service	San Francisco	CA
Director, Environmental Readiness	NAVFACPAC	Pearl Harbor	HI
Assistant Regional Administrator for Protected Resources	NOAA FISHERIES PACIFIC ISLANDS REGIONAL OFFICE	Honolulu	HI
CNMI Field Office	NOAA NMFS CNMI Office	Saipan	MP
Assistant Regional Administrator for Habitat	NOAA NMFS Habitat Division	Honolulu	HI
Coral Reef Ecologist	NOAA NMFS Habitat Division-Guam	Mangilao	GU
Counsel to the Assistant Secretary	Office of Insular Affairs , U.S. Department of the Interior	Washington	DC
Resident Department Head	Tinian Department of Finance	Tinian	MP
Resident Department Head	Tinian Department of Labor	Tinian	MP
Resident Department Head	Tinian Department of Public Works	Tinian	MP
	U.S. Department of Interior, Office of Environmental Policy and Compliance	Washington	DC
Regional Environmental Officer	U.S. Department of Interior, Office of Environmental Policy and Compliance, Pacific Southwest Region	San Francisco	CA
Guam Field Office Project Manager	USACE Guam Field Office	FPO	AP
Wildlife Services State Director	USDA Animal and Plant Health Inspection Service	Barrigada	GU
Research Ecologist	USDA Forest Service; Pacific Southwest Research Station, Institute of Pacific Islands Forestry	Hilo	HI
Assistant Director for Field Operations, West Area	USDA NRCS Pacifics Islands Area: State Office	Barrigada	GU
Director	USDA NRCS Pacifics Islands Area: State Office	Honolulu	HI
District Conservationist	USDA NRCS Saipan Service Center	Saipan	MP
	USEPA Region 9 Pacific Islands Contact Office	Honolulu	HI
Pacific Islands Office Manager	USEPA Region 9 Pacific Islands Office	San Francisco	CA
CNMI Program Manager	USEPA Region 9 Pacific Islands Office	San Francisco	CA
Private Citizens			

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Tinian Divert Infrastructure Improvements Supplemental Environmental Impact Statement



Commonwealth of the Northern Mariana Islands

Tinian Divert Infrastructure Improvements: Public Scoping

Introduction

The National Environmental Policy Act (NEPA) was enacted to address concerns about federal actions and their effects on the environment. An Environmental Impact Statement (EIS) is the most detailed analysis prescribed by regulations implementing NEPA. A Supplemental Environmental Impact Statement (SEIS) is prepared after an EIS when substantial changes are made to a proposed action, there are significant new circumstances or information relevant to environmental concerns, or the purposes of NEPA will be furthered by completion of the SEIS. An SEIS is a public document and public involvement is a vital component of the NEPA process.

The U.S. Air Force has published a Notice of Intent to prepare an SEIS, pursuant to NEPA, for the proposed Tinian Divert Infrastructure Improvements. The Proposed Action includes the construction of a fuel pipeline and associated support facilities, and improvements to certain existing roadways on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI).

Background of the U.S. Air Force Tinian Divert Project

In September 2016, the U.S. Air Force completed the Final EIS for Divert Activities and Exercises. The Record of Decision (ROD) was signed December 7, 2016, which announced the U.S. Air Force decision to select the Modified Tinian Alternative, and specifically the North Option, as a future Divert location (see Figure 1). After the ROD, the U.S. Air Force conducted further evaluation of the fuel requirement and associated infrastructure, and of the existing surface roadway networks on Tinian. The U.S. Air Force now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, rather than using fuel trucks for fuel transfer. In addition, the U.S. Air Force also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects.

What is the Public Scoping Process?

Public scoping is an early and open process for identifying issues and alternatives to be addressed in an EIS and determining who (e.g., public and government agencies) is interested in the proposed action. While federal regulations do not require public scoping for an SEIS, the U.S. Air Force determined that conducting public scoping for the proposed infrastructure improvements will help inform interested stakeholders, elicit valuable community input, and provide transparency through a mutual exchange of information. The public scoping process began with publication of the Notice of Intent in the Federal Register stating the U.S. Air Force's intent to prepare an SEIS. Comments received during the public scoping process will be considered in the preparation of the Draft SEIS. See the timeline on the back of this page for additional information regarding steps in the SEIS process.

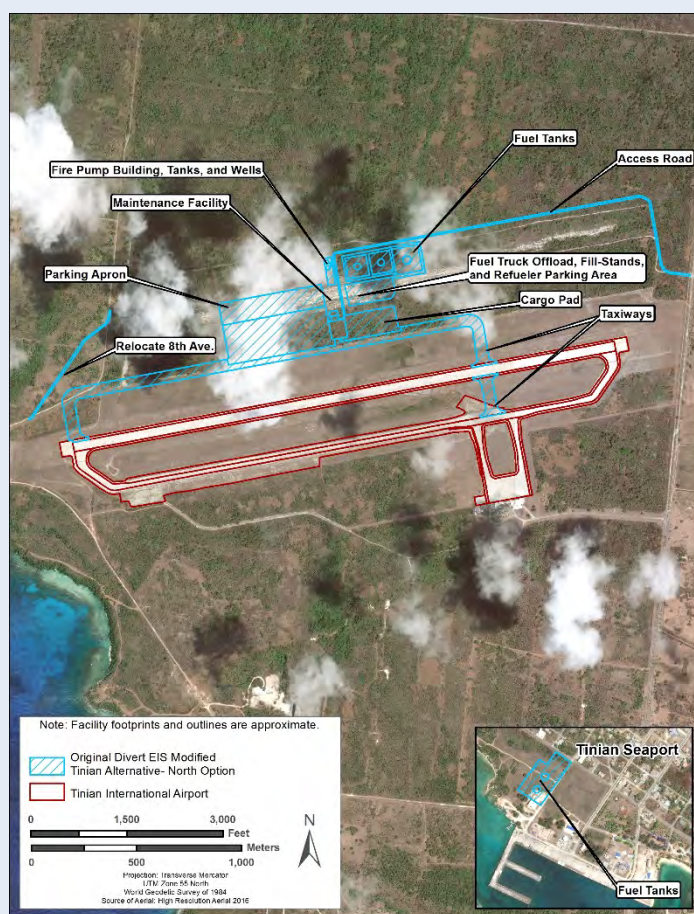


Figure 1: Original EIS Modified Tinian Alternative – North Option

Proposed Action and Alternatives

The Proposed Action is to construct a fuel pipeline from the Tinian seaport to Tinian International Airport, to include a booster pump house, boom storage building, and necessary utility connections at the Tinian seaport. The Proposed Action also includes the improvement of certain existing roads between the seaport and airport that would be used to support Divert-related projects. The Proposed Action would have three aspects:

- **Fuel Pipeline:** The pipeline would be constructed underground within a 20 foot easement and along existing right-of-ways, to the extent practicable. The U.S. Air Force is considering two direct routes from the seaport to the airport for the pipeline.
- **Seaport Support Facilities:** To support pipeline operations, a booster pump house, boom storage building, and associated infrastructure would be constructed at the Tinian seaport in place of the two seaport fuel storage tanks proposed in the original EIS.
- **Roadway Improvements:** Roadway improvements are proposed on Divert-related transportation routes that were analyzed in the original EIS, and would include, where necessary, removing and replacing the existing deteriorated asphalt cap of the roadway.

Figure 2 provides an overview of all proposed infrastructure improvements and alternatives.

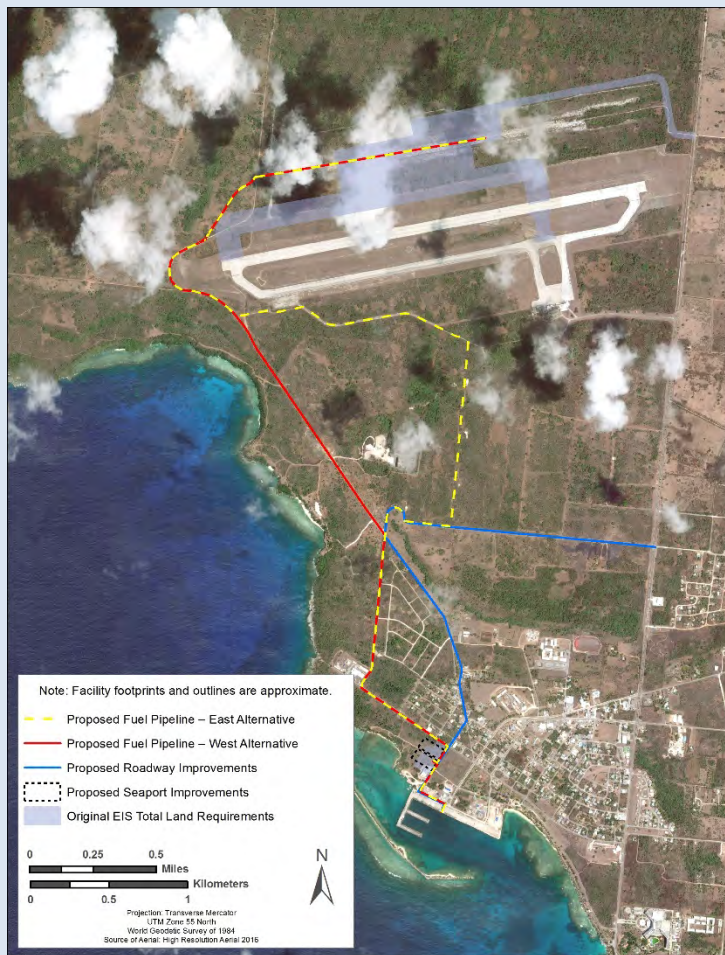
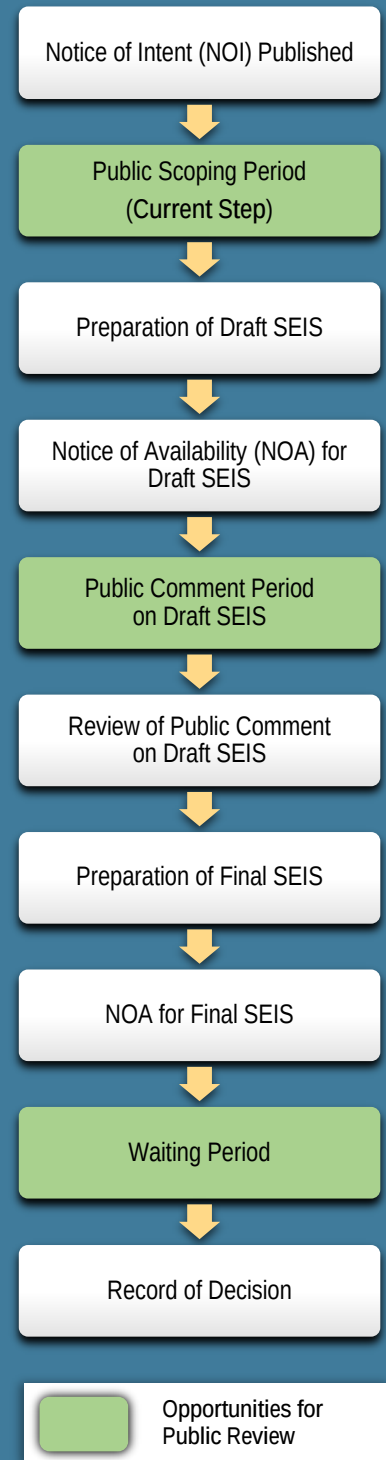


Figure 2: Tinian Divert Infrastructure Improvements
Proposed Action and Alternatives

Tinian Divert Infrastructure Improvements SEIS Timeline



Comments, suggestions, and relevant information are welcomed on the proposal. Please submit comments in English at the public scoping meeting, by visiting the project website, or contacting Ms. Melissa Markell at the address below. A Chamorro/Carolinian interpreter is available at the public scoping meeting to assist with translation of written comments into English.

Address comments to: Ms. Melissa Markell, AFCEC/CZN

Attn: Tinian Divert SEIS

2261 Hughes Ave, Suite 155

JBSA Lackland, TX 78236-9853

The U.S. Air Force also welcomes comments under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800) regarding the identification of or effects on historic properties, and requests to become a consulting party in the Section 106 process.

APPENDIX C

Section 106 Consultation Supporting Documentation



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C.1. Section 106 Consultation

The U.S. Air Force (USAF) complied with Section 106 of the National Historic Preservation Act (NHPA) concurrent with development the Supplemental Environmental Impact Statement (SEIS). USAF invited all Consulting Parties from the Divert Activities and Exercises consultation to engage on the Tinian Infrastructure and Improvements undertaking. USAF also engaged the public and invited the participation of new consulting parties through newspaper advertisements, at the public scoping meeting, and through the Divert website. USAF communicated with consulting parties via letters, emails, telephone calls, and meetings; correspondence related to milestones in the Section 106 process are summarized in **Table C-1**. A total of 57 people representing local and federal government, organizations, and personal interests were invited to, or participated, the Section 106 consultation, as presented in **Table C-2**. The consultation resulted in the execution of the *First Amendment to Programmatic Agreement Among the Pacific Air Forces, Directorate Of Strategy, Plans, And Programs, the Commonwealth of the Northern Mariana Islands State Historic Preservation Office, and the Advisory Council on Historic Preservation Regarding the Proposed Construction and Operation of Divert Activities And Exercises within the Commonwealth of the Northern Mariana Islands* on March 3, 2020. Copies of correspondence and related materials are provided in **Sections C.2 through C.5**.

Table C-1. Consultation Record

Action	Date
Consultation Invitation	4/24/2018
Divert Annual PA Meeting	6/16/2018
Finding of Effect Notification	4/26/2019
PA Amendment and Annual Divert PA Workshop	6/4-5/2019
PA Amendment Executed	3/3/2020

Table C-2. Consulting Parties

Consulting Party Organization	Consulting Parties
CNMI Governor's Office	Ralph Torres, Governor
	Gilbert Birnbrich, Legal Counsel
	Glenna Reyes, CNMI Bureau of Military Affairs
	Vinney Atalig-Hocog, Policy Advisor
Tinian Mayor's Office	Edwin Aldan, Mayor
	Ignacio Kiyoshi, Military Liaison
	Joey P. San Nicolas (Former Mayor)
CNMI Historic Preservation Office	Rita Chong-Dela Cruz, HPO
	Jim Pruitt, CNMI Archaeologist
	Lucas Simonds
	Mertie Kani (Former HPO)
	John Palacios (Former Acting HPO)
CNMI Historic Preservation Review Board	Pedro Jun Duenas, Chairman
	Dr. Duane Colt Denfeld
	Don Farrell
	Fr. Francis Hezel
	Dr. Hiro Kurashina
	Ping Limes
	Dr. Liz Rechebei
CNMI Humanities Council	Scott Russell
Commonwealth Ports Authority	Christopher Tenorio, Executive Director
	Edward B. Mendiola, Deputy Director
	Wendi Prater, Project Manager/Executive Assistant
	Jadene Villagomez, Secretary
	Kimberlyn King-Hinds
	Barrie Toves
	Joe Hallahan, Attorney

Consulting Party Organization	Consulting Parties
	Antonio Borja, Tinian Ports Manager
CNMI Department of Public Lands	Ray Cing, Director
CNMI Civilian-Military Liaison Office	Stanley Iakopo, Executive Director
Advisory Council on Historic Preservation	Kate Kerr, Program Analyst
Department of Interior, Office of Insular Affairs	Harry Blanco, Field Representative
National Park Service	Stanley Austin, Pacific West Regional Director
	Dr. Elaine Jackson-Retondo, Supervisory Historian, Pacific West Region
	Barbara Alberti, Superintendent, War in the Pacific National Historic Park
	Dr. David Louter
	Mike Gawel
Federal Aviation Administration	Mark McClardy, FAA Airports Division Director
	Gordon Wong, Manager, Honolulu Airports District Office
	Dave Kessler, Environmental Protection Specialist
	Marina Landis, Environmental Protection Specialist
	Kevin Nishimura, Environmental Protection Specialist
Joint Region Marianas	Rear Admiral John Menoni, Commander
	Roy Tsutsui, Political-Military Affairs Policy Advisor Defense Coordinating Officer Representative
	Ronnie Rogers
	Shoshana Chatfield (Former Commander)
Individuals	Deborah Fleming
	Sam Mcphetres
	Tina Sablan
	Robert Hunter
	Rosemond B. Santos
	Gordon Marciano
	Genevieve Cabrera
	Marilyn Swift
	Manual Borja
	Eric San Nicolas
	John Castro
	Keli Tenorio
	Ray Munya
	Pepe Batbon Connolly
	Frederick Dela Cruz

C.2. Section 106 Initiation

C.2.1. Section 106 Initiation Letter (HPO/ACHP)



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

24 April 2018

Lieutenant Colonel John B. Kelley
Chief, Force Posture
HQ PACAF/A5F
25 E Street Suite B-200
Joint Base Pearl Harbor-Hickam, HI 96853-5420

[REDACTED]

Hafa Adai [REDACTED]

The U.S. Air Force (USAF) wishes to re-initiate consultation under Section 106 of the National Historic Preservation Act (NHPA) for the Divert Activities and Exercises (Divert) proposal. Under the original Divert undertaking, USAF proposed to transport fuel to the airport via tanker truck. USAF now proposes the construction and operation of a fuel pipeline between the seaport and airport, with construction of associated support facilities at the seaport. USAF is also proposing to improve certain existing roads that would be used for Divert project construction and activities. These projects (i.e. the fuel pipeline, seaport support facilities, and road improvements) comprise the Tinian Divert Infrastructure Improvements (Tinian Infrastructure) project and are the subject of a Supplemental Environmental Impact Statement (SEIS) that USAF is preparing in accordance with the National Environmental Policy Act (NEPA). USAF is complying with Section 106 of the NHPA concurrent with the NEPA process.

USAF is re-initiating consultation with current Divert consulting parties (Attachment 1). USAF will actively seek additional consulting parties during public outreach as part of the NEPA process. Our plan to involve the public in the Section 106 process includes the following elements:

- 1) Newspaper ads inviting the public to submit comments or request consulting party status in accordance with the Section 106 process.
- 2) Section 106 subject matter expert at NEPA scoping meeting to provide information to the public about the Section 106 process; requests to be a consulting party or comments on the 106 process will also be welcomed at the NEPA scoping meeting.
- 3) Section 106 information page on the Divert Activities and Exercises website (to be publicized in newspaper ads and scoping meeting materials).
- 4) Inclusion of Section 106 information and concerns in the SEIS for public review.
- 5) Section 106 subject matter expert at NEPA public hearing to provide information to the public about the Section 106 process; requests to be a consulting party or comments on the 106 process will also be welcomed at the NEPA public hearing.

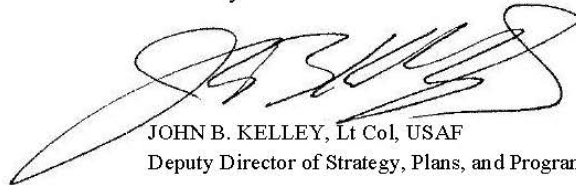
USAF has prepared a summary of changes to the undertaking and the area of potential effects (APE), provided as Attachment 2. As part of our effort to identify historic properties in the APE, we have retained HDR to conduct a literature review and cultural resources survey of

the APE. The survey will include all areas of the APE associated with the pipeline and seaport improvements. No survey is planned for the proposed road improvement areas, due to the nature of those planned improvements. However, the road improvement areas will be included in the literature review.

Section 106 consultation for the Divert Activities undertaking resulted in a Programmatic Agreement (PA) amongst USAF, the CNMI HPO, and the Advisory Council on Historic Preservation (ACHP). Per Stipulation VI of the PA, USAF proposes to amend the PA to include these additional proposed activities in the original undertaking description. Once efforts have been completed to identify and evaluate historic properties that may be affected by the proposed Tinian Infrastructure activities, USAF intends to consult with PA signatories and consulting parties regarding determination of effects within the framework of the existing PA.

We welcome your input on the definition of the APE and our plan to involve the public. Further, please inform us if you know of any individuals in addition to those listed in Attachment 1 that should be invited as consulting parties. If you have any questions, please contact George Herbst, (808) 449-1083, george.herbst@us.af.mil. We look forward to working with you on historic preservation matters related to the Tinian Divert Infrastructure Improvements undertaking.

Sincerely



JOHN B. KELLEY, Lt Col, USAF
Deputy Director of Strategy, Plans, and Programs

Attachment:

1. Invited Consulting Parties
2. Description of the Undertaking and Area of Potential Effects

Attachment 1: Invited Consulting Parties

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CNMI Historic Preservation Review Board
[REDACTED]

Hiro Kurashina
CNMI Historic Preservation Review Board
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Don Farrell
CNMI Historic Preservation Review Board
[REDACTED]

Francis Hezel
CNMI Historic Preservation Review Board
[REDACTED]

Ping Limes
CNMI Historic Preservation Review Board
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Duane Colt Denfeld
CTR USARMY IMCOM PACIFIC
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CNMI Museum of Culture and History
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Blue Continent Communications
[REDACTED]

Gordon Marciano
Owner
PDI Tour Agency
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Genevieve Cabrera
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Marilyn Swift
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Manual Borja
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Eric San Nicolas
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John Castro
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Keli Tenorio
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Ray Munya
[REDACTED]

U.S. Air Force Tinian Divert Infrastructure Improvements

Section 106 Consultation: Definition of the Undertaking and Area of Potential Effects

1. Definition of the Undertaking

The U.S. Air Force (USAF) is revising the Divert Activities and Exercises (Divert) undertaking (Undertaking) to incorporate supplemental projects, consisting of pipeline construction and road improvements, to support the Divert proposal. After the Record of Decision for the Divert Environmental Impact Statement (EIS) was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. The USAF now proposes to construct a fuel pipeline, and associated infrastructure at the seaport, to transport fuel from the seaport to the airport. In addition, recent reconnaissance inspections and coordination with Tinian leadership indicate the existing surface road network is inadequate to support heavy vehicle traffic required for Divert construction and activities. Therefore, USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects. USAF is in the process of beginning a Supplemental EIS to evaluate these infrastructure improvements, which are collectively referred to as the Tinian Divert Infrastructure Improvements project.

1.1 Existing Components of the Divert Undertaking

The Divert undertaking, as defined in the Divert Activities and Exercises Programmatic Agreement (PA), included components for the three alternatives analyzed in the Divert EIS. This summary focuses on components of the Modified Tinian Alternative – North Option that was selected in the Record of Decision. This alternative included the following components, with footprints shown in Figure 1:

- Parking apron, cargo pad, maintenance facility, taxiways
- Jet fuel receiving, storage, and distribution
 - Fuel tanks at seaport, airport
 - Fuel hydrant system at airport
 - Truck transportation from seaport to airport
- Fencing and utilities, including fire suppression
- Access road
- Reroute of 8th Avenue
- Transportation of construction materials
- Up to 720 aircraft operations over an eight week period, annually
- Transportation of concrete and construction materials



Figure 1. Proposed Pipeline and Road Improvement Routes showing Original Divert Land Requirements

1.1 Fuel Pipeline

The pipeline and supporting infrastructure would replace the truck-transport of fuel and bulk fuel storage tanks at the seaport that were included in the original undertaking. The pipeline would be constructed underground primarily along existing roads. The pipeline would be installed within a 20-foot easement; however, for the purposes of assessing effects of the undertaking, USAF is assuming that an 80-foot easement could be disturbed during construction to allow for materials laydown and routing adjustments. The pipeline will be installed to a depth of approximately 3 feet. Low point drains would be installed approximately every 500 feet along the second section of pipeline. These points would be used to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains would be installed in pits approximately 3.5 feet deep to allow access below ground surface.

USAF is considering two pipeline routes between the Tinian seaport and the airport (**Figure 1**):

West Route. The West route travels north from the Tinian seaport until it intersects Tinian Route (TR) 26 (i.e. West Avenue) and then stays on a northwestern path by following TR26, 6th Avenue, and TR25 (i.e., 8th Avenue), and then turns northeast along TR23 to approach the Divert fuel storage tanks from the west side. This route follows existing roads and is approximately 4.1 miles long. Exact placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing roads.

East Route. The East route extends north from the Tinian seaport along the same path as the West route until it reaches TR24 (i.e., 42nd Street), where it turns east. The route then continues east on TR24 until just south of the airport, where it turns north, then west, and eventually reconnects with the proposed West route to approach the Divert fuel storage tanks from the west side. This route primarily follows existing roads, abandoned roads, and abandoned airfield pavements. The route is approximately 4.9 miles long. Exact placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing/abandoned roads and airfield pavements.

1.2 Seaport Support Infrastructure

Seaport support infrastructure would be constructed at the Tinian seaport in place of the two seaport fuel storage tanks proposed in the original EIS. A booster pump house and boom storage building would be constructed near the seaport to support the fuel pipeline operations. The booster pump house and boom storage building would be collocated with a construction laydown yard, biosecurity area, parking area, sewage holding tank, and water storage tanks. Gravel pedestrian pathways and access roads would also be created or widened within this area; all existing roads would remain open to the public. The booster pump house would be sized to fit three pumps and would include a pump room, control room, mechanical room, and toilet. The pump house would also require installation of water and electric utilities, which would be extended from existing service lines. The boom storage building would be constructed in close proximity to the booster pump house for the storage of fuel spill containment booms and fuel transfer hose supplies. The building would require overhead door access for ease of loading/unloading. Infrastructure including fencing and utility connections would be constructed

in the seaport improvement area. A total area of 8.2 acres could be disturbed for development of all seaport support infrastructure.

1.3 Road Improvements

The proposed roadway improvements would occur on roads previously analyzed for Divert-related vehicles in the original EIS. The roadway improvements would support construction of all Divert-related facilities and if needed, transfer of fuel via tanker truck if the proposed pipeline and support facilities are not implemented. The road improvements would include replacement of the existing roadway surfaces, which would entail: removing the existing deteriorated asphalt cap, which is approximately 2 to 4-inches thick; grading the road subsurface down approximately 8 inches below the original asphalt cap; laying a new 8-inch subbase; and finishing the surface with a new 3-inch asphalt cap. All roadway improvements would occur within the existing roadbeds and shoulders, and no roadbed widening or ROW alterations would occur. For the purposes of assessing effects of the undertaking, USAF assumes the above activities would occur along all roadways proposed for improvement; however, portions of the roadways may require less extensive repairs.

Only one roadway route is under consideration for road improvements (Figure 1). This route travels from the Tinian seaport north to TR25, north along TR25 to its intersection with TR24, east along TR24 to its intersection with TR21 (i.e. Broadway).

2. Definition of the Area of Potential Effects

The Area of Potential Effects (APE) represents the geographic area or areas within which an undertaking may directly or indirectly affect historic properties. USAF is expanding the Divert APE to include all areas where ground disturbance could occur during implementation of the pipeline, seaport support facilities, and road improvement projects. The horizontal APE consists of the following components:

- A 100 foot (30 meter) corridor along both proposed pipeline routes, centered on identified road/pavement alignments with the actual pipeline alignment subject to change within this corridor.
- An 8.2-acre area where seaport support facilities would be constructed.
- The existing roadways where improvements could occur.

The vertical APE corresponds with the potential depth of disturbance. The vertical APE is 4 feet for the fuel pipeline and seaport support facilities and 1 foot for road improvements.

C.2.2. Section 106 Initiation Letter (Other Consulting Parties)



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

24 April 2018

Lieutenant Colonel John B. Kelley
Chief, Force Posture
HQ PACAF/A5F
25 E Street Suite B-200
Joint Base Pearl Harbor-Hickam, HI 96853-5420



Hafa Adai [REDACTED]

As a consulting party to previous or ongoing Department of Defense projects in the Commonwealth of the Northern Mariana Islands (CNMI), the U.S. Air Force (USAF) wishes to inform you of a new proposal associated with the Divert Activities and Exercises (Divert) project; the Tinian Divert Infrastructure Improvements (Tinian Infrastructure) project. Under this proposal, USAF would construct a fuel pipeline and associated infrastructure and improve certain existing roads between the seaport and airport that would be used to support Divert-related projects. USAF is preparing a Supplemental EIS (SEIS), as required by the National Environmental Policy Act (NEPA), to analyze the potential environmental consequences associated with the project. You may be receiving, or have already received, a letter with information about the NEPA process and an invitation to a public "open house" scoping meeting, which will be held from 5 p.m. to 8 p.m. on May 17, 2018 at the Tinian Elementary School cafeteria.

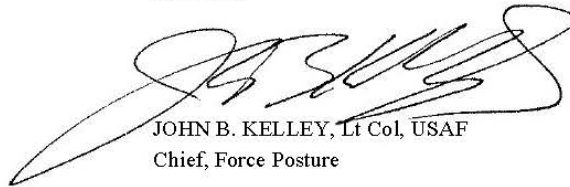
USAF is also re-initiating consultation on the Divert undertaking under Section 106 of the National Historic Preservation Act (NHPA). As you may be aware, USAF concluded Section 106 consultation on the original Divert undertaking with execution of a Programmatic Agreement amongst USAF, the CNMI Historic Preservation Office, and the Advisory Council on Historic Preservation (ACHP). USAF proposes to amend the existing PA to include these new activities in the undertaking description and to reopen this consultation to identify and evaluate historic properties that may be affected by these new activities. USAF cordially invites you to participate as a consulting party in this renewed consultation. Under the Section 106 process, consulting parties provide information to assist the federal agency by providing information and sharing valuable perspectives at various points through the Section 106 process. For more information about consulting parties and the Section 106 process, see the Advisory Council on Historic Preservation's publication "A Citizen's Guide to Section 106 Review," available at <http://www.achp.gov/docs/CitizenGuide.pdf>.

You will find attached to this letter a summary of the changes to the undertaking and Area of Potential Effects (APE). USAF cultural resource representatives will be present at the NEPA scoping meeting on May 17, 2018 to take comments related to the Section 106 consultation. USAF is also planning a cultural resources survey to identify historic properties in the APE.

Upon conclusion of the survey, USAF will share non-sensitive information with consulting parties.

We request your response affirming whether you would like to participate as a consulting party on the Tinian Infrastructure project. If you choose not to participate as a consulting party, you will still have opportunities to provide comments and share information as a member of the public through the NEPA public involvement process. You may also request to join as a consulting party at any time during the Section 106 consultation process. If you would like to consult on the Tinian Infrastructure project, we ask that you take this opportunity to share information about historic properties in the APE, such as a description of the property, its location, why it is important, and how construction and operation of the pipeline might affect the property. This information will assist USAF in evaluating properties for their eligibility for listing in the National Register of Historic Places and whether the undertaking would adversely affect the sites. We also ask that you update your contact information with us, including mailing and email addresses. Please submit your comments, questions, and contact information to George Herbst, (808) 449-1083, george.herbst@us.af.mil. You may also find project information online at www.PACAFDivertMarianasEIS.com. We look forward to working with you on historic preservation matters related to the Tinian Infrastructure project.

Sincerely



JOHN B. KELLEY, Lt Col, USAF
Chief, Force Posture

Attachment:

1. Description of the Undertaking and Area of Potential Effects

U.S. Air Force Tinian Divert Infrastructure Improvements

Section 106 Consultation: Definition of the Undertaking and Area of Potential Effects

1. Definition of the Undertaking

The U.S. Air Force (USAF) is revising the Divert Activities and Exercises (Divert) undertaking (Undertaking) to incorporate supplemental projects, consisting of pipeline construction and road improvements, to support the Divert proposal. After the Record of Decision for the Divert Environmental Impact Statement (EIS) was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. The USAF now proposes to construct a fuel pipeline, and associated infrastructure at the seaport, to transport fuel from the seaport to the airport. In addition, recent reconnaissance inspections and coordination with Tinian leadership indicate the existing surface road network is inadequate to support heavy vehicle traffic required for Divert construction and activities. Therefore, USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects. USAF is in the process of beginning a Supplemental EIS to evaluate these infrastructure improvements, which are collectively referred to as the Tinian Divert Infrastructure Improvements project.

1.1 Existing Components of the Divert Undertaking

The Divert undertaking, as defined in the Divert Activities and Exercises Programmatic Agreement (PA), included components for the three alternatives analyzed in the Divert EIS. This summary focuses on components of the Modified Tinian Alternative – North Option that was selected in the Record of Decision. This alternative included the following components, with footprints shown in Figure 1:

- Parking apron, cargo pad, maintenance facility, taxiways
- Jet fuel receiving, storage, and distribution
 - Fuel tanks at seaport, airport
 - Fuel hydrant system at airport
 - Truck transportation from seaport to airport
- Fencing and utilities, including fire suppression
- Access road
- Reroute of 8th Avenue
- Transportation of construction materials
- Up to 720 aircraft operations over an eight week period, annually
- Transportation of concrete and construction materials



Figure 1. Proposed Pipeline and Road Improvement Routes showing Original Divert Land Requirements

1.1 Fuel Pipeline

The pipeline and supporting infrastructure would replace the truck-transport of fuel and bulk fuel storage tanks at the seaport that were included in the original undertaking. The pipeline would be constructed underground primarily along existing roads. The pipeline would be installed within a 20-foot easement; however, for the purposes of assessing effects of the undertaking, USAF is assuming that an 80-foot easement could be disturbed during construction to allow for materials laydown and routing adjustments. The pipeline will be installed to a depth of approximately 3 feet. Low point drains would be installed approximately every 500 feet along the second section of pipeline. These points would be used to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains would be installed in pits approximately 3.5 feet deep to allow access below ground surface.

USAF is considering two pipeline routes between the Tinian seaport and the airport (**Figure 1**):

West Route. The West route travels north from the Tinian seaport until it intersects Tinian Route (TR) 26 (i.e. West Avenue) and then stays on a northwestern path by following TR26, 6th Avenue, and TR25 (i.e., 8th Avenue), and then turns northeast along TR23 to approach the Divert fuel storage tanks from the west side. This route follows existing roads and is approximately 4.1 miles long. Exact placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing roads.

East Route. The East route extends north from the Tinian seaport along the same path as the West route until it reaches TR24 (i.e., 42nd Street), where it turns east. The route then continues east on TR24 until just south of the airport, where it turns north, then west, and eventually reconnects with the proposed West route to approach the Divert fuel storage tanks from the west side. This route primarily follows existing roads, abandoned roads, and abandoned airfield pavements. The route is approximately 4.9 miles long. Exact placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing/abandoned roads and airfield pavements.

1.2 Seaport Support Infrastructure

Seaport support infrastructure would be constructed at the Tinian seaport in place of the two seaport fuel storage tanks proposed in the original EIS. A booster pump house and boom storage building would be constructed near the seaport to support the fuel pipeline operations. The booster pump house and boom storage building would be collocated with a construction laydown yard, biosecurity area, parking area, sewage holding tank, and water storage tanks. Gravel pedestrian pathways and access roads would also be created or widened within this area; all existing roads would remain open to the public. The booster pump house would be sized to fit three pumps and would include a pump room, control room, mechanical room, and toilet. The pump house would also require installation of water and electric utilities, which would be extended from existing service lines. The boom storage building would be constructed in close proximity to the booster pump house for the storage of fuel spill containment booms and fuel transfer hose supplies. The building would require overhead door access for ease of loading/unloading. Infrastructure including fencing and utility connections would be constructed

in the seaport improvement area. A total area of 8.2 acres could be disturbed for development of all seaport support infrastructure.

1.3 Road Improvements

The proposed roadway improvements would occur on roads previously analyzed for Divert-related vehicles in the original EIS. The roadway improvements would support construction of all Divert-related facilities and if needed, transfer of fuel via tanker truck if the proposed pipeline and support facilities are not implemented. The road improvements would include replacement of the existing roadway surfaces, which would entail: removing the existing deteriorated asphalt cap, which is approximately 2 to 4-inches thick; grading the road subsurface down approximately 8 inches below the original asphalt cap; laying a new 8-inch subbase; and finishing the surface with a new 3-inch asphalt cap. All roadway improvements would occur within the existing roadbeds and shoulders, and no roadbed widening or ROW alterations would occur. For the purposes of assessing effects of the undertaking, USAF assumes the above activities would occur along all roadways proposed for improvement; however, portions of the roadways may require less extensive repairs.

Only one roadway route is under consideration for road improvements (Figure 1). This route travels from the Tinian seaport north to TR25, north along TR25 to its intersection with TR24, east along TR24 to its intersection with TR21 (i.e. Broadway).

2. Definition of the Area of Potential Effects

The Area of Potential Effects (APE) represents the geographic area or areas within which an undertaking may directly or indirectly affect historic properties. USAF is expanding the Divert APE to include all areas where ground disturbance could occur during implementation of the pipeline, seaport support facilities, and road improvement projects. The horizontal APE consists of the following components:

- A 100 foot (30 meter) corridor along both proposed pipeline routes, centered on identified road/pavement alignments with the actual pipeline alignment subject to change within this corridor.
- An 8.2-acre area where seaport support facilities would be constructed.
- The existing roadways where improvements could occur.

The vertical APE corresponds with the potential depth of disturbance. The vertical APE is 4 feet for the fuel pipeline and seaport support facilities and 1 foot for road improvements.

C.2.3. Section 106 Initiation Responses



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

Western-Pacific Region
Office of Airports

Federal Aviation Administration
15000 Aviation Boulevard, Suite 3012
Lawndale, CA 90261

MAY 16 2018

Ms. Renae Fischer
Chief, NEPA Division
Department of the Air Force
Air Force Civil Engineering Center
2261 Hughes Avenue, Suite 155
Joint Base San Antonio Lackland, TX 78236

**SUBJECT: Section 106 Participation for U.S. Air Force Divert Activities and Exercises in
the Commonwealth of the Northern Mariana Islands**

Dear Ms. Fischer:

Thank you for your letter requesting the Federal Aviation Administration (FAA) participate as a cooperating agency in the Supplemental Environmental Impact Statement (SEIS) for Tinian Divert Infrastructure Improvements, Commonwealth of the Northern Mariana Islands.

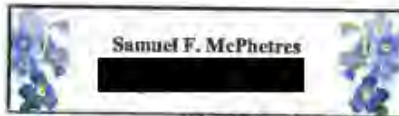
The FAA is pleased to participate in the SEIS in accordance with the National Environmental Policy Act of 1969 as amended and its implementing regulations.

Mr. Gordon Wong, Manager of the FAA's Honolulu Airports District Office will be the FAA's point of contact for the SEIS. Please contact Mr. Wong at (808) 312-6028 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark A. McClardy'.

Mark A. McClardy
Director, Office of Airports
Western-Pacific Region



Sam McPhetres



Tel.



212 Beth Le Clerk

HDR

9791 Maryland Blvd, Suite 480

Englewood, CO 80112

Note

Because of stress & mechanical failures my communications equipment has temporarily failed.

This note is to accept your invitation to work with you next divert workshop on Tinian.

My apologies in this message. I do accept & more details follow in a week.

Sincerely

Samuel F. McPhetres

Tel.



P.S.

enc Major Weintrab diary of battle of Tinian

IFI

C.3. Section 106 Finding of Effect

C.3.1. Section 106 Finding of Effect Notification Letter (HPO)



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

26 April 2019

Colonel Michael E. Gimbrone
Chief, Force Posture Division
HQ PACAF/A5F
25 E Street, Suite B-200
JBPHH, HI 96853-5420



Hafa Adai

Following Typhoon Yutu's devastating impact on the Commonwealth of the Northern Mariana Islands (CNMI) in October 2018, the U.S. Air Force (USAF) decided to postpone the National Historic Preservation Act (NHPA) Section 106 consultation on the Tinian Divert Infrastructure Improvements Project in recognition of the hardships faced by many of the consulting parties. Understanding that recovery can take months to years, but that governmental functions and much of the infrastructure has been restored, USAF would like to continue the consultation at this time.

As discussed previously, the Tinian Divert Infrastructure Improvements Project is an extension of the Divert Activities and Exercises (Divert) undertaking and USAF ultimately seeks to incorporate this project into the existing Divert Programmatic Agreement (PA) that was executed on 28 June 2016. Specifically, USAF would like to address the new project and related terms in an amendment to the original PA.

In May 2018, USAF's archaeological contractor, HDR, completed a Phase I archaeological survey in support of the Tinian Divert Infrastructure Improvements project. We are pleased to provide the draft archaeological survey report for your review in Attachment 1. The survey identified 10 new archaeological sites, 10 new isolated finds, and 6 previously recorded sites in the Area of Potential Effects (APE). Background research identified an additional 9 sites possibly in the APE; however, these were not located during survey. USAF is sharing a summary of the survey's findings and recommendations with consulting parties concurrent with this letter.

USAF has become aware that part of the APE has been modified into a graveled staging area for typhoon recovery efforts. Based on photographs from a USAF visual inspection in January 2019, it appears that two sites (HDR-18-02 and HDR-18-03) may have been destroyed and that a third site (TN-10) has been heavily impacted. However, the area has not been assessed by an archaeologist and the depth of disturbance is unknown. HDR will incorporate changes in site condition for these sites into the final Phase I archaeological report, as

appropriate, following a site visit in June 2019. We will coordinate with the CNMI Historic Preservation Office on any changes in site condition and to procure site numbers for all extant sites. None of the affected sites were recommended eligible for National Register of Historic Places (NRHP) listing.

HDR located the following three previously recorded sites in the APE that are eligible for, or listed on, the NRHP: 3028 (Tinian Harbor), TN-6-0030 (West Field), and TN-4-1010 (NKK Sugar Mill District). HDR also recorded a new multi-component site (HDR-18-07) that requires further evaluation of its prehistoric component to determine its eligibility for NRHP listing. None of the remaining new sites are recommended eligible for the NRHP. Consistent with HDR's conclusions in their report, USAF does not anticipate any adverse effects at 3028 (Tinian Harbor), where the project will use an existing bulk receipt header to offload fuel. USAF will design the fuel pipeline to avoid sites TN-4-1010 and HDR-18-07 and has determined there would be no adverse effect on these two properties (should HDR-18-07 later be determined NRHP-eligible). Conversely, the USAF has determined the Tinian Divert Infrastructure Improvements project would contribute to adverse effects on TN-6-0030 (West Field) that were previously identified from the Divert undertaking. USAF will commit to treatment measures to minimize additional impacts on West Field, such as using similar materials when backfilling the pipeline trench. USAF has documented these commitments in the Draft Supplemental Environmental Impact Statement and also intends to include them in the PA amendment.

As part of the survey, HDR assessed the potential for intact subsurface archaeological deposits in the APE and determined that, prior to the typhoon, the following three areas in the APE had moderate to high potential for intact subsurface archaeology: the Seaport Support Infrastructure Area and adjacent West Street, an area along 8th Avenue, and an area north of 42nd Street. It is possible that subsurface potential in the Seaport Support Infrastructure Area may have changed due to the typhoon recovery-related disturbance described above, which will be investigated during the June 2019 site visit.

The USAF intends to conduct Phase II subsurface testing at site HDR-18-07 and in proposed disturbance areas with moderate to high archaeological potential. However, the possibility for unexploded ordnance (UXO) presents a significant safety concern for testing in these areas. UXO clearance will be completed as part of the construction process. Therefore, USAF proposes to postpone subsurface archaeological testing until UXO clearance is complete. Although this delay may not provide USAF with as much foresight in decision-making regarding historic properties as might be desired, we believe this compromise will still afford USAF a reasonable opportunity to consider effects on historic properties while minimizing unnecessary ground disturbance and safety risk associated with UXO screening and archaeological testing. USAF will engage consulting parties in the assessment of effects and selection of treatment measures if any historic properties are found during testing, and we intend to make these commitments in the amendment to the Divert PA.

Although USAF has not completed all efforts to identify historic properties in the APE, we believe USAF has made a reasonable effort to gather available data and that it is appropriate at this time to continue with amending the Divert PA. We are also approaching the time for the PA Annual Workshop. We would like to combine these two items into a two-day workshop on Saipan in the month of June 2019. Among the topics we would like to discuss is how the Interpretive Plan, required under the original Divert PA, fits into the new amendment. **The workshop will be held in the Azucena Room at the Fiesta Resort and Spa on Saipan from**

8:00 am to 4:00 pm on Tuesday, 4 June 2019, with a break for lunch off-site, and from 8:00 am to 12:00 pm on Wednesday, 5 June 2019. We hope you can join us.

Please contact Mr. George Herbst at (808) 449-1083 or george.herbst@us.af.mil if you have any questions about the survey report or PA workshop. We look forward to working with you to amend the Divert PA to incorporate the Tinian Divert Infrastructure Improvements Project.

Sincerely


MICHAEL E. GIMBRONE, Col, USAF
Chief, Force Posture Division

Attachment:

Phase I Archaeological Survey for the Tinian Divert Infrastructure Improvements Project

C.3.2. Section 106 Finding of Effect Notification Letter (Other Consulting Parties)



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

26 April 2019

Colonel Michael E. Gimbrone
Chief, Force Posture Division
HQ PACAF/A5F
25 E Street, Suite B-200
JBPHH, HI 96853-5420



Hafa Adai [REDACTED]

Following Typhoon Yutu's devastating impact on the Commonwealth of the Northern Mariana Islands (CNMI) in October 2018, the U.S. Air Force (USAF) decided to postpone the National Historic Preservation Act (NHPA) Section 106 consultation on the Tinian Divert Infrastructure Improvements Project in recognition of the hardships faced by many of the consulting parties. Understanding that recovery can take months to years, but that governmental functions and much of the infrastructure has been restored, USAF would like to continue the consultation at this time.

As discussed in our letter dated 24 April 2018, this proposal is associated with the Divert Activities and Exercises (Divert) project on Tinian. Under the Tinian Divert Infrastructure Improvements project, USAF would construct a fuel pipeline between the seaport and airport, and associated infrastructure at the seaport, and improve certain existing roads that would be used to support Divert-related projects. USAF considers this project an extension of the Divert undertaking and seeks to incorporate it into the Divert Programmatic Agreement (PA) that was executed on 28 June 2016. Specifically, USAF would like to address the new project and related terms in an amendment to the original PA.

In May 2018, USAF's archaeological contractor, HDR, completed a pedestrian archaeological survey of the Tinian Divert Infrastructure Improvements Area of Potential Effects (APE). The survey identified 10 new archaeological sites, 10 new isolated finds, and 6 previously recorded sites in the APE. Background research identified an additional 9 sites possibly in the APE; however, the sites were not located during the survey. These sites appear to be either outside the APE or destroyed. A survey summary is provided in Attachment 1. Of the 26 sites in the APE, the following four are listed, eligible, or unevaluated for listing in the National Register of Historic Places (NRHP):

3028 (Tinian Harbor) – This site consists of the following harbor structures built by the US Navy Seabees during WWII: the wharf, two bulkheads, two piers, the causeway, and

the breakwater. The proposed pipeline would use an existing bulk receipt header at the harbor and would have no effect on the site.

TN-6-0030 (West Field) – West Field was one of two B-29 air bases on Tinian and also incorporated Naval Air Base Tinian. Pipeline construction under both the east and west alternatives would occur within some of the historic airfield pavements and would contribute to adverse effects that will result from the Divert project, especially at Runway 1. USAF will implement treatment measures to minimize this effect, such as using like materials when backfilling the pipeline trench. These are discussed further in the Draft Supplemental Environmental Impact Statement, which will be available in mid-May 2019 at www.PACAFDivertMarianasEIS.com.

TN-4-1010 (NKK Sugar Mill District) – The NKK Sugar Mill District in San Jose is in the APE for both the east and west alternatives of the proposed pipeline. The district contains Japanese colonial period remains, such as buildings and structural remains associated with the NKK's sugar mill on Tinian. The NKK Administration Building and NKK Laboratory are the only elements of the district identified in the APE and are individually listed on the NRHP. USAF will construct the pipeline so that it avoids these buildings and associated features.

HDR-18-07 – This site is a newly recorded multi-component site in the APE along the west alternative pipeline route. The site contains a Japanese gun emplacement and a prehistoric component, represented by a single *Latte* Phase ceramic sherd. The historic component of the site is similar to other gun emplacements on Tinian and is not eligible for NRHP listing. Further evaluation is needed at the site to determine if the prehistoric component is eligible for NRHP listing.

The USAF has become aware that part of the APE, in the area proposed for Seaport Support Infrastructure, has been modified into a graveled staging area for typhoon recovery efforts. Based on photographs from a USAF visual inspection in January 2019, it appears that two sites (HDR-18-02 and HDR-18-03) may have been destroyed and that a third site (T-10) has been heavily impacted. However, the area has not been assessed by an archaeologist and the depth of disturbance is unknown. HDR will incorporate changes in site condition into the final Phase I archaeological report, as appropriate, following a site visit in June 2019. None of the affected sites were recommended eligible for NRHP listing.

HDR's survey assessed the potential for intact subsurface archaeological deposits in the APE. The survey determined that prior to the typhoon, the following three areas in the APE had moderate to high potential for intact subsurface archaeology: the Seaport Support Infrastructure Area and adjacent West Street, an area along 8th Avenue, and an area north of 42nd Street. It is possible that subsurface potential in the Seaport Support Infrastructure Area may have changed due to the typhoon recovery-related disturbance described above. The CNMI Historic Preservation Officer and USAF agree that subsurface testing is needed in these areas prior to construction to determine whether there are buried historic properties in these areas. Testing is also needed at HDR-18-7 to evaluate the site's eligibility for NRHP listing.

The WWII history at Tinian presents challenges for conducting subsurface testing because of the risk of encountering buried unexploded ordnance (UXO), which presents a significant safety concern. USAF already plans to screen proposed construction areas for UXO

as part of the construction process. Therefore, USAF proposes to postpone subsurface archaeological testing until UXO clearing is completed. Although this delay may not provide USAF with as much foresight in decision-making regarding historic properties as might be desired, we believe this compromise will still afford USAF a reasonable opportunity to consider effects on historic properties while minimizing unnecessary ground disturbance and safety risk associated with UXO screening and archaeological testing. USAF will engage consulting parties in the assessment of effects and selection of treatment measures if any historic properties are found during testing, and we intend to make these commitments in the amendment to the Divert PA.

With the pedestrian inventory complete, the time is right to proceed with developing the PA amendment. We are also approaching the time for our annual meeting under the current PA, at which we will review the effectiveness of the PA and USAF's progress in implementing its terms. We would like to combine these two items into a two-day workshop on Saipan in the month of June 2019. Among the topics we would like to discuss is how the Interpretive Plan, required under the original Divert PA, fits into the new amendment. **The workshop will be held in the Azucena Room at the Fiesta Resort and Spa on Saipan from 8:00 am to 4:00 pm on Tuesday, 4 June 2019, with a break for lunch off-site, and from 8:00 am to 12:00 pm on Wednesday, 5 June 2019.** We hope you can join us. Please notify Mr. George Herbst (contact information below) if you plan to attend the meeting so that we can plan accordingly. We will set up a conference line for those who cannot attend in person.

If you have any questions about this letter or the consultation more generally, please contact Mr. George Herbst at (808) 449-1083 or george.herbst@us.af.mil. You may also find project information online at www.PACAFDivertMarianasEIS.com. We appreciate your participation in this Section 106 consultation and look forward to meeting with you in June 2019.

Sincerely


MICHAEL E. GIMBRONE, Col, USAF
Chief, Force Posture Division

Attachment:

Summary of the Phase I Archaeological Survey for the Tinian Divert Infrastructure Improvements Project Report

C.3.3. Section 106 Finding of Effect Notification Letter - Attachment

Attachment 1: Summary of the Phase I Archaeological Survey Report for the Tinian Divert Infrastructure Improvements Project

Introduction

USAF proposes to construct a fuel pipeline from the seaport in San Jose to USAF infrastructure planned for the Tinian International Airport under the Divert Activities and Exercises project. Two alternatives, referred to as the West Alternative and East Alternative, are under consideration (Figure 1). Associated pipeline facilities, referred to as Seaport Support Infrastructure, are proposed at the seaport and include a pump house and boom storage building. USAF also proposes to conduct road improvements along roads that would be used to support Divert activities. The APE is defined as a 100 foot (30 m) corridor for a fuel pipeline from the Tinian seaport to the Tinian International Airport, centered on existing or former roads where applicable; an 8.2-acre area for Seaport Support Infrastructure associated with the pipeline; and the roadways where road improvements are proposed to support Divert activities. The APE for the Seaport Support Infrastructure area increased from earlier communications to consulting parties in which the area was defined as 5.5 acres.

The Phase I survey included pedestrian survey as well as background research into the region's history, prehistory, and environmental (especially geological) context as well as a detailed literature review into previous archaeological study near the APE. Pedestrian survey was performed between May 19 and May 30, 2018. The survey addressed the entire APE except the Tinian Harbor, which was recorded in 2010, and areas inside the Tinian International Airport fence line, which were addressed in the USAF's West Field inventory in 2017. Kevin Gilmore, Ph.D, RPA, was the Principal Investigator for the survey, and was accompanied by archaeologists Andrew Mueller, M.A, RPA, and Elizabeth Leclerc.

Environmental Setting

Tinian is generally of low relief with a step-like progression of terraces typically defined by limestone escarpments that have formed along fault lines. The APE is predominately within the island's Central Plateau. Soils on Tinian are primarily of the Chinen and Dandan complexes with Shioya soils also present in southern portions of the APE near the harbor. Shioya soils derive from water-deposited sand on ancient coastal terraces, are very deep, and are known for having high potential for pre-contact archaeological deposits. Vegetation in the project area is dominated by secondary forests primarily composed of introduced species and open areas containing herbaceous scrub and grass communities.

Methods

The field crew surveyed the APE in 5 m and 10 m transects dependent on vegetation and ground visibility. Some areas of grass and shrub vegetation types were so dense as to preclude safe and effective survey. These areas occurred in highly disturbed areas, mainly road cuts and fills along portions of 8th Avenue, and often consisted of elephant grass with 50 cm or more of dead or downed vegetation that obscured the ground. In these cases, the crew surveyed one 5 m transect along the road edge and closely inspected any pockets of exposed ground or sparser vegetation. The crew examined soil exposures such as natural embankments or road cuts wherever possible.

Figure 1. Area of Potential Effect



Attachment 1: Summary Report

For all identified resources, HDR recorded site characteristics and environmental conditions on CNMI historic properties forms. Features and diagnostic artifacts (or samples thereof) were photographed and structural features were sketched. Sites were defined by the presence of three or more artifacts of distinct material types and/or the presence of one or more intact cultural features. Resources with less than three artifact types (e.g., single use can dump) or ephemeral features, such as push piles that lacked artifacts, were recorded as isolated finds. However, the HPO does not have a separate form or numbering system for isolated finds and therefore all resources were reported on CNMI historic properties forms. The CNMI HPO will provide site numbers following receipt of the draft report. HDR attempted to relocate all previously recorded sites in the APE. Site characteristics and conditions were compared against previously recorded information and updated on CNMI historic properties forms as appropriate.

Results of the Phase I Survey

HDR recorded 10 new archaeological sites and 10 new isolated finds and revisited 6 previously recorded sites in the APE. Table 1 summarizes information for each of these resources. A majority of the resources are associated with the U.S. military period or the post-WWII periods, totaling 17 of the 26 sites. Four sites are unidentified historic period sites from the early to mid-twentieth century. The remaining sites are associated with, or have components associated with, the Japanese colonial and military periods (n=4) and the *Latte* Phase (n=3). Of the 26 total sites, three are eligible for NRHP listing (3028, TN-6-0030, and TN-4-1010). TN-4-1010 also contains two buildings that are individually listed on the NRHP (the NKK Administration Building and the NKK Laboratory). One new site (HDR-18-07) requires further evaluation to determine if the site is eligible for NRHP listing. The remaining sites are recommended not eligible. Background research indicated the possible presence of an additional nine sites in the APE; however, these were not found during the survey and appear to be either outside the APE or destroyed.

Assessment of Subsurface Potential

Three factors were considered in assessing the subsurface potential for intact cultural materials within the APE:

- geological context as reflected in soils;
- disturbance based on WWII-era aerial photographs, the 2006 LiDAR data set used in the Divert West Field Cultural Resources Report, and direct observation of conditions during survey; and
- presence of previous sites in the vicinity and in areas with similar geology.

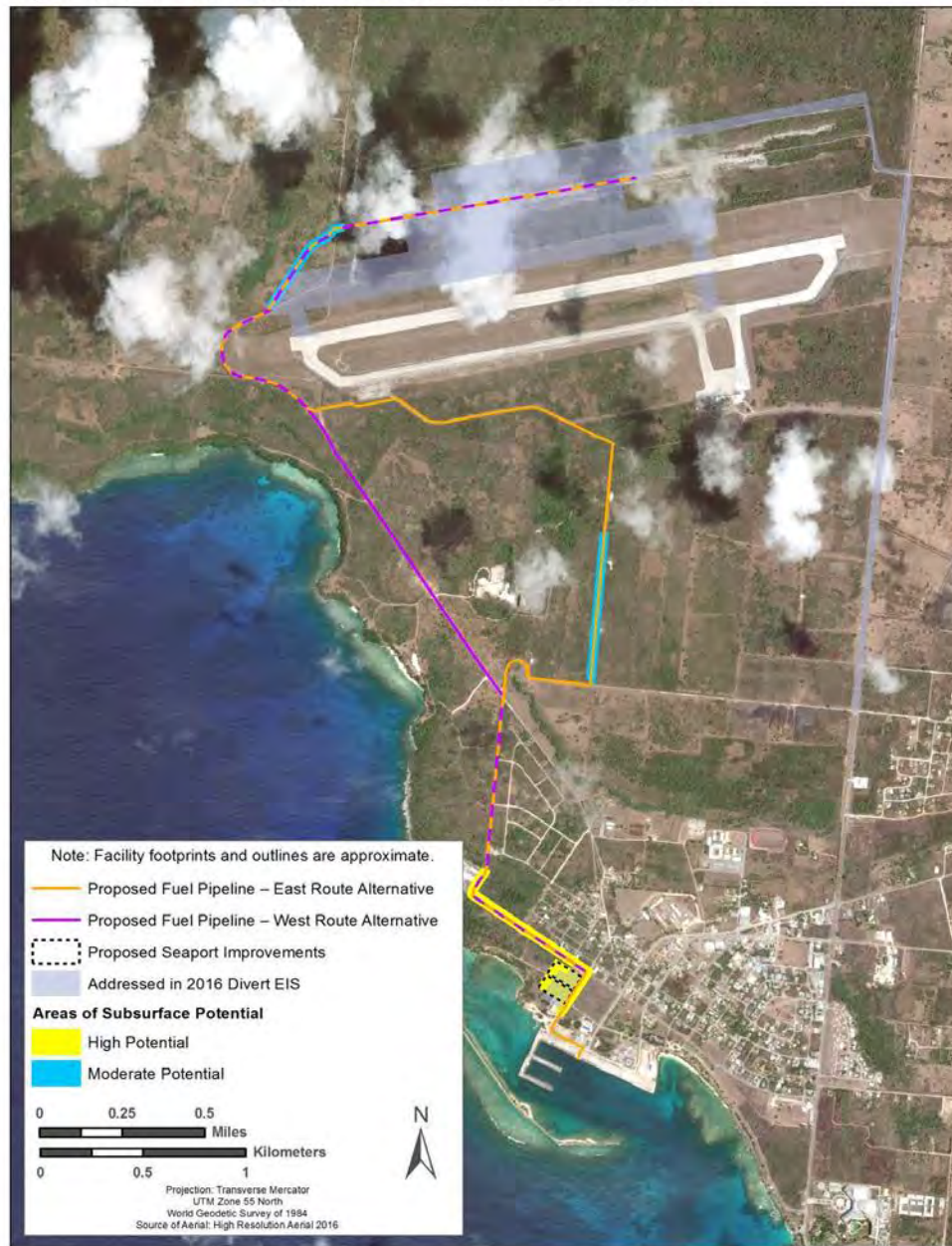
These three factors were used to divide the pipeline and Seaport Support Infrastructure portions of the APE into 10 segments and each of the segments were evaluated for subsurface potential. Three segments of the APE are recommended for subsurface testing: the Seaport Support Infrastructure Area and adjacent segment of pipeline along West Street and part of 6th Avenue; a segment of the West pipeline route along the Divert project's realignment of 8th Avenue; and a segment of the East pipeline route between 42nd Street and West Field (see Figure 2). The probability of finding intact subsurface cultural components in all other segments is low to very low.

Attachment 1: Summary Report

Table 1. Identified Archaeological Resources and NRHP Eligibility

Site Number	Period	Description	Significance (NRHP Criteria)
3028	U.S. Military	Tinian Harbor	Eligible (A, C)
T-1	U.S. Military	GROPAC 6 encampment.	Not Eligible
T-10	U.S. Military	U.S. World War II structures associated with Tinian Harbor	Not Eligible
1571-T-62	Multiple	Prehistoric and historic period artifact scatter	Not Eligible
TN-6-0030 (TN-6-0048)	U.S. Military	West Field	Eligible (A, C, D)
TN-4-1010	Japanese Colonial	NKK Sugar Mill (Administration Building and Laboratory Building)	NRHP-Listed
HDR-18-01	U.S. Military/Modern	Historic period multi-use dump	Not Eligible
HDR-18-02	Unknown Historic (20th Century)	Small historic-era depression with subterranean chamber (possible cistern or culvert)	Not Eligible
HDR-18-03	Unknown Historic (20th Century)	Small historic-era depression	Not Eligible
HDR-18-04	U.S. Military/Modern	Push pile with World War II-era debris	Not Eligible
HDR-18-05	U.S. Military/Modern	Push pile	Not Eligible
HDR-18-06	U.S. Military/Modern	Push pile with World War II-era debris	Not Eligible
HDR-18-07	Japanese Military	Japanese gun emplacement with historic and prehistoric artifact scatter	Potentially Eligible (D)
HDR-18-08	Japanese Colonial?	Possible road or railroad grade	Not Eligible
HDR-18-09	U.S. Military/Modern	Large berm or push pile	Not Eligible
HDR-18-10	U.S. Military/Modern	Large berm or push pile	Not Eligible
HDR-18-IF-01	U.S. Military/Modern	Push pile with no artifacts	Not Eligible
HDR-18-IF-02	U.S. Military/Modern	Push pile with WWII-era debris	Not Eligible
HDR-18-IF-03	U.S. Military/Modern	Push pile with no artifacts	Not Eligible
HDR-18-IF-04	Unknown Historic (20th Century)	Historic period rock alignment with no artifacts	Not Eligible
HDR-18-IF-05	U.S. Military/Modern	Push pile with no artifacts	Not Eligible
HDR-18-IF-06	U.S. Military/Modern	Isolated flag pole bases, removed and dumped	Not Eligible
HDR-18-IF-07	Unknown Historic (20th Century)	Partially buried metal conduit with concrete pylon	Not Eligible
HDR-18-IF-08	U.S. Military/Modern	Late historic artifact scatter	Not Eligible
HDR-18-IF-09	U.S. Military/Modern	Depression with late historic period artifacts	Not Eligible
HDR-18-IF-10	Latte Phase	Prehistoric ceramic sherd	Not Eligible

Figure 2. Areas with Potential for Buried Archaeological Deposits



C.4. PA Amendment and Annual Divert PA Workshop - Agenda



SECTION 106 CONSULTATION MEETINGS

Divert Activities and Exercises Programmatic Agreement Workshop and

Amendment to the Divert Activities And Exercises Programmatic Agreement

4-5 JUNE 2019; SAIPAN, CNMI

Information Packet And Reference Guide

This information packet and reference guide has been produced to support the development of the amendment to the Divert Programmatic Agreement (PA). The information contained in this packet provides information from prior consultation on the PA and supporting information relevant to the Tinian Divert Infrastructure Improvements project. This packet is intended to provide an easy reference for consulting parties during the Section 106 meetings.

Contents

1. Meeting Schedule and Agenda
2. Annual Divert Programmatic Agreement Workshop
3. Original Divert Activities and Exercises Undertaking and Finding of Effect
4. Tinian Divert Infrastructure Improvements Project (Expanded Undertaking)
5. Divert Activities and Exercises Programmatic Agreement
6. Proposed Measures for the Amended Programmatic Agreement
7. Template for Amendment to the Divert Activities and Exercises Programmatic Agreement

*PA Workshop and Amendment to the Divert Activities and Exercises Programmatic Agreement
Meeting Schedule and Agenda*

Meeting Schedule and Agenda – 4 June 2019

4 June (Tues)	
Meeting Details	
♦ Time: 8:00am – 4:00pm	
♦ Location: Fiesta Resort, Azucena Conference Room	
♦ Dial-in information: 866-583-7984; passcode 1335948#	
Agenda	
8:00 – 8:20am	Welcome and Introductions (George Herbst, AFCEC Pacific)
8:20 – 9:05am	Annual Programmatic Agreement Workshop (George Herbst) ♦ Divert Activities and Exercises status update ♦ Construction monitoring ♦ U.S. Air Force progress on PA requirements ♦ Comments and questions
9:05 – 10:05am	Interpretive Plan Discussion (Elizabeth Leclerc, HDR) ♦ Status update ♦ Next steps ♦ Priorities and considerations (group discussion)
10:05 – 10:20am	Break
10:20 – 10:30am	Review of Tinian Divert Undertaking (George Herbst)
10:30 – 11:00am	Archaeological Survey Results (Kevin Gilmore, HDR)
11:00 – 11:45am	Completing the Section 106 Process (George Herbst) ♦ Current status ♦ What is needed ♦ Measures for the amendment (group discussion)
11:45am – 1:15pm	Lunch (off-site)
1:15 – 1:30pm	How to Amend the PA (George Herbst) ♦ Process and relationship to PA ♦ Structure of an amendment
1:30 – 2:00pm	Preamble (George Herbst)
2:00 – 2:45pm	Stipulations Development (George Herbst)
2:45 – 3:00pm	Break
3:00 – 4:00pm	Stipulations Development (George Herbst)

*PA Workshop and Amendment to the Divert Activities and Exercises Programmatic Agreement
Meeting Schedule and Agenda*

Meeting Schedule and Agenda – 5 June 2019

5 June (Wed)	
Meeting Details	
✦ Time: 8:00am – 12:00pm	
✦ Location: Fiesta Resort, Azucena Conference Room	
✦ Dial-in information: 866-583-7984; passcode 1335948#	
Agenda	
8:00 – 8:15am	Welcome and Recap (George Herbst, AFCEC Pacific)
8:15 – 10:00am	Stipulations Development (George Herbst)
10:00 – 10:15am	Break
10:15 – 11:45am	Stipulations Development (George Herbst)
11:45am – 12:00pm	Closing Remarks (George Herbst)



March 3, 2020

Brigadier General Michael P. Winkler
Director of Strategy, Plans, and Programs
Department of the Air Force
HQ PACAF A5/8
25 E Street
Building 1102, Suite L-213
Joint Base Pearl Harbor-Hickam, HI 96853-5426

Ref: *Amendment #1 of the Programmatic Agreement Regarding Divert Activities and Exercises by
U.S. Air Force Headquarters Pacific Air Forces (MP)
Island of Tinian, Commonwealth of the Northern Mariana Islands
ACHPConnect Log Number: 014289*

Dear Brig Gen Winkler:

Enclosed is your copy of the fully executed amendment to for the referenced undertaking. By carrying out the terms of the Agreement as amended, Pacific Air Forces, Directorate of Strategy, Plans, and Programs, the National Park Service, and the Federal Aviation Administration will fulfill their responsibilities under Section 106 of the National Historic Preservation Act (NHPA) and the regulations of the Advisory Council on Historic Preservation, "Protection of Historic Properties" (36 CFR Part 800). Please ensure that all consulting parties are provided a copy of the executed Agreement in accordance with 36 CFR 800.6(c)(9). The original Agreement will remain on file at our office.

If we may be of further assistance as the Agreement is implemented, please contact Ms. Katharine R. Kerr at (202) 517-0216 or by e-mail at kkerr@achp.gov and reference the ACHPConnect Log Number above.

Sincerely,

Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Federal Property Management Section
Office of Federal Agency Programs

Enclosure

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First Amendment To
PROGRAMMATIC AGREEMENT
AMONG
THE PACIFIC AIR FORCES,
DIRECTORATE OF STRATEGY, PLANS, AND PROGRAMS,
THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
STATE HISTORIC PRESERVATION OFFICE,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE PROPOSED CONSTRUCTION
AND OPERATION OF DIVERT ACTIVITIES AND EXERCISES
WITHIN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

WHEREAS, the United States Air Force, Headquarters Pacific Air Forces, Directorate of Strategy, Plans, and Programs (hereafter “USAF”), Commonwealth of the Northern Mariana Islands (hereafter “CNMI”) State Historic Preservation Office (hereafter “SHPO”), Advisory Council on Historic Preservation (hereafter “ACHP”), Federal Aviation Administration (hereafter “FAA”), and National Park Service (hereafter “NPS”) executed the Programmatic Agreement (hereafter “PA”) for the Divert Activities and Exercises (hereafter “Divert”) Undertaking on June 28, 2016, to address implementation of construction and operation of the Divert Undertaking with regards to the treatment of historic properties; and

WHEREAS, in the USAF’s Record of Decision (hereafter “ROD”) for the Divert Undertaking, issued on December 7, 2016, following completion of the Final Divert Environmental Impact Statement (hereafter “Divert EIS”) prepared in accordance with the National Environmental Policy Act (hereafter “NEPA”), the USAF selected the Modified Tinian Alternative (North Option) for implementation of the Divert Undertaking; and

WHEREAS, the USAF proposes the Tinian Divert Infrastructure Improvements project to construct a fuel pipeline, including supporting infrastructure at the Tinian seaport, and road improvements to support the Divert Undertaking, as shown in Attachment 2; and

WHEREAS, the USAF plans to fund and execute the Tinian Divert Infrastructure Improvements project, and considers the project an expansion of the Divert Undertaking subject to review under 54 U.S.C. §306108 and its implementing regulation, 36 CFR Part 800; and

WHEREAS, the USAF is preparing a Supplemental EIS for the Tinian Divert Infrastructure Improvements project (hereafter “Tinian Divert SEIS”) in accordance with NEPA and is evaluating two pipeline route alternatives, a West Route and an East Route; is evaluating a single road improvements alternative; and is evaluating No Action Alternatives for the pipeline and road improvements components; and

WHEREAS, the signatories and invited signatories to the Divert PA agree that the Area of Potential Effects (hereafter “APE”) described in the 2016 Divert PA should be expanded to include the areas affected by the Tinian Divert Infrastructure Improvements project; and

WHEREAS, the USAF, in consultation with the CNMI SHPO, determined areas affected by the Tinian Divert Infrastructure Improvements project to be a 100 foot corridor centered on each pipeline route alternative, from the ground surface to a depth of 4 feet; an 8.2 acre area at the Tinian seaport, from the ground surface to a variable depth of 1 to 3 feet; and a corridor along the

road improvements equal to the width of the current roadway plus 15 feet on each side of the road, from the ground surface to a depth of 1 foot; as shown in Attachment 2; and

WHEREAS, the USAF conducted identification efforts in the expanded APE, including a Phase I pedestrian survey of the APE; and

WHEREAS, the following extant historic properties were identified in the expanded APE: site 3028 (Tinian Harbor), site TN-6-0030 (West Field), and site TN-4-1010 (NKK Sugar Mill District); and

WHEREAS, a new multicomponent site (TN-1351 [temporary designation HDR-18-07]) in the expanded APE is unevaluated for listing in the National Register; and

WHEREAS, the USAF identified areas of the expanded APE that possess moderate to high potential for intact subsurface archaeological materials as shown in Attachment 3; and

WHEREAS, the APE has potential to contain buried Munitions and Explosives of Concern (MEC), and MEC clearance activities will occur as part of construction of the Divert Undertaking in accordance with an Explosives Safety Submission (ESS); and

WHEREAS, the USAF determined the Tinian Divert Infrastructure Improvements project would contribute to adverse effects on historic properties from the Divert Undertaking, including adverse effects at TN-6-0030 (West Field); and

WHEREAS, the USAF sought public input on the development of the Interpretive Plan in accordance with Stipulation II.2.b. of the Divert PA; and

WHEREAS, the USAF consulted with the SHPO and the ACHP (as signatories to the Divert PA), CNMI Governor's Office (signing on behalf of the SHPO), and NPS and FAA (as invited signatories) regarding the Tinian Divert Infrastructure Improvements project and the effects of the expanded Divert Undertaking on historic properties; and

WHEREAS, the USAF consulted with the CNMI Historic Preservation Review Board; the Mayor of Tinian; Joint Region Marianas; the Commonwealth Ports Authority; and other parties identified in Attachment 4, as consulting parties to the Divert Undertaking, regarding the Tinian Divert Infrastructure Improvements project and the effects of the expanded Divert Undertaking on historic properties; and

WHEREAS, the USAF sought public comments and input on the Tinian Divert Infrastructure Improvements project, as an expansion of the Divert Undertaking, in accordance with 36 CFR §§ 800.2(d)(3) and 800.8(a), including publication of English-only articles and paid advertisements printed in the local media to inform the public of the project, request public comments, and invite additional consulting parties; and conducted meetings with the public, with interpreters provided, on Tinian; and

WHEREAS, the parties hereto agree that an amendment is needed to the Divert PA to account for the Tinian Divert Infrastructure Improvements project as an expansion of the Divert Undertaking that has adverse effects on historic properties;

NOW THEREFORE, in accordance with Stipulation VI of the Divert PA, the USAF, SHPO, ACHP, NPS, and FAA agree to amend the Divert PA as follows, and that all aspects of the Divert PA that are not the subject of this amendment remain in effect:

A. Stipulation II(2), Interpretive Plan, is amended to read as follows:

II.

2. **Interpretive Plan:** Within 1 year and 180 days of executing the Record of Decision for the Tinian Divert SEIS (hereafter “SEIS ROD”), USAF will complete development of a plan to document and interpret the prehistory and history of the Divert Activities and Exercises APE, including the area affected by the Tinian Divert Infrastructure Improvements project, for the public. Whereas the APE is an artificial boundary, the plan will incorporate relevant historic contexts from neighboring areas. The plan will include consideration of West Field and the history of the 58th Bombardment Wing’s use of the field. The plan and resulting products will draw upon historical and archival research, existing archaeological studies, and available geospatial data. Possible interpretive products include but are not limited to: signage at publicly accessible historic features, printed brochures, airport exhibits and/or displays and electronic products. The resulting products will be produced in English, Chamorro, and other languages as determined to be appropriate during plan development.
 - a. USAF will seek public input in the development of the Interpretive Plan. Within 180 days of executing the SEIS ROD, USAF will conduct a 30 calendar day public comment period that will be followed by an Interpretive Plan workshop. USAF will release public notices at the beginning of the comment period that describe the purpose of the plan and request input on the format and content of interpretive products. USAF will also notify and seek such input from the consulting parties. The Interpretive Plan workshop will be held for two days on Saipan, and followed by a one-day meeting on Tinian to gather additional input from consulting parties who were unable to attend the Saipan workshop. USAF will consider the comments and input received during preparation of the draft Interpretive Plan.
 - b. Within 1 year of executing the SEIS ROD, the USAF will submit an electronic copy of the draft Interpretive Plan to consulting parties, except for the ACHP, for a 45 calendar day review period. The USAF will also provide signatories, except for the ACHP, with a hard copy. Additional hard copies will be provided to consulting parties upon request. The review period will begin upon USAF delivery of the electronic copy of the draft Interpretive Plan. Within 14 days of the conclusion of the review period, USAF will host a telephone conference with consulting parties to discuss any comments received. USAF will prepare and distribute the final Interpretive Plan within 90 calendar days of the telephone conference.
 - c. USAF will proceed to implement the final Interpretive Plan and will produce the resulting products within 2 years and 180 days of executing the SEIS ROD.

B. Stipulation III(2), Curation Procedures, is amended to read as follows:

III.

2. **Curation Procedures:** Any materials recovered will be stored in a repository determined by the USAF, the property owner (i.e., CPA or the Department of Public Lands [DPL]), and the CNMI Governor's Office in consultation with and approval from the SHPO. Materials shall be temporarily curated by USAF in facilities meeting 36 CFR Part 79 standards until such time the materials can be transferred to a facility within CNMI that meets these standards.

C. Stipulation III(7), Fencing, is amended to read as follows:

III.

7. **Fencing:** The USAF shall include in all applicable construction contracts relating to the Undertaking language stipulating that temporary fencing be placed around standing historic structures, archaeological sites, or other known contributing elements to historic properties that are immediately adjacent to areas of construction to help prevent inadvertent damage. The USAF shall coordinate fencing with the property owner. The USAF shall coordinate with the FAA and CPA any fencing within the airport boundary prior to implementation to assure FAA safety and design standards are not compromised.

D. A new stipulation is added at III(8) as follows:

III.

8. **Geophysical Survey:** Within 90 calendar days of executing the First Amendment to the PA, USAF shall provide to the SHPO the results of an assessment of the feasibility and effectiveness of conducting a geophysical survey for the purpose of detecting subsurface anomalies that may represent buried archaeological features or human remains, and enabling avoidance of such anomalies, in areas identified in Attachment 3 as possessing moderate to high potential for containing buried archaeological deposits.
 - a. USAF will provide the SHPO with an electronic copy and a hard copy of geophysical survey feasibility assessment for a 45 day review period that will begin upon USAF delivery of the electronic copy. USAF shall consider the SHPO's comments in determining whether a geophysical survey would be feasible and effective.
 - b. If the geophysical survey is determined by USAF, in consultation with the SHPO, to be feasible and effective, USAF shall prepare a Geophysical Survey Work Plan that identifies techniques and methods to be used during the survey and procedures for consulting with the SHPO on the survey's results. The purpose of the survey will be to identify anomalies that may represent archaeological features or human remains to enable avoidance of such anomalies to the extent practical in the design of the pipeline route. Obtaining ground-truth of identified anomalies is not required.
 - (1) USAF will provide electronic copies of the draft Geophysical Survey Work Plan to consulting parties, except for the ACHP, for a 45 calendar day review period.

USAF will also provide signatories, except for the ACHP, with a hard copy. Additional hard copies will be provided to consulting parties upon request. The review period will begin upon USAF delivery of the electronic copy of the draft Geophysical Survey Work Plan.

- (2) Within 14 days of the conclusion of the review period, USAF will host a telephone conference with consulting parties to discuss any comments received. USAF will prepare and distribute the final Geophysical Survey Work Plan to consulting parties within 30 calendar days of the telephone conference and will seek the SHPO's written concurrence.
 - (3) USAF will implement the final Geophysical Survey Work Plan prior to initiating MEC clearance.
 - (4) To the extent practical, USAF will adjust the routing of the fuel pipeline to avoid anomalies identified in the geophysical survey.
 - (5) USAF will consult with the SHPO on the findings of the geophysical survey and routing of the fuel pipeline, as it relates to avoidance of anomalies, to the extent required in the final Geophysical Survey Work Plan.
- c. If USAF determines, in consultation with the SHPO, that geophysical survey is not feasible and effective, then USAF shall notify consulting parties and continue with coordinated identification of historic properties per Stipulation III(9).

E. A new stipulation is added at III(9) as follows:

III.

9. Coordinated Identification of Subsurface Historic Properties:

- a. USAF shall coordinate identification of subsurface historic properties with MEC clearance in areas shown in Attachment 3 as having moderate to high potential for buried archaeological deposits in the expanded APE for the Tinian Divert Infrastructure Improvements. Coordinated identification need only occur in areas of archaeological sensitivity within the pipeline alternative route selected in the SEIS ROD.
- b. Having provided for the safety of personnel and the public, and consistent with the requirements of the Divert ESS, an archaeologist will be present during MEC clearance excavations to directly monitor and coordinate the excavation to meet archaeological identification and documentation objectives defined in a Coordinated Identification Work Plan prepared in accordance with Stipulation III(9)(c).
- c. No less than 90 calendar days prior to beginning the coordinated identification, USAF shall prepare a Coordinated Identification Work Plan. The Coordinated Identification Work Plan will discuss the methods and procedures to be implemented during the coordinated identification, such as excavation techniques, documentation standards, laboratory analysis, curation provisions, and communication protocols.

- (1) USAF will provide electronic copies of the draft Coordinated Identification Work Plan to consulting parties, except for the ACHP, for a 45 calendar day review period. The USAF will also provide signatories, except for the ACHP, with a hard copy. Additional hard copies will be provided to consulting parties upon request. The review period will begin upon USAF delivery of the electronic copy of the draft Coordinated Identification Work Plan.
 - (2) Within 14 days of the conclusion of the review period, USAF will host a telephone conference with consulting parties to discuss any comments received. USAF will prepare and distribute the final Coordinated Identification Work Plan to consulting parties within 30 calendar days of the telephone conference and will seek the SHPO's written concurrence.
- d. USAF shall provide written notification to the SHPO when coordinated identification will begin.
 - e. If archaeological deposits are encountered during the coordinated identification, USAF will consult with the SHPO to the extent required in the final Coordinated Identification Work Plan. If human remains are encountered, USAF shall follow the procedures at Stipulation III(5), Human Remains.
 - f. Once coordinated identification is complete as described in Stipulation III(9)(a), areas disturbed by the coordinated identification effort are not subject to the provisions of Stipulation III(3), Monitoring Procedures.

F. A new stipulation is added at III(10) as follows:

III.

10. Treatment of Historic Properties:

- a. **TN-4-1010:** USAF shall design the fuel pipeline to avoid the Nanyo Kohatsu Kabushiki Kaisha (hereafter "NKK") Laboratory and NKK Administration Building, which are components of site TN-4-1010, the NKK Sugar Mill Complex, and which are individually listed on the National Register.
- b. **TN-1351:** Site TN-1351 (temporarily designated HDR-18-07) is assumed eligible for listing on the National Register for the purposes of this amended Divert PA. USAF shall avoid the site or conduct data recovery of the site as part of the Coordinated Identification under Stipulation III(9).
- c. **TN-6-0030:** USAF shall implement the following measures to minimize adverse effects on site TN-6-0030, West Field:
 - (1) To the extent practical, USAF shall minimize the use of steel-tracked equipment on intact airfield pavements during construction of the fuel pipeline.
 - (2) USAF shall repair airfield pavements affected by construction of the fuel pipeline consistent with the Secretary of the Interior's Standards for Rehabilitation, in

consultation with the SHPO and NPS. This may include matching of materials, color, and/or texture to their current appearance, to the extent practical.

G. A new stipulation is added at III(11) as follows:

III.

11. **Communications:** Electronic mail (email) will serve as the official correspondence method for all communications regarding this PA and its provisions. Hard copy submissions, including compact discs, of documents and findings required under this PA will also be provided to signatories, except for the ACHP, for their records. The SHPO's review periods as specified in this PA will begin upon USAF delivery of the electronic correspondence (e.g., email). See Attachment 4 for a list of contacts and email addresses. The USAF may update contact information in Attachment 4 as needed without an amendment to this PA. It is the responsibility of each signatory, invited signatory, and consulting party to immediately inform the USAF of any change in name, telephone number, email address, or mailing address of any point-of-contact. The USAF will forward this information to all signatories, invited signatories, and consulting parties by email.

H. Stipulation VII, Termination, is amended in VII(1) to correct an erroneous reference to Stipulation IX, which is corrected to Stipulation VI.

Execution of this First Amendment to the Divert PA by the USAF, SHPO, ACHP, FAA, and NPS and implementation of its terms is evidence that the USAF has taken into account the effects of the expanded Undertaking on historic properties and afforded the ACHP an opportunity to comment.

**First Amendment To
PROGRAMMATIC AGREEMENT
AMONG
THE PACIFIC AIR FORCES,
DIRECTORATE OF STRATEGY, PLANS, AND PROGRAMS,
THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
STATE HISTORIC PRESERVATION OFFICE,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE PROPOSED CONSTRUCTION
AND OPERATION OF DIVERT ACTIVITIES AND EXERCISES
WITHIN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**

SIGNATORY



MICHAEL P. WINKLER, Brig Gen, USAF
Director of Strategy, Plans, and Programs
Pacific Air Forces



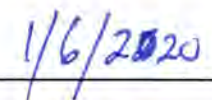
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WITHIN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**

SIGNATORY



Governor Ralph D.G. Torres, on behalf of the
State Historic Preservation Officer, CNMI



Date



Rita Chong- Dela Cruz
State Historic Preservation Officer, CNMI



Date

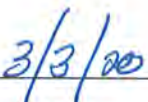
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First Amendment To
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AND OPERATION OF DIVERT ACTIVITIES AND EXERCISES
WITHIN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

SIGNATORY



John M. Fowler, Executive Director, ACHP


Date

**PROGRAMMATIC AGREEMENT
AMONG
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DIRECTORATE OF STRATEGY, PLANS, AND PROGRAMS,
THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
STATE HISTORIC PRESERVATION OFFICE,
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REGARDING THE PROPOSED CONSTRUCTION
AND OPERATION OF DIVERT ACTIVITIES AND EXERCISES
WITHIN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**

INVITED SIGNATORY



Mark McClardy, Director, Office of Airports
FAA, Western Pacific Region

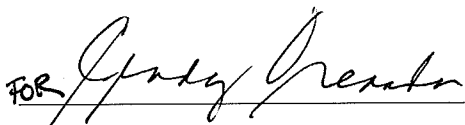
11/13/20

Date

12/13

**PROGRAMMATIC AGREEMENT
AMONG
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INVITED SIGNATORY

FOR  _____

Stan Austin, Regional Director,
National Park Service
Interior Regions 8,9,10, and 12

Jan. 17, 2020 _____

Date

ATTACHMENTS

Attachment 1 (attached to Divert PA): Description of Revised Divert Undertaking and Area of Potential Effect (APE)

Attachment 2: Description of Tinian Divert Infrastructure Improvements Expanded Undertaking and Area of Potential Effect (APE)

Attachment 3: Figure Showing Portions of the Expanded Area of Potential Effect (APE) with Potential for Subsurface Archaeological Deposits

Attachment 4: Contact Information for Signatories, Invited Signatories, and Consulting Parties

ATTACHMENT 2: DESCRIPTION OF TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS EXPANDED UNDERTAKING AND AREA OF POTENTIAL EFFECT (APE)

1. Introduction.

USAF is revising the Divert Undertaking to incorporate the Tinian Divert Infrastructure Improvements project, which consists of pipeline construction and road improvements to support the Divert Undertaking. After the Record of Decision for the Divert EIS was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS. USAF proposes to construct a fuel pipeline and associated infrastructure at the seaport to transport fuel from the seaport to the airport. In addition, reconnaissance inspections and coordination with Tinian leadership indicated the existing surface road network is inadequate to support heavy vehicle traffic required for Divert construction and activities. Therefore, USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert activities. USAF has prepared a Draft Supplemental EIS to evaluate these infrastructure improvements.

2. Project Components.

2.1. Fuel Pipeline.

The pipeline and supporting infrastructure would replace the truck-transport of fuel and bulk fuel storage tanks at the seaport that was included in the original Undertaking. The pipeline would be constructed underground primarily along existing and former roads. The pipeline would be installed within a 20-foot easement; however, for the purposes of assessing effects of the undertaking, USAF is assuming that an 80-foot easement could be disturbed during construction to allow for materials laydown and routing adjustments. The pipeline will be installed to a depth of approximately 3 feet. Low point drains would be installed approximately every 500 feet along the second section of pipeline. These points would be used to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains would be installed in pits approximately 3.5 feet deep to allow access below ground surface.

USAF is considering two pipeline routes between the Tinian seaport and the airport (**Figure 1**). The East Route is USAF's Preferred Alternative.

East Route. The East Route extends north from the Tinian seaport until it intersects Tinian Route (TR) 26 (i.e., West Avenue) and then stays on a northwestern path by following TR26 and 6th Avenue until it reaches TR24 (i.e., 42nd Street), where it turns east. The route then continues east on TR24 until just south of the airport, where it turns north, then west, and eventually turns northeast along TR23 to approach the Divert fuel storage tanks from the west side. A roadway map of Tinian is depicted in Figure 2. This route primarily follows existing roads, abandoned roads, and abandoned airfield pavements. The route is approximately 4.9 miles long. Exact placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing/abandoned roads and airfield pavements.

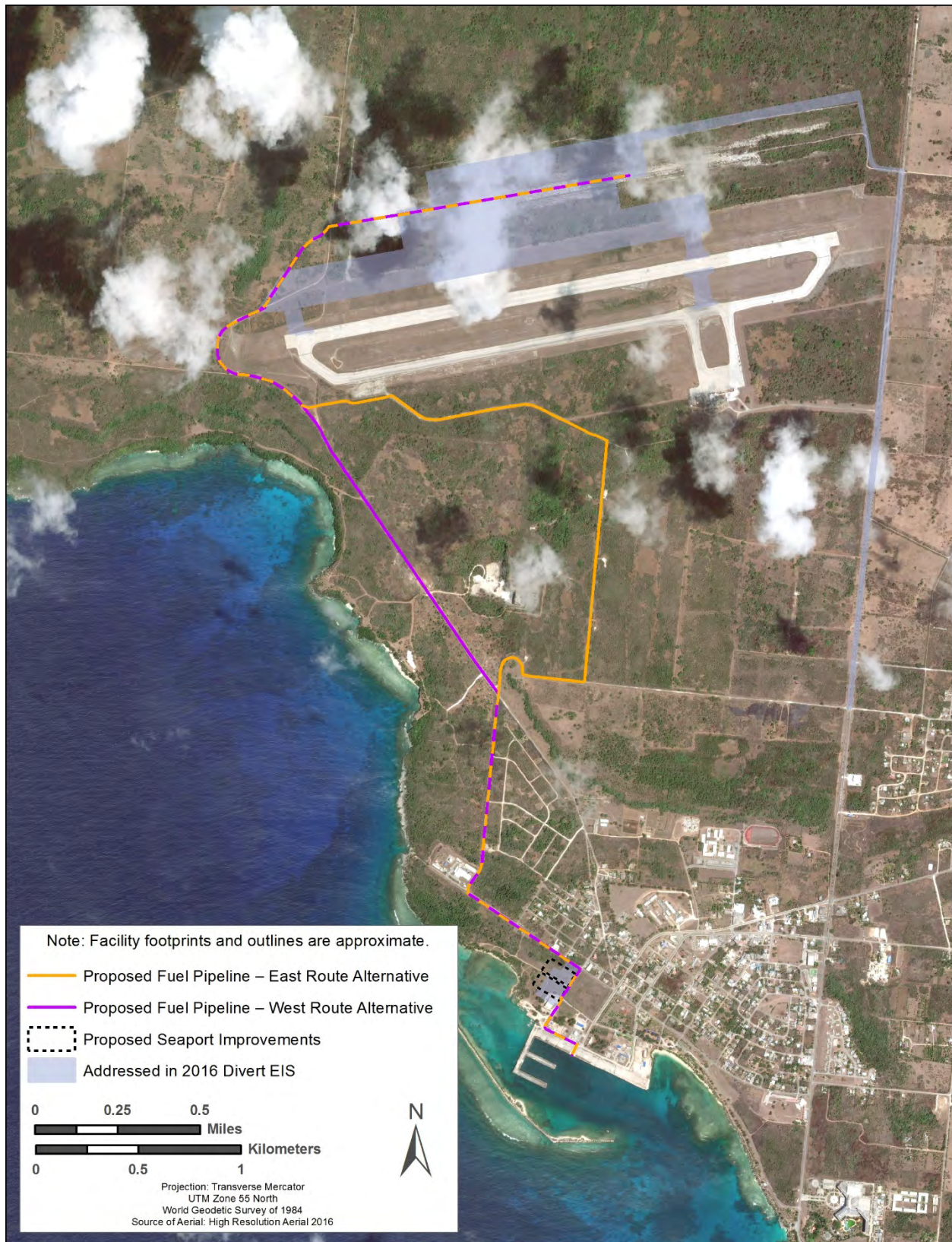


Figure 1. Proposed East and West Pipeline Route Alternatives

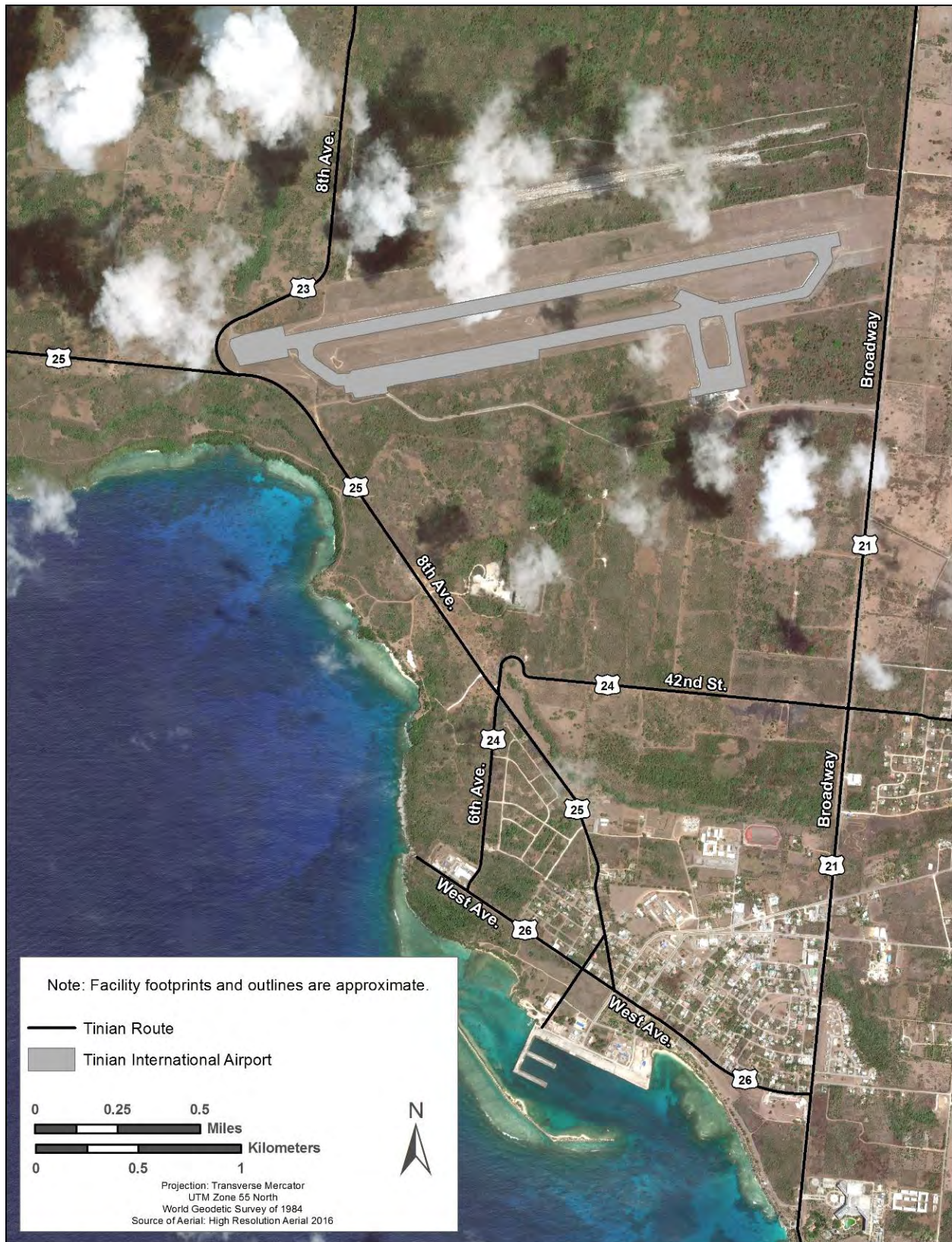


Figure 2. Roadway Map of Tinian

West Route. The West Route travels north from the Tinian seaport along the same path as the East Route until it intersects TR25 (i.e., 8th Avenue). At the intersection with TR25, the West Route stays on a northwestern path by following TR25, and then turns northeast along TR23 to approach the Divert fuel storage tanks from the west side. This route primarily follows existing roads and is approximately 4.1 miles long. Placement of the pipeline along this route is under development, but is expected to be within 40 feet of existing roads.

2.2. Seaport Support Infrastructure.

Seaport support infrastructure would be constructed at the Tinian seaport in place of the two seaport fuel storage tanks proposed in the original Undertaking. A booster pump house and boom storage building would be constructed near the seaport to support the fuel pipeline operations. The booster pump house and boom storage building would be collocated with a construction laydown yard, biosecurity area, parking area, sewage holding tank, and water storage tanks. Gravel pedestrian pathways and access roads would also be created or widened within this area; all existing roads would remain open to the public. The booster pump house would be sized to fit three pumps and would include a pump room, control room, mechanical room, and toilet. The pump house would also require installation of water and electric utilities, which would be extended from existing service lines. The boom storage building would be constructed in close proximity to the booster pump house for the storage of fuel spill containment booms and fuel transfer hose supplies. The building would require overhead door access for ease of loading/unloading. Infrastructure including fencing and utility connections would be constructed in the seaport improvement area. A total area of 5.5 acres would be required for the seaport support infrastructure, within an 8.2 acre area at the seaport.

2.3. Road Improvements.

The proposed roadway improvements would occur on roads previously analyzed for Divert-related vehicles in the original EIS. The roadway improvements would support construction of all Divert-related facilities and, if needed, transfer of fuel via tanker truck if the proposed pipeline and support facilities are not implemented. The road improvements would include replacement of the existing roadway surfaces, which would entail: removing the existing deteriorated asphalt cap, which is approximately 2 to 4-inches thick; grading the road subsurface down approximately 8 inches below the original asphalt cap; laying a new 8-inch subbase; and finishing the surface with a new 3-inch asphalt cap. All roadway improvements would occur within the existing roadbeds and shoulders, and no roadbed widening or right of way alterations would occur. For the purposes of assessing effects of the undertaking, USAF assumes the above activities would occur along all roadways proposed for improvement; however, portions of the roadways may require less extensive repairs.

Only one roadway route is under consideration for road improvements (Figure 3). This route travels from the Tinian seaport north to TR25, north along TR25 to its intersection with TR24, and east along TR24 to its intersection with TR21 (i.e., Broadway).



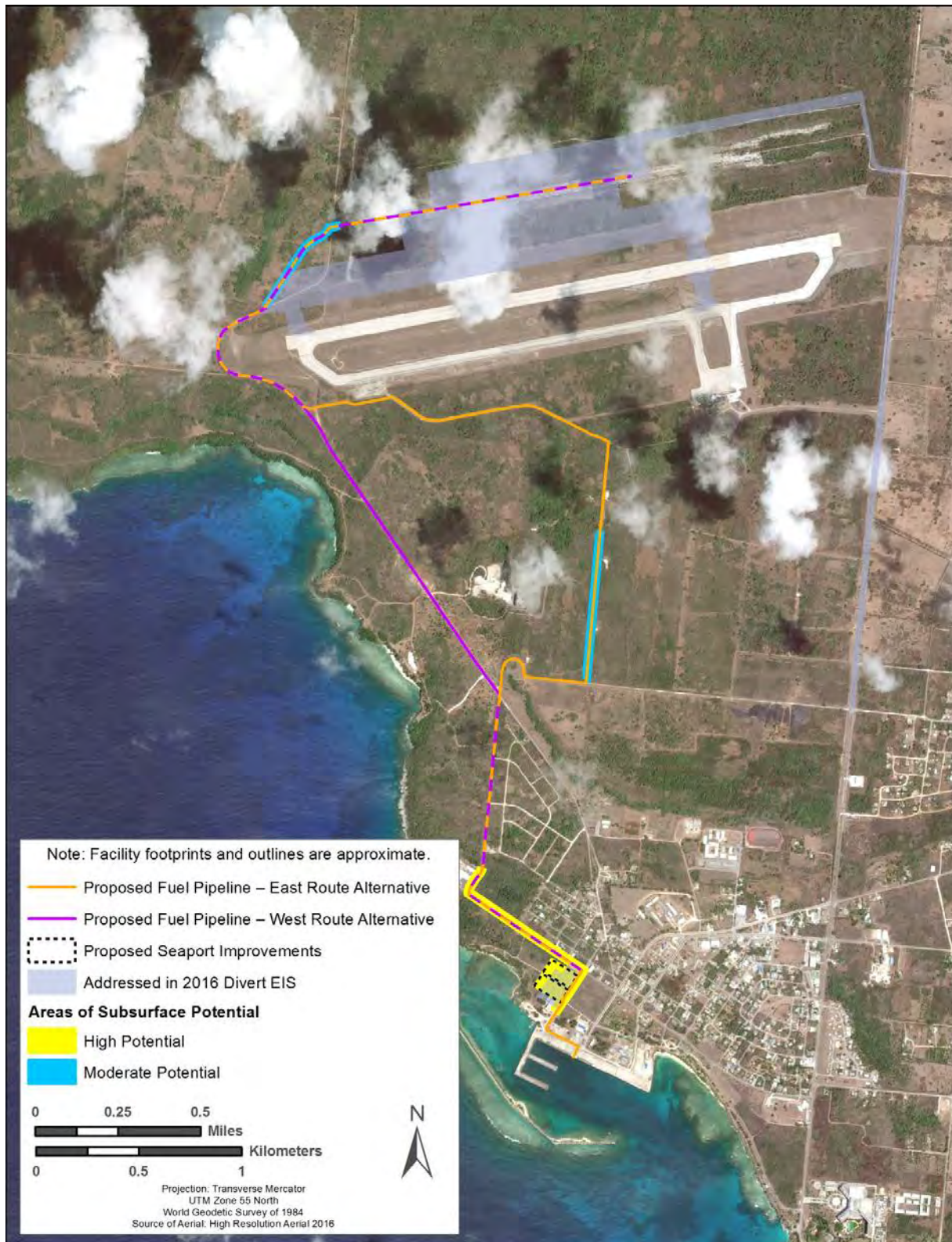
Figure 3. Proposed Road Improvements

3. Area of Potential Effects

The APE is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR 800.16(d)). USAF has defined the APE for the Tinian Divert Infrastructure and Improvements project to include all areas where ground disturbance could occur during project construction. The APE consists of the following components:

- A 100 ft (30 meter [m]) corridor along both proposed pipeline routes (the APE is 20 ft wider than the pipeline analysis corridor to provide additional flexibility in siting), from the ground surface to a depth of 4 feet
- An 8.2-acre area at the seaport, from the ground surface to a variable depth of 1 to 3 feet
- The existing roadways where improvements could occur, including 15 feet on either side of the road surface, from the ground surface to a depth of 1 foot

**ATTACHMENT 3: FIGURE SHOWING PORTIONS OF THE EXPANDED AREA OF
POTENTIAL EFFECT (APE) WITH POTENTIAL FOR SUBSURFACE
ARCHAEOLOGICAL DEPOSITS**



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APPENDIX D

Biological Resources Consultations Supporting Documentation



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D-1. Terrestrial Biological Resources Survey Report

In May 2018, the U.S. Air Force (USAF) completed a field survey on Tinian of the project areas for the Proposed Actions. The Final version of the survey report is provided on page **D-3**. USAF has provided USFWS with a courtesy copy of the survey report for their records

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Final

Biological Survey Report

Proposed Infrastructure Improvements on
Tinian, Commonwealth of the Northern
Mariana Islands

Contract No. FA8903-16-D-0031

Task Order No. FA8903-18-F-0034

Prepared for:



Headquarters Pacific Air Forces (PACAF)
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Prepared by:



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September
2018

Abbreviations and Acronyms

CBD	Center for Biological Diversity
CNMI	Commonwealth of the Northern Mariana Islands
DPS	Distinct Population Segment
EIS	Environmental Impact Statement
PACAF	Pacific Air Forces
ROD	Record of Decision
SEIS	Supplemental Environmental Impact Statement
TIA	Tinian International Airport
USAF	United States Air Force
USFWS	U.S. Fish and Wildlife Service

FINAL

BIOLOGICAL SURVEY REPORT
PROPOSED INFRASTRUCTURE IMPROVEMENTS ON
TINIAN, COMMONWEALTH OF THE NORTHERN
MARIANA ISLANDS

CONTRACT NO. FA8903-16-D-0031
TASK ORDER NO. FA8903-18-F-0034

Prepared for



Headquarters Pacific Air Forces (PACAF)
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Prepared by



SEPTEMBER 2018

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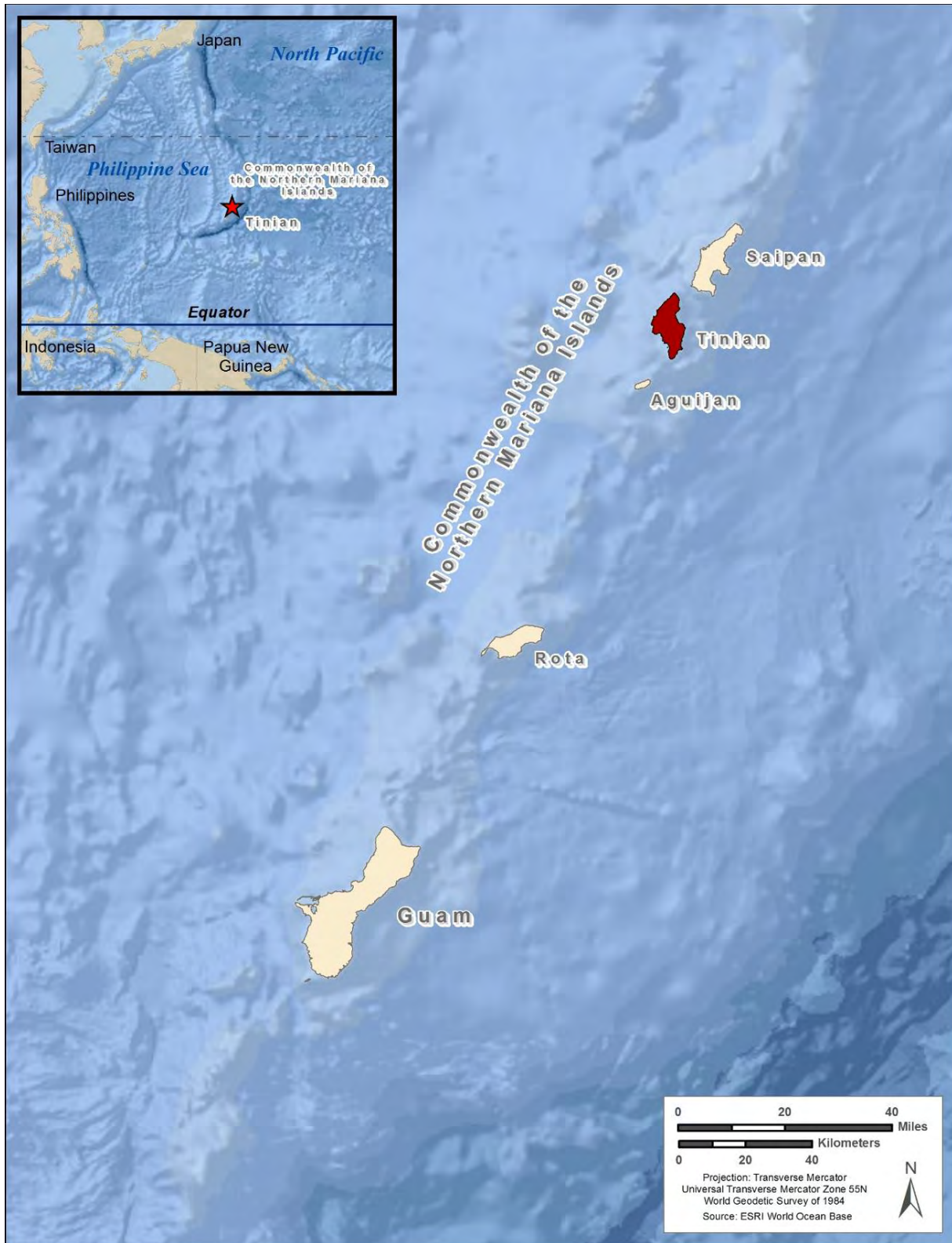
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1. Introduction

The U.S. Air Force (USAF) completed an Environmental Impact Statement (EIS) for Divert Activities and Exercises in September 2016 (“2016 Divert EIS”) and issued a Record of Decision (ROD) in December 2016. In the ROD, the USAF announced the decision to select the Modified Tinian Alternative (2016 Divert EIS, Section 2.7), and specifically the North Option (2016 Divert EIS, Section 2.5.2), as the future Divert location. The 2016 Divert EIS evaluated the construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the 2016 Divert EIS. The USAF now proposes to construct a fuel pipeline, and associated infrastructure at the seaport, to transport fuel from the seaport to the airport. The USAF also proposes to improve select existing roads between the seaport and airport to support Divert activities. A Supplemental Environmental Impact Statement (SEIS) is being prepared for the proposed infrastructure improvements. The SEIS will analyze the potential environmental consequences associated with the proposed construction and operation of the fuel pipeline and related seaport facilities, and of the proposed roadway improvements. A biological survey was conducted in the Project area of the proposed infrastructure and roadway improvements. This report contains the findings of the biological survey and considers resources protected under the Endangered Species Act.

1.1 Site Location

The improvements proposed by USAF are focused on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI) (**Figure 1-1**). The proposed infrastructure improvements (Project) include East and West pipeline route alternatives, related seaport infrastructure improvements, and roadway improvements (**Figure 1-2**). The Project is located in the southern part of Tinian, between the Tinian International Airport (TIA) and Tinian Harbor, and includes areas within the village of San Jose.



1

2

Figure 1-1. Tinian, Commonwealth of the Northern Mariana Islands

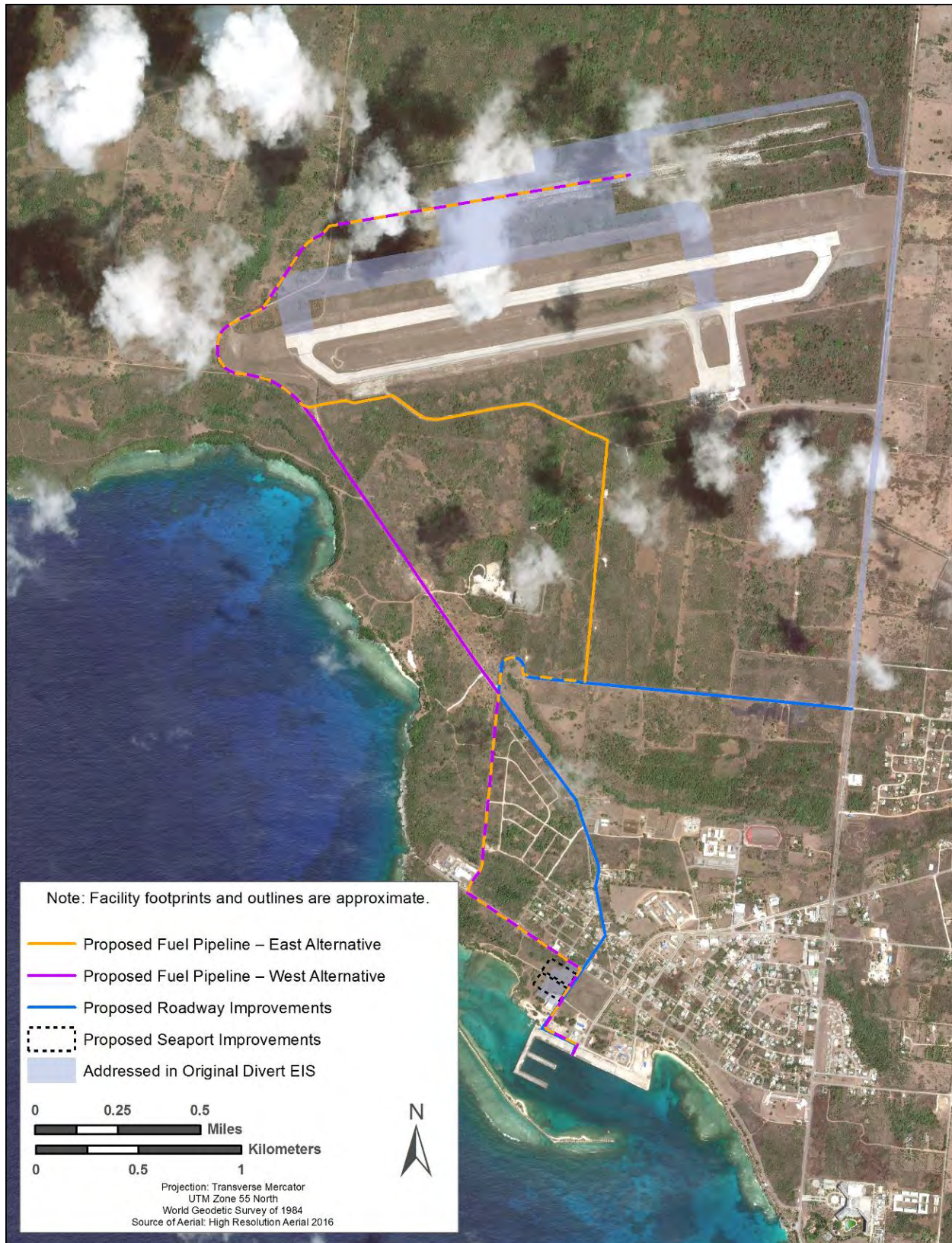


Figure 1-2. Proposed East and West Alternative Fuel Pipeline Routes, Roadway Improvements and Proposed Seaport Improvement Area

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2. Methods

HDR conducted a biological survey of the proposed fuel pipeline routes, roadway improvements, and seaport improvement areas from 12 May to 16 May 2018. All plant and wildlife species observed were recorded. Existing vegetation mapping data (Donnegan et al. 2011) collected in 2004 was evaluated for accuracy and any deviations from reported vegetation community composition were noted. Biologists also noted federally or Commonwealth-listed species observed in proposed Project construction areas and habitat that might support such species.

2.1 Background Research

Prior to field surveys, HDR conducted background research of federally listed species and CNMI listed species that have been identified as Greatest Conservation Need by CNMI DFW and approved by U.S. Fish and Wildlife Service (USFWS) in the 2015 CNMI Wildlife Action Plan (Liske-Clark 2015) that potentially occur near proposed Project areas on Tinian. HDR consulted recent environmental survey documents, including the 2016 Divert EIS, the U.S. Marine Corps' Commonwealth of the Northern Mariana Islands Joint Military Training Draft EIS analysis, and recent USFWS publications and survey reports conducted within the CNMI to identify listed species that could be present in the Project area. The findings are presented in **Table 2-1** and **2-2**. There are no plant species included in the 2015 CNMI Wildlife Action Plan as a CNMI listed species with Greatest Conservation Need.

Table 2-1. Federally Listed Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Federal Status
Wildlife		
Green sea turtle*	<i>Chelonia mydas</i>	E
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E
Mariana common moorhen	<i>Gallinula chloropus guami</i>	E
Micronesian megapode	<i>Megapodius laperouse laperouse</i>	E
Tinian monarch	<i>Monarcha takatsukasae</i>	Petition/ under review
Humped tree snail	<i>Partula gibba</i>	E
Mariana fruit bat	<i>Pteropus mariannus mariannus</i>	T
Plants		
Fadang	<i>Cycas micronesica</i>	T
No common name	<i>Dendrobium guamense</i>	E
Ufa-halomtano	<i>Heritiera longipetiolata</i>	E
Berenghenas halomtano	<i>Solanum guamense</i>	E

* Central West Pacific Distinct Population Segment

Notes: E: Endangered, T: Threatened

Table 2-2. Commonwealth Species of Special Concern with Potential to Occur in the Project Area

Common Name	Scientific Name	CNMI Status
Wildlife		
Micronesian starling	<i>Aplonis opaca</i>	P
Green sea turtle	<i>Chelonia mydas</i>	T&E/P
Pacific sheath-tailed bat	<i>Emballonura semicaudata rotensis</i>	T&E
Hawksbill sea turtle	<i>Eretmochelys imbricate</i>	T&E/P
White-throated ground dove	<i>Gallicolumba xanthonura</i>	P
Mariana common moorhen	<i>Gallinula chloropus guami</i>	T&E
Micronesian megapode	<i>Megapodius laperouse laperouse</i>	T&E/P
Tinian monarch	<i>Monarcha takatsukasae</i>	P
Micronesian gecko	<i>Perochirus ateles</i>	T&E/P
Mariana fruit bat	<i>Pteropus marianus marianus</i>	T&E/P
Mariana fruit dove	<i>Ptilinopus roseicapilla</i>	P
Rufous fantail	<i>Rhipidura rufifrons</i>	P

T&E = Threatened and Endangered § 85-30.1-101, P = Protected (hunting prohibited) § 85-30.1-310 (d). From Title 85: Department of Lands and Natural Resources, Chapter 85-30 Division of Fish and Wildlife, Subchapter 30.1 Non-commercial Fish and Wildlife Regulations.

2.2 Field Methods

Biologists walked meandering transects throughout the Project area, including an 80-foot easement along the East and West pipeline routes, a 4-foot easement on either side of roads identified for roadway improvements, and the 8.23-acre area identified for seaport improvements. Biologists compiled a list of plant and wildlife species observed during surveys and verified vegetation mapping data from Donnegan et al. (2011). Unique habitats that could support listed species were also noted.

All notable plant or wildlife observations were recorded using a Trimble Geo7X Global Positioning System. Species names for plants were confirmed at The Plant List (<http://www.theplantlist.org/>) to verify the most current accepted taxonomy. Common names use Chamorro names (Raulerson and Rinehart 1991) where available and the U.S. Department of Agriculture Plants Database (<https://plants.usda.gov/java/>) was consulted for other standard common names as well.

3. Results

Wildlife observed during the survey is presented in **Table 3-1**. Photographs were taken throughout the Project area and are provided in **Appendix A**. Common plant species observed in each vegetation type are presented in **Table 3-2**, a complete plant species list can be found in **Appendix B**.

3.1 Wildlife

No federally listed wildlife was observed during surveys and no potential habitat for federally listed wildlife was observed. A total of 3 mammals, 13 birds, 1 amphibian, 4 reptiles, 4 butterflies, and 1 hermit crab were observed (**Table 3-1**). The Tinian monarch (*Monarcha takatsukasae*), a species endemic to Tinian and currently under petition for relisting as a federally protected species, along with nests, were frequently observed in forested areas, including Tangantangan (*Leucaena leucocephala*) Forest and Mixed Introduced Forest, with an overhead canopy. None of the species observed are considered threatened and endangered by the CNMI; however, five species observed are on the protected species list that precludes hunting. CNMI protected species observed include the Micronesian starling (*Aplonis opaca*), white-throated ground dove (*Gallicolumba xanthonura*), Tinian monarch, Mariana fruit dove (*Ptilinopus roseicapilla*), and rufous fantail (*Rhipidura rufifrons*).

Table 3-1. Wildlife Species Observed in the Project Area

Common Name	Scientific Name
Mammals	
Musk shrew	<i>Suncus murinus</i>
Feral cat	<i>Felis silvestris catus</i>
Polynesian rat	<i>Rattus exulans</i>
Birds	
Noddy*	<i>Anous</i> sp.
Micronesian starling*	<i>Aplonis opaca</i>
Orange-cheeked waxbill	<i>Estrilda melpoda</i>
White-throated ground dove*	<i>Gallicolumba xanthonura</i>
White tern*	<i>Gygis alba</i>
Collared kingfisher*	<i>Halcyon chloris</i>
Yellow bittern*	<i>Ixobrychus sinensis</i>
Tinian monarch*†	<i>Monarcha takatsukasae</i>
Micronesian honeyeater*	<i>Myzomela rubrata</i>
Eurasian tree sparrow	<i>Passer montanus</i>
Mariana fruit dove *	<i>Ptilinopus roseicapilla</i>
Rufous fantail*	<i>Rhipidura rufifrons saipanensis</i>
Philippine turtle-dove	<i>Streptopelia bitorquata</i>
Bridled white-eye*	<i>Zosterops conspicillatus</i>



Common Name	Scientific Name
Amphibians	
Cane toad	<i>Rhinella marina</i>
Reptiles	
Green anole	<i>Anolis carolinensis</i>
Curious skink	<i>Carlia fusca</i>
Pacific blue-tailed skink*	<i>Emoia caeruleocauda</i>
Green tree skink	<i>Lamprolipis smaragdina</i>
Insects	
Lemon migrant*	<i>Catopsilia pomona</i>
Blue-branded king crow*	<i>Euploea eunice</i>
Blue moon*	<i>Hypolimnas bolina</i>
Common mormon	<i>Papilio polytes</i>
Other Species	
Hermit crab*	<i>Coenobita</i> sp.

* Native to Tinian, † Endemic to Tinian

3.1.1 Mariana Common Moorhen

The Mariana common moorhen (*Gallinula chloropus guami*) is a federally endangered subspecies of the common moorhen (*G. chloropus*). The Mariana common moorhen, or pulattat locally, is a medium size wetland bird (14 inches in length) with slate-black coloration and a distinctive red bill and frontal shield. The moorhen inhabits freshwater marshes, ponds, and slow-moving rivers with emergent vegetation (USFWS 1991). They are frequently observed in man-made wetlands, particularly golf course ponds, sewage settling ponds, and flooded ponding basins. Moorhens are known to occur on Tinian, and have been reported from various wetlands, including Lake Hagoi, the Mahalang Complex, and the Bateha Sites. The Bateha Sites are the closest to the Project area, approximately 1.8 miles from the northernmost pipeline alignment, and were occupied during surveys in 2014 (NAVFAC 2014a). Mariana common moorhens are unlikely to occur in the Project area because wetland habitat suitable for Mariana common moorhens does not occur there.

3.1.2 Micronesian Megapode

The Micronesian megapode (*Megapodius laperouse laperouse*), or sasangat locally, is a federally endangered forest bird, generally found foraging on the forest floor. The medium-sized grey-brown to black bird with an ashy head, short crest, and large prominent feet is typically found in limestone forest, and occasionally in secondary forest, including forest dominated by Tangantangan (USFWS 1998). Observations of megapodes on Tinian are generally associated with areas of limestone forest on and around Mount Lasso, approximately 2 miles north of the Project area. The megapode population on Tinian is considered to be transient, with individuals rarely observed (NAVFAC 2014a). No megapodes were detected during surveys conducted in 2013 around Mount Lasso. Potential habitat for megapodes was observed in Mixed Introduced Forest and Tangantangan Forest on both the East and West pipeline routes. The best potential habitat occurred north of 42nd Street on the East pipeline route, where larger blocks of closed

canopy Tangantangan Forest occurred away from the disturbance of road edges. Tangantangan is not a preferred habitat for megapodes; only 28 percent of megapode sightings around the Marpi cliffs in Saipan were in Tangantangan Forest (Glass and Aldan 1988). Surveys of the Project area were conducted passively; no call playback surveys were conducted. No megapodes were observed or heard during surveys. The megapode population on Tinian is very small and considered transitory, but marginal habitat does occur within the Project area.

3.1.3 Tinian Monarch

The Tinian monarch is a small forest bird endemic to the island of Tinian. Monarchs (Monarchidae) are a family of approximately 100 species of Old World flycatchers, feeding primarily on insects. Tinian monarchs are dull colored with buffy tan sides, face, eye-ring, and underparts. The back and wings are chocolate brown with two narrow white wing bars. This species was originally listed as endangered in 1970 (69 Federal Register [FR] 56367) as a result of native forest destruction during the Japanese sugar cane farming era and the destructive effects of World War II. Once a bird of the native limestone forest, they have adapted to use secondary forests as well. The monarch was down-listed in 2004 when populations exceeded 55,000 individuals and a significant increase in forest density was observed. In December 2013, the Center for Biological Diversity (CBD) petitioned the USFWS to relist the Tinian monarch (CBD 2013), and in September 2015 the USFWS found that listing “may be warranted” (USFWS 2015). No final rule has been determined to date, and in April 2018 the CBD filed a lawsuit (Case No. 1:18-cv-862) to compel a final rule by USFWS.

Tinian monarchs and their nests (**Photographs 9 and 10 in Appendix A**) were found in both Mixed Introduced Forest and Tangantangan Forest (**Figure 3-1**). Most of the observations were made along the East pipeline route in blocks of closed canopy Tangantangan Forest. Additional observations were made in Mixed Introduced Forest in both the southern and northern portions of the pipeline routes that are shared between the two alternatives.

3.1.4 Humped Tree Snail

The humped tree snail (*Partula gibba*) is one of five species of Partulid snails known to occur in the Mariana Islands and the only species reported from Tinian (DFW 2005). Humped tree snails are small arboreal snails; adults measure 0.6 to 0.7 inches long and 0.4 to 0.6 inches wide. Coloration is variable and ranges from chestnut brown to whitish-yellow and purple (Kerr 2013). They are the most widely distributed of the Partulids in the Mariana Islands, formerly occurring on at least eight islands. Prior to surveys conducted in 2013 (NAVFAC 2014a), humped tree snails had not been reported from Tinian since 1970 (DFW 2005). In 2013, 92 humped tree snails were reported from the South Dump Coke area, approximately 2.6 miles to the northwest of the Project area (NAVFAC 2014a). The humped tree snail prefers shaded moist forest understory typically found in native limestone forest. They can be found on virtually any of the large leaved plant species found in suitable forest habitats, whether the plant is native or introduced (Kerr 2014).

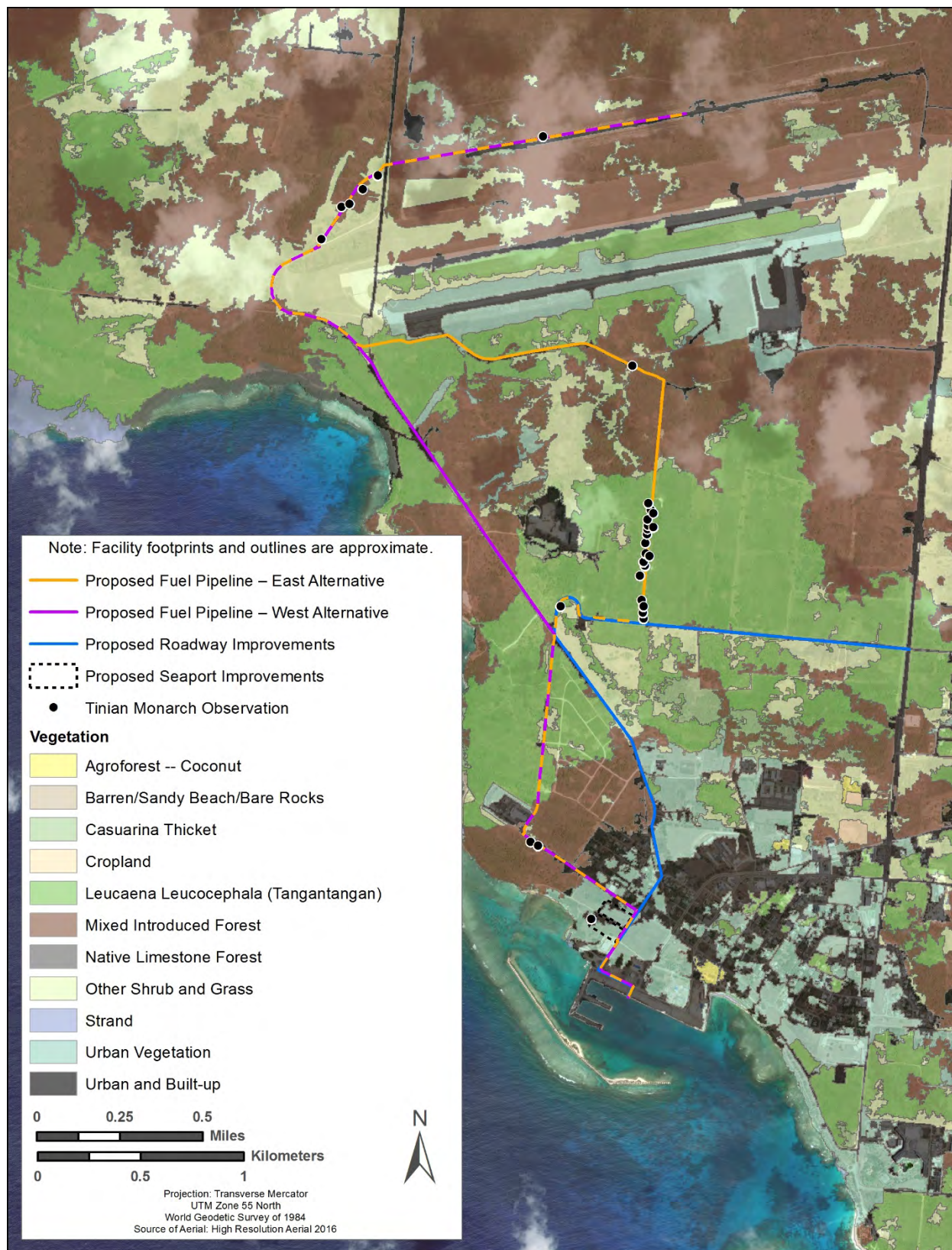


Figure 3-1. Tinian Monarch Observations

No live humped tree snails or ground shells (shells of dead snails on the ground) were observed during surveys of the Project area. At the South Dump Coke site, humped tree snails were observed in limestone forest dominated by puting (*Barringtonia asiatica*) and fagot (*Ochrosia oppositifolia*) trees. This type of habitat was not observed during surveys within the Project area. The closest potential suitable habitat is a strip of limestone forest between the beach and cliffs near Unai Swimming Hole, approximately 275 feet to the west of the West pipeline route alternative. Surveys conducted in this section of forest in 2013 did not find humped tree snails. Biologists conducting the 2013 survey noted that while the area was selected for surveys due to its apparent similarity to the South Dump Coke site, there was no protected habitat in this area and not even ground shells were observed. For the current survey, biologists spent a limited amount of time at this area looking for evidence of humped tree snails and did not observe live snails or ground shells. The lack of suitable habitat for humped tree snails and the lack of evidence of past presence in the form of ground shells makes the potential for humped tree snails in the Project area unlikely.

3.1.5 Mariana Fruit Bat

The Mariana fruit bat (*Pteropus marianus marianus*), or fanihi, is one of only three native mammals, all of which are bat species, occurring in the Mariana Islands. The Mariana fruit bat was original listed as endangered in 1984 (49 FR 33881) but the listing only included the Guam population. In 2005, the Mariana fruit bat was reclassified as a threatened species throughout its range (Guam and the CNMI) (USFWS 2005). The fruit bat roosts and forages primarily in native forest, and occasionally forages in agricultural forest (USFWS 2009). Mariana fruit bats are infrequently observed on Tinian. In the mid 1990s a small population of approximately 200 individuals occurred on Aguiguan, 5.5 miles south of Tinian, and were believed to be the source of incidental observations on Tinian and Saipan. Although fruit bat habitat does occur on Tinian, the bats are not currently considered to be resident on the island.

No Mariana fruit bats were observed during surveys of the Project area; however, suitable foraging tree species, including talisai (*Terminalia catappa*), papaya (*Carica papaya*), coconut (*Cocos nucifera*), and Hodda (*Ficus tinctoria*), were observed scattered in all vegetation types. The closest suitable roosting and foraging fruit bat habitat is a small strip of limestone forest 275 feet west of the West pipeline route. Larger and more extensive tracks of limestone forest occur 1.4 miles north of the Project area at Mount Lasso. The presence of potential Mariana fruit bat foraging trees in and around the Project area and infrequent historic observations on Tinian suggests that there is a very small potential that Mariana fruit bats could forage in the Project area.

3.1.6 Green Sea Turtle

The green sea turtle (*Chelonia mydas*) was federally listed as a threatened species in 1978 (43 FR 32800). In 2016, the National Marine Fisheries Service issued a final rule dividing the green sea turtle population into 11 distinct population segments (DPS) and listing each segment separately. The final rule lists the Central West Pacific DPS, which includes the Mariana Islands, as an endangered species (81 FR 20058). The green sea turtle can reach a maximum size of 4 feet across and weigh up to 440 pounds. As juveniles, green sea turtles are more pelagic, feeding on jellyfish and other invertebrates. As they grow older, they settle into more

coastal environments and become more vegetarian, feeding primarily on algae and sea grass. They have a strong nest site fidelity and often make long migrations between feeding grounds and nesting sites.

No green sea turtle nesting habitat was observed during surveys of the Project area. A coralline sand and gravel beach is present approximately 198 feet west of the seaport improvement area at an unnamed beach west of Tinian Harbor. This beach is not identified in survey reports dating back to 1984 and therefore is unlikely to be suitable for green sea turtles. Known sea turtle nesting has occurred 1,700 feet west (Unai Barcinas Cove) and 920 feet west of the Project area (Unai Leprosarium) (NAVFAC 2014b) near the combined East and West pipeline alternatives. The lack of suitable nesting habitat and the lack of historic nesting in the last decade near the Project area makes green sea turtles unlikely to be present.

3.1.7 Hawksbill Sea Turtle

The hawksbill sea turtle (*Eretmochelys imbricata*) was listed as a federally endangered species throughout its range in 1970 (35 FR 8491). The hawksbill sea turtle can reach up to 3 feet across and weigh up to 300 pounds. They typically inhabit rocky areas, coral reefs, shallow coastal areas, lagoons, or oceanic islands. They are most often associated with the coral reef community where they feed primarily on sponges.

No hawksbill sea turtle nesting habitat was observed during surveys of the Project area. Hawksbill sea turtles have not been documented nesting on Tinian (NAVFAC 2014b). The lack of nesting habitat and the absence of recorded nesting attempts on the island indicate that hawksbill sea turtles are unlikely to occur near the Project area.

3.2 Plants

No federally listed plant species were observed during surveys, as discussed in **Sections 3.3.1 to 3.3.4**. A total of 141 plant species were observed, 40 of which are native species and 101 nonnative. Common plant species found in each of the six vegetation communities are presented in **Table 3-2**. A list of plants observed during surveys can be found in **Appendix B**.

3.3 Vegetation Communities

The Donnegan et al. (2011) vegetation mapping identifies six vegetation communities within the Project area (**Table 3-3**).

- **Mixed Introduced Forest:** Forests with a mixture of native and nonnative species. This vegetation type represents forests recovering from disturbance, native forests invaded by nonnatives, and forests establishing in disturbed areas from a mix of seed sources.
- **Tangantangan Forest:** Dominated by Tangantangan with other native and nonnative species.
- **Other Shrub and Grass:** Dominated by shrubs, grasses, and vines.
- **Urban and built-up areas:** Urban areas.

- **Casuarina Thicket:** Monospecific stands of *Casuarina equisetifolia*.

- **Urban Vegetation:** Used as a landcover type in USFS 2006, but not described.

The following observed differences from the Donnegan et al. (2011) vegetation map were noted.

- Along the East pipeline alternative, vegetation mapped as Tangantangan Forest contained significant areas of Other Shrub and Grass vegetation. These areas were dominated by Guinea grass (*Panicum maximum*) and St. Thomas lidpod (*Operculina ventricosa*) vines. The variation in vegetaton was attributed to a jeep trail and several large disturbed sites that have since been overgrown by vegetation.
- Along the West pipeline route on the east side of 6th Avenue, an increase in Other Shrub and Grass vegetation was noted and attributed to vegetation recovering from a fire.
- Along the East pipeline alternative, north of 42nd Street and south of the TIA there is a block of forest mapped as Mixed Introduced Forest north of the area mapped as Tangantangan Forest. This area, up to the service road south of TIA is Other Shrub and Grass vegetation with a few scattered emergent trees. The vegetation is dominated by Lantana (*Lantana camara*), Jack in the bush (*Chromolaena odorata*), Guinea grass, and St. Thomas lidpod forming dense thickets (**Photograph 4** in **Appendix B**).

1 **Table 3-2. Common Plant Species Observed in Each Vegetation Type in the Project Area***

Common Name	Scientific Name
Tangantangan Forest	
Tangantangan	<i>Leucaena leucocephala</i>
Sumak	<i>Aidia cochinchinensis</i>
Alum	<i>Melanolepis multiglandulosa</i>
Crested Philippine violet	<i>Barleria cristata</i>
St. Thomas lidpod	<i>Operculina ventricosa</i>
Rougeplant	<i>Rivina humilis</i>
Corkystem passionflower	<i>Passiflora suberosa</i>
Balloon vine	<i>Cardiospermum halicacabum</i>
Ahgao	<i>Premna [obtusifolia] serratifolia</i>
Aploghating	<i>Psychotria mariana</i>
Climbing hempvine	<i>Mikania scandens</i>
Soft butterfly pea	<i>Centrosema molle</i>
Mixed Introduced Forest	
Rosarypea	<i>Abrus precatorius</i>
Sumak	<i>Aidia cochinchinensis</i>
Tronkon-kalaskas	<i>Albizia lebbbeck</i>
Coral vine	<i>Antigonon leptopus</i>
Crested Philippine violet	<i>Barleria cristata</i>
Balloon vine	<i>Cardiospermum halicacabum</i>
Yokewood	<i>Catalpa longissima</i>
Flame tree	<i>Delonix regia</i>
Hodda	<i>Ficus tinctoria</i> var. <i>neo-ehudarum</i>
Ocean-blue morning glory	<i>Ipomoea indica</i>
Littlebell	<i>Ipomoea triloba</i>
Alum	<i>Melanolepis multiglandulosa</i>
St. Thomas lidpod	<i>Operculina ventricosa</i>
Kamachile	<i>Pithecellobium dulce</i>
Ahgao	<i>Premna [obtusifolia] serratifolia</i>
Strawberrytree	<i>Muntingia calabura</i>
Rougeplant	<i>Rivina humilis</i>
Other Shrub and Grass	
Mission grass	<i>Pennisetum polystachion</i>
Guinea grass	<i>Panicum maximum</i>
Jack in the bush	<i>Chromolaena odorata</i>
Crested Philippine violet	<i>Barleria cristata</i>
Lantana	<i>Lantana camara</i>
Coral vine	<i>Antigonon leptopus</i>
St. Thomas lidpod	<i>Operculina ventricosa</i>
Spiderling	<i>Boerhavia erecta</i>
Turkey berry	<i>Solanum torvum</i>



Common Name	Scientific Name
Urban Vegetation	
Bermuda grass	<i>Cynodon dactylon</i>
Bur grass	<i>Cenchrus echinatus</i>
Indian goosegrass	<i>Eleusine indica</i>
Caucasian bluestem	<i>Bothriochloa bladhii</i>
Guinea grass	<i>Panicum maximum</i>
Tropical lucerne	<i>Stylosanthes guianensis</i>
Turkey tangle fogfruit	<i>Phyla nodiflora</i>
White moneywort	<i>Alysicarpus vaginalis</i>
Coatbuttons	<i>Tridax procumbens</i>
Common wireweed	<i>Sida acuta</i>
Hairy beggarticks	<i>Bidens pilosa</i>
Pillpod sandmat	<i>Euphorbia hirta</i>
Casuarina Thicket	
Beach sheoak	<i>Casuarina equisetifolia</i>
Cure-for-all	<i>Pluchea carolinensi</i>
Lantana	<i>Lantana camara</i>
Jack in the bush	<i>Chromolaena odorata</i>
Urban and Built-up	
Bermuda grass	<i>Cynodon dactylon</i>
Bur grass	<i>Cenchrus echinatus</i>
Indian goosegrass	<i>Eleusine indica</i>
Caucasian bluestem	<i>Bothriochloa bladhii</i>
Tropical lucerne	<i>Stylosanthes guianensis</i>
Turkey tangle fogfruit	<i>Phyla nodiflora</i>
White moneywort	<i>Alysicarpus vaginalis</i>
Coatbuttons	<i>Tridax procumbens</i>
Sessile joyweed	<i>Alternanthera sessilis</i>
Common wireweed	<i>Sida acuta</i>
Hairy beggarticks	<i>Bidens pilosa</i>
Pillpod sandmat	<i>Euphorbia hirta</i>

* A full list of plant species observed is presented in **Appendix B**.

Table 3-3. Vegetation Communities within the Project Area

Vegetation Type
Mixed Introduced Forest
Urban and Built-up
Tangantangan Forest
Other Shrub and Grass
Urban Vegetation
Casuarina Thicket

3.3.1 Berenghenas Halomtano

Berenghenas halomtano (*Solanum guamense*) is a small shrub in the Solanum family and is endemic to the Mariana Islands. It was listed as a federally endangered species in October 2015 (80 FR 59424) and is currently known from only a single specimen located on Guam. It was known to inhabit native limestone forest habitats and was historically present on Tinian.

No berenghenas halomtano were observed during surveys and no suitable habitat was observed. It is unlikely this plant is present on the Project area.

3.3.2 Fadang

Fadang (*Cycas micronesica*) is a stout-trunked tree in the Cycad family and found on the islands of Guam, Rota and Pagan in the Mariana Islands and on Palau. Leaves are restricted to the terminal end of the trunk, or to the terminal end of branches that may form as the tree gets older. Fadang are typically found growing in native limestone or ravine forest habitats. The population has declined rapidly after the introduction of Asian cycad scale (*Aulacaspis yasumatsui*) in 2003. In October 2015, fadang was federally listed as a threatened species (80 FR 59424). Cycads are not known from Tinian; however, 900 fadang were donated to the CNMI Department of Land and Natural Resources in 2008-2009 to create a population free of Asian cycad scale to help guard against extinction. These plants were planted primarily around Mount Lasso and a few shrines and memorials around the island.

Two fadang were observed at the Nanyo Kohatsu site on West Avenue. Both fadang appeared to have been planted. No other cycads were observed during surveys and no limestone or ravine forest habitats were observed. Aside from planted fadang, it is unlikely any additional individuals are present in the Project area.

3.3.3 *Dendrobium guamense* (No Common Name)

Dendrobium guamense is an epiphytic orchid endemic to the Mariana Islands and found growing on trees in moist limestone and ravine forest. The plant appears as a cluster of reed-like stems up to 3 feet in length growing in filtered to full sun (Raulerson and Rinehart 1992). Leaves are oblong-lanceolate and are arranged alternately on the stem. Flowers appear from the stem sheath between leaves and are open for only a single day. *D. guamense* is known to occur on Tinian in a scattered distribution.

No *D. guamense* were observed during surveys. Overall epiphytic growth was observed to be extremely limited. The common epiphytic monarch fern (*Phymatosorus scolopendria*) was observed; however, in most cases it was growing terrestrially. Another common epiphytic fern known to grow on Tangantangan, lanceleaf tongue fern (*Pyrrosia lanceolata*), was also extremely limited in the Project area. While these ferns are not considered indicators of suitable *D. guamense* habitat, they do suggest that the forest in the Project area is generally dry and not suitable to epiphytes. The scattered and limited distribution of *D. guamense* on Tinian and the observed lack of general epiphytic growth within the Project area would suggest that the presence of *D. guamense* is unlikely.

3.3.4 Ufa-halomtano

Ufa-halomtano (*Heritiera longipetiolata*) is a tree endemic to the Mariana Islands and found in limestone forest. Mature trees are typically short and stout, frequently with a twisted trunk. The upper surface of the leaf is dark green, while the underside of the leaf is silvery-tawny. Fruits are brown and woody. Approximately 30 to 40 individuals are known to occur on Tinian (Raulerson and Rinehard 1992).

Ufa-halomtano was not observed during surveys and no limestone forest habitat that would support the tree was observed. Given the limited number of specimens known from Tinian and the lack of habitat observed, it is unlikely that this tree is present on the Project area.

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4. Conclusions

4.1 Wildlife

Potential foraging habitat for Mariana fruit bat, a federally threatened species, was observed scattered throughout the Project area in Mixed Introduced Forest and Tangantangan Forest. Mature ahgao trees were observed in Tangantangan Forest and Mixed Introduced Forest, and mature hodda was observed in Mixed Introduced Forest. Both species are found on a list of common forage plants for Mariana fruit bats (USFWS 2009). Additional foraging resources, including talisai, papaya, and coconut were also observed in lesser quantities in these vegetation types and scattered among urban residences. Tangantangan Forest represents 20.19 acres (33 percent) of the total Project area and Mixed Introduced Forest represents 3.95 acres (6.5 percent) for a total of 24.1 acres (39.5 percent) of the Project area. Mariana fruit bats, however, were not observed during surveys and their occurrence on Tinian is considered to be infrequent, transient, and in small numbers.

Potential marginal habitat for Micronesian megapodes is present in Tangantangan Forest and Mixed Introduced Forest. Megapodes have been observed to use secondary forest, including forest dominated by Tangantangan (USFWS 1998). The megapode population on Tinian is characterized as small and transient, perhaps dispersing from other islands through Tinian. No megapodes were observed during passive surveys of the Project area, and historic observations have generally occurred north of the Project area in limestone forest associated with Mount Lasso.

The Tinian monarch was observed in forested areas along the Project area in the form of individuals, pairs, and nests (active and inactive). The Tinian monarch was originally listed as an endangered species in 1970 but has since shown an increase in numbers. In 2004 it was removed from the list of endangered species due to recovery. In 2013, the USFWS found that relisting of the monarch “may be warranted” in response to a petition initiated by the CBD. No final rule has been published to date, but the CBD has filed a lawsuit to compel USFWS to issue a final rule.

4.2 Plants

No suitable habitat is present in the Project area for berenghenas-halomtano, *Dendrobium guamense*, or ufa-halomtano. Fadang occurs in the Project area as a landscape plant at a historic building. The current population of fadang on Tinian is the result of a conservation initiative that involved the relatively recent outplanting of 900 individual plants. Therefore, the distribution of outplanted fadang on Tinian is well-known and no naturally-occurring individuals were observed within the Project area.



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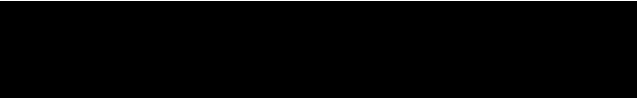
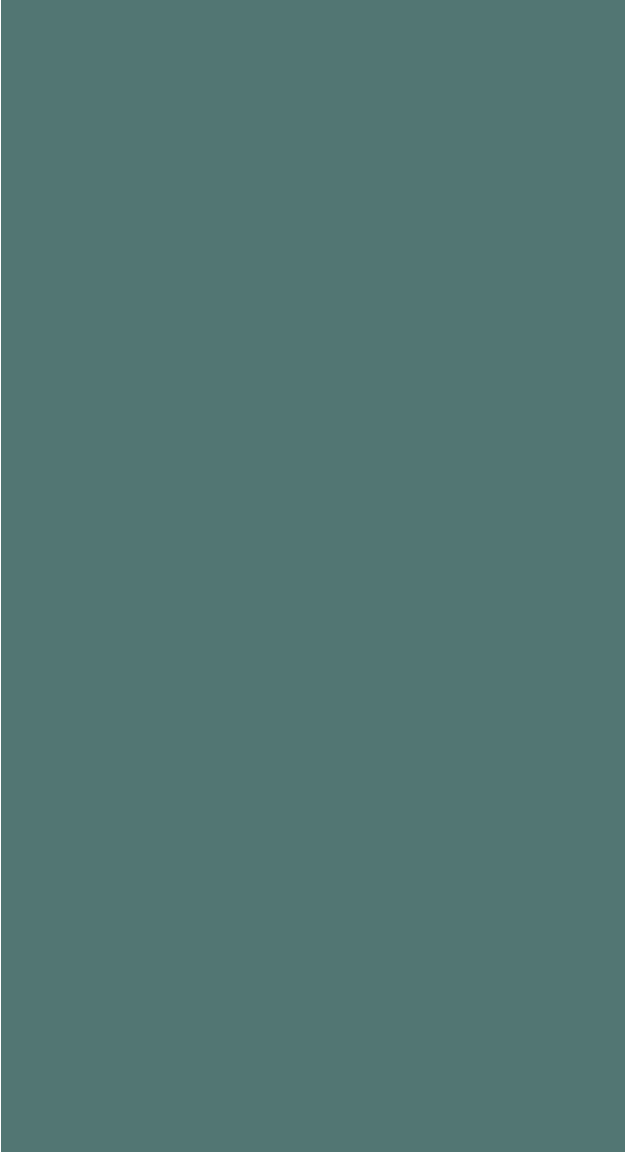
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Appendix A.

Site Photographs

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Photograph 1. Typical Mixed Introduced Forest observed within the Project area.



Photograph 2. Characteristic Tangantangan Forest observed during surveys.



Photograph 3. Other Shrub and Grass vegetation dominated by Guinea grass and St. Thomas lilypod.



Photograph 4. Other Shrub and Grass vegetation dominated by Jack in the bush and Lantana.



Photograph 5. Other Shrub and Grass vegetation dominated by Jack in the bush, Lantana, and turkey berry.



Photograph 6. Example of the Urban Vegetation observed near the seaport.



Photograph 7. Casuarina Thicket observed north of the Tinian International Airport.



Photograph 8. Urban and Built Up vegetation near the seaport.



Photograph 9. Tinian monarch in Tangantangan Forest west of the Tinian International Airport in cattle pastures.



Photograph 10. Tinian monarch nest in Tangantangan Forest.



Photograph 11. Rufous fantail nest in Tangantangan Forest.



Photograph 12. View along the west pipeline route on 8th Avenue.



Photograph 13. View of the Project area looking east along the East pipeline route on 42nd Street.



Photograph 14. View looking southeast on 42nd Street in proposed roadway improvement area outside an urban area.



Photograph 15. View looking Southeast on 42nd Street in proposed roadway improvement area in Urban Area.



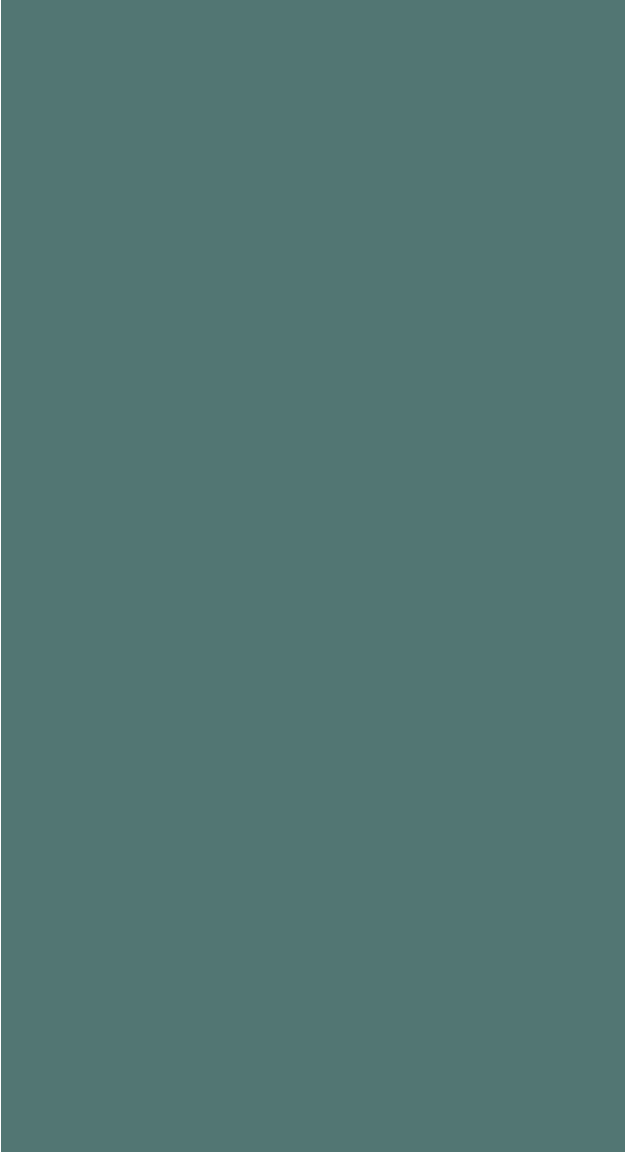
Photograph 16. Tangantangan Forest in pasture at the west end of the Tinian International Airport Runway. Mapped as Other Shrub and Grass.



Photograph 17. Area of Other Shrub and Grass Mapped (USFWS 2006) as Mixed Introduced Forest.

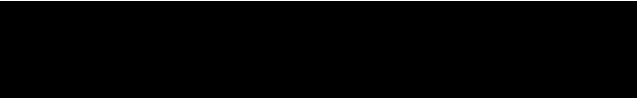


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Appendix B.

Plant Species List



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Table B-1. Plant Species Observed in the Proposed Disturbance Area

Species	Origin*	Growth Form
PTERIDOPHYTA		
NEPHROLEPIDACEAE		
Giant swordfern (<i>Nephrolepis biserrata</i>)	N	Terrestrial Fern
POLYPODIACEAE		
Lanceleaf tongue fern (<i>Pyrrosia lanceolata</i>)	N	Epiphytic Fern
Monarch fern (<i>Phymatosorus scolopendria</i>)	N	Epiphytic Fern
PTERIDACEAE		
Ladder brake (<i>Pteris vittata</i>)	E	Terrestrial Fern
GYMNOSPERMAE		
CYCADACEAE		
Micronesian cycad (<i>Cycas micronesica</i> [fadang])	N	Tree
ANGIOSPERMAE		
MONOCOTYLEDONAE		
ARECACEAE		
Betel palm (<i>Areca catechu</i>)	E	Tree
Coconut palm (<i>Cocos nucifera</i>)	E	Tree
Queen palm (<i>Syagrus romanzoffiana</i>)	E	Tree
ASPARAGACEAE		
<i>Dracaena</i> sp.	E	Shrub
Viper's bowstring hemp (<i>Sansevieria trifasciata</i>)	E	Forb
CYPERACEAE		
Hurricanegrass (<i>Fimbristylis cymosa</i>)	N	Sedge
Nutgrass (<i>Cyperus rotundus</i>)	E	Sedge
Pacific island flatsedge (<i>Cyperus cyperoides</i>)	N	Sedge
Poorland flatsedge (<i>Cyperus compressus</i>)	E	Sedge
Whitehead spikesedge (<i>Kyllinga nemoralis</i>)	N	Sedge
ORCHIDACEAE		
Tinygland didymoplexis (<i>Didymoplexis fimbriata</i>)	N	Forb
PANDANACEAE		
Tahitian screwpine (<i>Pandanus tectorius</i>)	N	Tree
POACEAE		
Arrocillo (<i>Paspalum paniculatum</i>)	E	Grass
Basketgrass (<i>Oplismenus</i> sp.)	N	Grass
Bermuda grass (<i>Cynodon dactylon</i>)	E	Grass
Brown's lovegrass (<i>Eragrostis brownii</i>)	E	Grass
Caucasian bluestem (<i>Bothriochloa bladhii</i>)	E	Grass
Egyptian grass (<i>Dactyloctenium aegyptium</i>)	E	Grass
Gophertail lovegrass (<i>Eragrostis ciliaris</i>)	E	Grass
Guineagrass (<i>Urochloa maxima</i>)	E	Grass



Species	Origin*	Growth Form
Indian goosegrass (<i>Eleusine indica</i>)	E	Grass
Japanese lovegrass (<i>Eragrostis amabilis</i>)	N	Grass
Mission grass (<i>Pennisetum polystachion</i>)	E	Grass
Radiate fingergrass (<i>Chloris radiata</i>)	E	Grass
Rose Natal grass (<i>Melinis repens</i>)	E	Grass
Smut grass (<i>Sporobolus fertilis</i>)	N	Grass
Southern sandbur (<i>Cenchrus echinatus</i>)	E	Grass
Thin paspalum (<i>Paspalum setaceum</i>)	E	Grass
Wild sugar cane (<i>Saccharum spontaneum</i>)	N	Grass
DICOTYLEDONAE		
ACANTHACEAE		
Browne's blechum (<i>Ruellia blechum</i>)	E	Forb
Crested Philippine violet (<i>Barleria cristata</i>)	E	Shrub
Prostrate wild petunia (<i>Ruellia prostrata</i>)	E	Forb
AMARANTHACEAE		
<i>Deeringia amaranthoides</i>	N	Vine
Devil's horsewhip (<i>Achyranthes aspera</i>)	N	Forb
Sessile joyweed (<i>Alternanthera sessilis</i>)	N	Forb
Slender amaranth (<i>Amaranthus viridis</i>)	E	Forb
Spiny amaranth (<i>Amaranthus spinosus</i>)	E	Forb
ANNONACEAE		
<i>Meiogyne cylindrocarpa</i> [<i>Guamia mariannae</i>]	N	Tree
APOCYNACEAE		
Singapore graveyard flower (<i>Plumeria obtusa</i>)	E	Tree
BALSAMNACEAE		
Buzzy lizzy (<i>Impatiens walleriana</i>)	E	Forb
BIGNONIACEAE		
Haitian catalpa (<i>Catalpa longissima</i>)	E	Tree
BORAGINACEAE		
Fourspike heliotrope (<i>Heliotropium procumbens</i>)	N	Herb
CASUARINACEAE		
Beach sheoak (<i>Casuarina equisetifolia</i>)	N	Tree
CARICACEAE		
Papaya (<i>Carica papaya</i>)	E	Forb
CELASTRACEAE		
Thompson's gymnosporia (<i>Gymnosporia thompsonii</i>)	N	Tree
COMBRETACEAE		
Tropical almond (<i>Terminalia catappa</i>)	N	Tree



Species	Origin*	Growth Form
COMMELINACEAE		
Boatlily (<i>Tradescantia spathacea</i>)	E	Forb
Inchplant (<i>Tradescantia zebrina</i>)	E	Forb
Jio (<i>Commelina benghalensis</i>)	E	Forb
COMPOSITAE		
Climbing hempvine (<i>Mikania scandens</i>)	E	Vine
Coat buttons (<i>Tridax procumbens</i>)	E	Forb
Cure for all (<i>Pluchea carolinensis</i>)	E	Shrub
Hairy beggarticks (<i>Bidens pilosa</i>)	E	Forb
Jack in the bush (<i>Chromolaena odorata</i>)	E	Forb
Little ironweed (<i>Cyanthillium cinereum</i>)	N	Forb
Straggler daisy (<i>Calyptocarpus vialis</i>)	E	Forb
CONVOLVULACEAE		
Littlebell (<i>Ipomoea triloba</i>)	N	Vine
Oceanblue morning-glory (<i>Ipomoea indica</i>)	N	Vine
St. Thomas lidpod (<i>Operculina ventricosa</i>)	E	Vine
CROTONEAE		
<i>Croton</i> sp.	E	Shrub
CUCURBITACEAE		
Balsampear (<i>Momordica charantia</i>)	E	Vine
Ivy gourd (<i>Coccinia grandis</i>)	E	Vine
Sinkwa towelsponge (<i>Luffa acutangula</i>)	E	Vine
EUPHORBIACEAE		
Carry me seed (<i>Phyllanthus amarus</i>)	E	Forb
Fire on the mountain (<i>Euphorbia cyathophora</i>)	E	Forb
Graceful sandmat (<i>Chamaesyce hypericifolia</i>)	E	Forb
Indian acalypha (<i>Acalypha indica</i>)	E	Forb
<i>Melanolepis multiglandulosa</i>	N	Tree
Mexican fireplant (<i>Euphorbia heterophylla</i>)	E	Forb
Pillpod sandmat (<i>Chamaesyce hirta</i>)	E	Forb
Prostrate sandmat (<i>Chamaesyce prostrata</i>)	E	Forb
LAMIACEAE		
Holy basil (<i>Ocimum tenuiflorum</i>)	N	Forb
LEGUMINOSAE		
Anil de pasto (<i>Indigofera suffruticosa</i>)	E	Shrub
Emperor's candlesticks (<i>Senna alata</i>)	E	Shrub
Glossy shower (<i>Senna surattensis</i>)	E	Tree
Monkeypod (<i>Pithecellobium dulce</i>)	E	Tree
Napoleon's plume (<i>Bauhinia monandra</i>)	E	Tree
Pigeon bundleflower (<i>Desmanthus perambucanus</i>)	E	Forb



Species	Origin*	Growth Form
Purple bushbean (<i>Macroptilium atropurpureum</i>)	E	Vine
Rosarypea (<i>Abrus precatorius</i>)	E	Vine
Sensitive partridge pea (<i>Chamaecrista nictitans</i>)	E	Shrub
Shameplant (<i>Mimosa pudica</i>)	E	Forb
Small Philippine acacia (<i>Acacia confusa</i>)	E	Tree
Smooth rattlebox (<i>Crotalaria pallida</i>)	E	Shrub
Soft butterfly pea (<i>Centrosema molle</i>)	E	Vine
<i>Stylosanthes guianensis</i>	E	Forb
Tamarind (<i>Tamarindus indica</i>)	E	Tree
Tangantangan (<i>Leucaena leucocephala</i>)	E	Tree
Threeflower ticktrefoil (<i>Desmodium triflorum</i>)	E	Forb
Ticktrefoil (<i>Desmodium umbellatum</i>)	N	Shrub
Unknown Legume #1	-	Vine
White moneywort (<i>Alysicarpus vaginalis</i>)	E	Forb
Woman's tongue (<i>Albizia lebbbeck</i>)	E	Tree
Yellow nicker (<i>Caesalpinia bonduc</i>)	N	Vine
MALVACEAE		
Common wireweed (<i>Sida acuta</i>)	E	Forb
Cuban jute (<i>Sida rhombifolia</i>)	E	Forb
Monkeybush (<i>Abutilon indicum</i>)	E	Shrub
Threelobe false mallow (<i>Malvastrum coromandelianum</i>)	E	Forb
Uhaloa (<i>Waltheria indica</i>)	E	Forb
MELIACEAE		
<i>Aglaia mariannensis</i>	N	Tree
Neem (<i>Azadirachta indica</i>)	E	Tree
MORACEAE		
Dyer's fig (<i>Ficus tinctoria</i> var. <i>neoebudarum</i>)	N	Tree
Fig (<i>Ficus prolixa</i>)	N	Tree
MUSACEA		
Banana (<i>Musa</i> sp.)	E	Forb
MYRTACEAE		
Mountain stopper (<i>Eugenia reinwardtiana</i>)	N	Tree
NYCTAGINACEAE		
Erect spiderling (<i>Boerhavia erecta</i>)	E	Forb
Grand devil's-claws (<i>Pisonia grandis</i>)	N	Tree
OLACACEAE		
<i>Jasminum marianum</i>	N	Vine
OXALIDACEAE		
Bilimbi (<i>Averrhoa bilimbi</i>)	E	Tree



Species	Origin*	Growth Form
PASSIFLORACEAE		
Corkstem passionflower (<i>Passiflora suberosa</i>)	E	Vine
Fetid passionflower (<i>Passiflora foetida</i>)	E	Vine
PHYTOLACCACEAE		
Rougeplant (<i>Rivina humilis</i>)	E	Forb
POLYGONACEAE		
Coral vine (<i>Antigonon leptopus</i>)	E	Vine
PORTULACACEAE		
Kiss me quick (<i>Portulaca pilosa</i>)	E	Forb
Little hogweed (<i>Portulaca oleracea</i>)	N	Forb
RHAMNACEAE		
Asian nakedwood (<i>Colubrina asiatica</i>)	N	Vine
RUBIACEAE		
<i>Aidia cochinchinensis</i>	N	Tree
<i>Dentella repens</i>	E	Forb
False buttonweed (<i>Spermacoce</i> sp.)	E	Forb
Flat-top mille grains (<i>Oldenlandia corymbosa</i>)	E	Forb
Indian mulberry (<i>Morinda citrifolia</i>)	N	Tree
<i>Psychotria mariana</i>	N	Tree
Scarlet jungleflame (<i>Ixora coccinea</i>)	E	Shrub
RUTACEAE		
<i>Citrus</i> sp.	E	Tree
Limeberry (<i>Triphasia trifolia</i>)	E	Shrub
SAPINDACEAE		
Balloon vine (<i>Cardiospermum halicacabum</i>)	E	Vine
SOLANACEAE		
Cayenne pepper (<i>Capsicum annuum</i> var. <i>annuum</i>)	E	Forb
Cutleaf groundcherry (<i>Physalis angulata</i>)	E	Forb
Turkey berry (<i>Solanum torvum</i>)	E	Shrub
TILIACEAE		
Strawberrytrees (<i>Muntingia calabura</i>)	E	Tree
URTICACEAE		
Rockweed (<i>Pilea microphylla</i>)	E	Forb
VERBENACEAE		
Lantana (<i>Lantana camara</i>)	E	Shrub
Light-blue snakeweed (<i>Stachytarpheta jamaicensis</i>)	E	Forb
Malbau (<i>Premna [obtusifolia] serratifolia</i>)	N	Tree
Turkey tangle fogfruit (<i>Phyla nodiflora</i>)	E	Forb
VITACEAE		
Veldt-grape (<i>Cissus quadrangularis</i>)	E	Vine

* N = Native, E = Exotic/Introduced



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D-2. Terrestrial Biological Assessment and Correspondence with USFWS

USAF developed a Biological Assessment for terrestrial listed species for the Proposed Actions. In the Biological Assessment, the USAF concluded the Proposed Actions would have no effect on terrestrial listed species. The USAF has chosen not to include a copy of the Biological Assessment in this Appendix because it repeats much of the information included in the Biological Resources Survey Report (page **D-3**) and the effects analysis in the SEIS (**Section 4.9**). As the USAF has concluded no effect, concurrence from the U.S. Fish and Wildlife Service (USFWS) is not required; however, USAF has provided USFWS with a courtesy copy of the Biological Assessment for their records.

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D-3. Marine Biological Assessment and Section 7 Correspondence with NMFS

USAF developed a Biological Assessment in support of the Section 7 informal consultation for federally listed marine species with the National Marine Fisheries Service (NMFS) for the Proposed Actions. In the Biological Assessment, the USAF concluded the Proposed Actions may affect, but are not likely to adversely affect listed marine species. The Biological Assessment was provided to NMFS and a copy is provided here on page **D-55**. A copy of NMFS concurrence with the USAF effects determination for federally listed marine species is provided on page **D-111**.

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Biological Assessment

of Effects to Marine Species from
Tinian Divert Infrastructure Improvements,
Commonwealth of the Northern Mariana Islands

Prepared for:

Headquarters Pacific Air Forces (HQ PACAF)
Joint Base Pearl Harbor-Hickam, Hawai'i
96853-5233

October 2018

Abbreviations and Acronyms

API	American Petroleum Institute
BA	Biological Assessment
bbbl	barrel(s)
BMP	best management practice
CFR	Code of Federal Regulations
CNMI	Commonwealth of the Northern Mariana Islands
DoD	Department of Defense
DPL	Department of Public Lands
DPS	Distinct Population Segment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
LID	low-impact development
mg/L	milligram(s) per liter
mL	milliliter(s)
MSL	mean sea level
NMFS	National Marine Fisheries Service
PIMP	Pipeline Integrity Management Plan
POL	petroleum, oil, and lubricants
RP	Recommended Practice
ROD	Record of Decision
ROW	right-of-way
SEIS	Supplemental Environmental Impact Statement
SPCC	Spill Prevention Control and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
UFC	Unified Facilities Criteria
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency

**BIOLOGICAL ASSESSMENT
OF EFFECTS TO MARINE SPECIES FROM
TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS,
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**



**HEADQUARTERS PACIFIC AIR FORCES (HQ PACAF)
JOINT BASE PEARL HARBOR-HICKAM, HAWAI'I**

OCTOBER 2018

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1. Background and History

This Biological Assessment (BA) has been prepared by the U.S. Air Force (USAF) to evaluate the potential effects of the infrastructure improvements proposed on Tinian in the Commonwealth of the Northern Mariana Islands (CNMI) (“Tinian Divert infrastructure improvements”) on marine species listed as threatened and endangered under the Endangered Species Act (ESA). This assessment supplements letters from USAF to the National Marine Fisheries Service (NMFS) in October 2012 and January 2016, requesting concurrence on USAF’s determination that developing facilities and conducting divert activities and exercises at the Tinian International Airport and Tinian seaport (“2016 Divert project”) would not likely adversely affect threatened and endangered species.

USAF completed consultation with NMFS in 2016 as required under Section 7 of the ESA for developing infrastructure on Tinian and implementing Divert activities and exercises at the Tinian International Airport (2016 Divert project). USAF also completed an Environmental Impact Statement (EIS) for Divert Activities and Exercises in September 2016 and issued a Record of Decision (ROD) in December 2016 (USAF 2016a, 2016b). In the ROD, USAF announced the decision to select the Modified Tinian Alternative (2016 Divert EIS, Section 2.7, page 2-52), specifically the North Option (2016 Divert EIS, Section 2.5.2, page 2-28), as the future location for Divert activities and exercises. The 2016 ESA consultation and EIS evaluated the construction of fuel infrastructure at the Tinian airport and seaport, as well as fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of fuel transfer methods and associated infrastructure, including the feasibility of different alternatives that were not considered in the 2016 Divert EIS.

USAF now proposes to construct a fuel pipeline and associated infrastructure at the Tinian seaport to transport fuel from there to the airport. The proposed pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport and the need for fuel tanker trucks to transport fuel from the seaport to the airport, both analyzed in the 2016 Divert EIS; however, the other components of the fuel system evaluated in the 2016 Divert EIS would not change. USAF also proposes to improve certain existing roads between the seaport and airport to support the Divert activities. Therefore, USAF has prepared additional analyses in this BA, and is preparing a Supplemental Environmental Impact Statement (SEIS), to evaluate the potential environmental consequences associated with the proposed construction and operation of the fuel pipeline and seaport facilities, and proposed roadway improvements.

This BA documents the evaluation conducted by USAF to determine whether the proposed Tinian Divert infrastructure improvements would adversely affect threatened and endangered species under NMFS jurisdiction. The contents of a biological assessment are at the discretion of the federal agency and will depend on the nature of the federal action. This document includes the following:

- a description of the infrastructure improvements that USAF proposes on Tinian (**Section 2**)
- a description of the action area (**Section 2**)

- a detailed description of the methods that will be used to avoid and minimize impacts to the coastal environment during construction and operation of infrastructure on Tinian, including:
 - o a description of the methods for stormwater management for the Tinian Divert infrastructure improvements that USAF will implement to comply with regulatory requirements and guidelines (**Sections 3.1, 3.2, and 3.3**)
 - o a list of the methods for the prevention and control of spills of hazardous materials for the Tinian Divert infrastructure improvements that USAF will implement to comply with regulatory requirements and guidelines (**Section 3.3.3**)
- a summary of the threatened and endangered species under NMFS jurisdiction that occur in the action area (**Section 4**)
- a summary of the environmental baseline conditions in the action area where proposed construction and implementation will take place (**Section 5**)
- an analysis of the potential effects of the Tinian Divert infrastructure improvements on marine threatened and endangered species (**Section 6**)
- a justification of the conclusion reached by USAF that the Tinian Divert infrastructure improvements are not likely to adversely affect threatened or endangered species under NMFS jurisdiction (**Section 7**).

1.1 Consultation History

The document, *Supplemental Information Supporting USAF Informal Consultation: Effects of the Divert Project on Marine Corals and Scalloped Hammerhead Shark* ("Supplemental Information"), sent to NMFS in March 2016 for the 2016 Divert project and the NMFS 28 March 2016 letter of concurrence summarize consultation actions taken from October 2012 through March 2016 for the original Divert project (PIR-2016-9800; I-PI-16-1364-AG). On 30 October 2012, NMFS concurred with USAF that the 2016 Divert project may affect but is not likely to adversely affect the Central West Pacific Distinct Population Segment (DPS) of green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), leatherback sea turtles (*Deremochelys coriacea*), olive ridley sea turtles (*Lepidochelys olivacea*), blue whales (*Balaenoptera musculus*), fin whales (*Balaenoptera physalus*), the Western North Pacific DPS of humpback whales (*Megaptera novaeangliae*), sei whales (*Balaenoptera borealis*), and sperm whales (*Physeter macrocephalus*) (PIR-2012-9144). On 28 March 2016, NMFS concurred with the determination that conducting the 2016 Divert project is not likely to adversely affect the corals *Acropora globiceps*, *Acropora retusa*, *Seriatopora aculeata*, and the Indo-West Pacific DPS of scalloped hammerhead shark, *Sphyrna lewini* (PIR-2016-9800; I-PI-16-1364-AG).

Since the March 2016 letter of concurrence, USAF has taken the following actions and had the following communications with NMFS in accordance with the ESA for the conservation of marine threatened and endangered species, since receiving concurrence on the Divert project in March 2016:

- On 7 December 2016, USAF published a ROD, which announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.
- After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of other alternatives that were not considered in the 2016 Divert EIS. USAF now proposes to construct a fuel pipeline and associated infrastructure at the seaport to transport fuel from the seaport to the airport, and to improve certain existing roads between the seaport and airport to support Divert activities.
- On June 26, 2018 the USAF conducted a teleconference with NMFS/Pacific Islands Regional Office/Protected Resources Division staff. The USAF and NMFS/PRD staff discussed the proposed Tinian Divert infrastructure improvements and verified the federally-listed marine species that could occur near Tinian.

2. Project Description and Action Area

As described in **Section 1**, USAF has coordinated with NMFS regarding the potential effects of the Divert project on marine threatened and endangered species since 2012. NMFS provided their concurrence in October 2012 and March 2016 with the USAF determinations that the Divert Project would not likely adversely affect marine threatened and endangered species under their jurisdiction. USAF now proposes the following actions:

- Construct a fuel pipeline from the Tinian seaport to the Tinian International Airport, to include a booster pump house and associated fire protection systems, a boom storage building, and necessary utility connections at the seaport.
- Improve certain existing roads between the seaport and airport that were previously analyzed for Divert vehicles in the 2016 Divert EIS.

2.1 Fuel Pipeline and Support Infrastructure

2.1.1 Fuel Pipeline Construction and Operation

The proposed fuel pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport, and the need for fuel tanker trucks to transport fuel from the seaport to the airport, as described in the original Divert EIS. However, the other components of the fuel infrastructure system evaluated would not change, as described in the subsequent paragraphs.

Alternatives. USAF considered four possible pipeline routes in comparison to selection standards identified for construction and routing of the pipeline. Only two of the pipeline routes, the West route and East route, have the ability to meet each selection standard. The two alternatives eliminated from consideration, (the Runway and Broadway routes) did not meet the selection criteria due to anticipated extensive disturbance to existing infrastructure and the community.

The West route travels north from the Tinian seaport until it intersects TR26 and then stays on a northwestern path by following TR26, 6th Avenue, and TR25 (i.e., 8th Avenue), and then turns northeast along TR23 to approach the Divert fuel storage tanks from the west side. (See **Section 2.4** for more details and **Figure 2-1** for a map of the West route.) This route falls entirely within existing right-of-way (ROW) easements; does not travel extensively along any existing communities, infrastructure, or buildings; and is approximately 4.08 miles long.

The East route travels north from the Tinian seaport until it intersects Tinian Route (TR) 26 (i.e., West Avenue) and then stays on a northwestern path by following TR26 and 6th Avenue until just south of the airport runway, where it turns west and eventually reconnects with the proposed West route to approach the Divert fuel storage tanks from the west side (see **Section 2.4** for more details and **Figure 2-1** for a map of the East route.) This route falls entirely within existing ROW easements; does not travel extensively along any existing communities, infrastructure, or buildings; and is approximately 4.94 miles long.

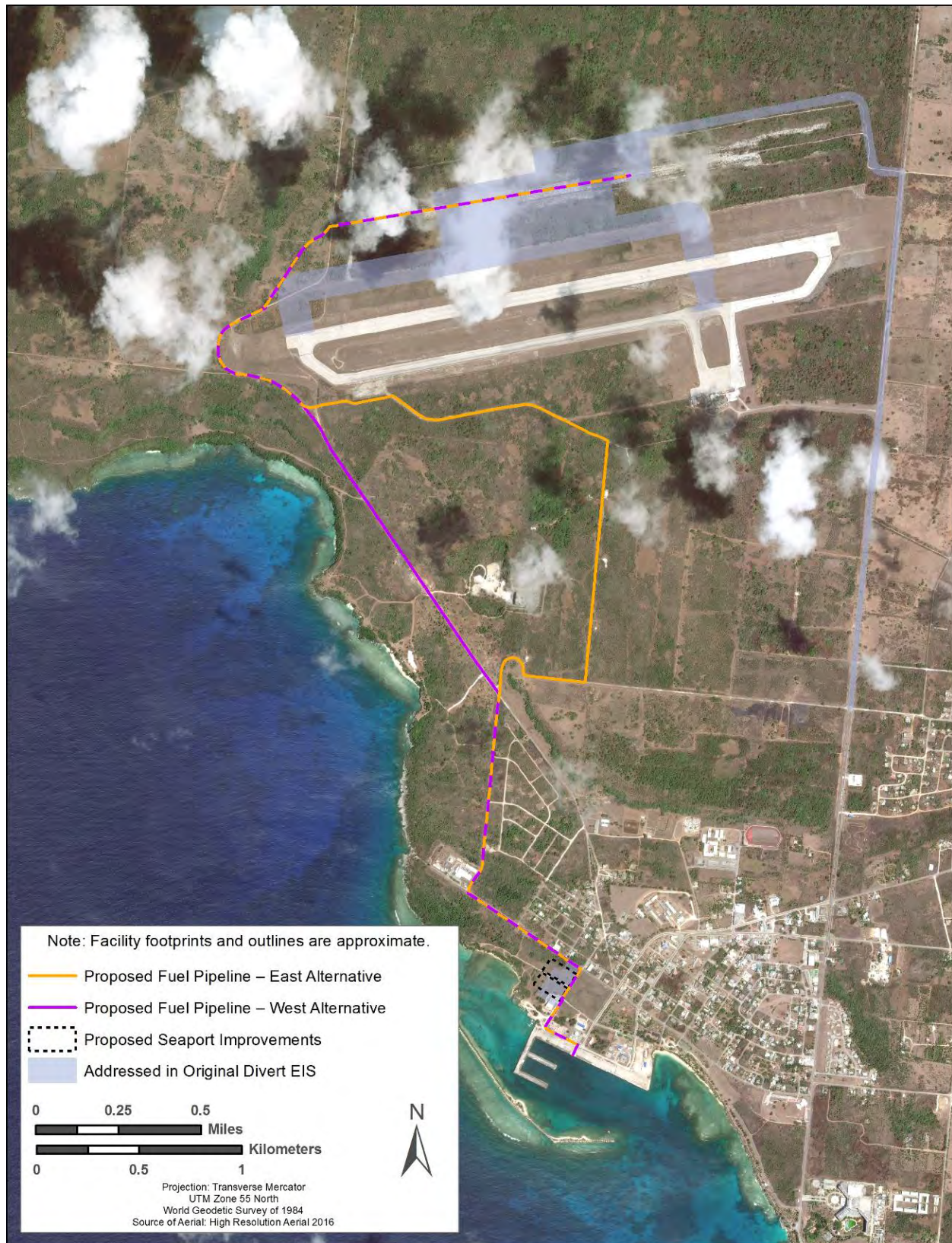


Figure 2-1. Proposed West and East Pipeline Route Alternatives

Construction. The proposed fuel pipeline would be designed and constructed in accordance with all appropriate federal, CNMI, Department of Defense (DoD), and USAF regulations for petroleum fuel pipelines and facilities, including Unified Facilities Criteria (UFC) 3-460-01, *Petroleum Fuel Facilities*, and 49 CFR § 195 *Transportation of Hazardous Liquids by Pipelines*. It is the firm policy of DoD to design and construct fueling facilities in a manner that will prevent damage to the environment by accidental discharge of fuels, their vapors, or residues.

The pipeline would be constructed underground along existing ROWs, to the extent practicable, to prevent breaches, vandalism, sabotage, or any other means to disrupt the flow of fuel. The pipeline would be installed within a 20-foot easement and to a depth of approximately 3 feet. However, the impacts analysis in the SEIS will assume that an 80-foot easement could be disturbed during construction to allow for materials laydown and routing adjustments. Once installed, the pipeline would occupy 6 feet of unencumbered space, allowing for a minimum of 2 feet on either side of the pipeline, within the 20-foot easement. USAF would retain the 20-foot easement to allow for maintenance of the pipeline when required.

The pipeline would be installed in two separate sections. The first section would include a bulk receipt pipeline that would connect the seaport bulk receipt header to a booster pump house. The second section of the pipeline would connect the booster pump house to the Divert bulk receipt fuel tanks on the north side of the airport. Low point drains would be installed approximately every 500 feet along the second section of pipeline. These points would be used to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains would be installed in pits to allow access below ground surface. Pits would be equipped with traffic rated covers and locked for security. The transfer pipeline would be a 12-inch diameter and externally coated carbon steel pipe. The transfer pipeline would be equipped with an impressed current cathodic protection system and would be designed to allow for cleaning and testing of the pipeline between the seaport and the airport.

Low point drains would be installed at the seaport header and approximately every 500 feet along the second section of pipeline. These points would be used to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains would be installed in pits lined with fiberglass to prevent infiltration to the subsurface soils or groundwater and would allow access below ground surface. Drained material would be removed from the pits via a vacuum truck, or similar process. Pits would be equipped with traffic rated covers and locked for security.

Fuel pipeline construction would occur over the course of approximately 2 to 3 years. Once the pipeline is installed, jet fuel would be delivered to and offloaded at the Tinian seaport per the existing fuel supply chain and fuel receipt protocols, as described in the 2016 Divert EIS. Once offloaded at the existing seaport bulk receipt header, the jet fuel would then enter the bulk receipt pipeline rather than being transferred to bulk fuel storage tanks. The pipeline rate of flow would be approximately 2,000 gallons per minute. Required jet fuel volumes to support Divert activities and exercises would not change from that described in the 2016 Divert EIS; approximately 220,000 barrels (bbl) of jet fuel (9.24 million gallons) would be transferred through the pipeline to fill the two 60,000 bbl tanks and one 100,000 bbl tank at the airport.

Operation. USAF would follow 49 CFR § 195 *Transportation of Hazardous Liquids by Pipelines*, Technical Order 37-1-1, *General Operations and Inspection of Installed Fuel Storage and Dispensing Systems*, UFC 3-460-03, *Operation and Maintenance: Maintenance of Petroleum Facilities*, and AFI 23-201, *Fuels Management*, for the operation of the fuel pipeline and support facilities. The safe, efficient, and economical operation of petroleum storage, dispensing systems, and associated infrastructure depends on an effective and proactive recurring maintenance program. UFC 3-460-03 establishes the required frequency intervals for the recurring maintenance. Operation and maintenance of the pipeline would be managed by a Pipeline Integrity Management Plan (PIMP) to assist with and guide pipeline integrity maintenance. PIMPs improve the integrity management of piping systems and help prevent leaks or pipeline failures. The plans are developed based on the principles of American Petroleum Institute Standard 570, *Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems*, and federal and local regulations.

2.1.2 Seaport Improvements Support Infrastructure

The booster pump house would support the fuel pipeline operations. The booster pump house, boom storage building, and other support infrastructure would be constructed in and near the same location at the Tinian seaport as the location proposed in the 2016 Divert EIS for the two 50,000 bbl fuel storage tanks; however, the footprint would be slightly different (see **Figure 2-2**). The booster pump house and boom storage building would be collocated with a construction laydown yard, biosecurity area, parking area, traditional septic system and drainage leach field, water storage tanks, and utility lines and connections within the area shown in **Figure 2-2**. The boom storage building and pump house would be a total of approximately 4,550 square feet. Gravel pedestrian pathways and access roads also would be created or widened within this area; all existing roads would remain open to the public. Two diesel generators would also be installed to operate the support facilities during an outage. A total area of 8.23 acres could be disturbed for development of all seaport support infrastructure.

All petroleum fuel support facilities would be designed and constructed in accordance with all appropriate federal, CNMI, DoD, and USAF regulations for petroleum fuel facilities, including UFC 3-460-01, *Petroleum Fuel Facilities*. The booster pump house would be sized to fit three pumps and include a pump room, control room, mechanical room, and toilet. The pump house would be approximately 3,750 square feet and constructed with an automatic fire suppression system. The pump house would contain three electric 350-horsepower motors to transfer the fuel to the Divert bulk receipt fuel tanks at the airport. During fuel transfer operations, only two of the motors would operate, while the third would be kept idle as a spare. The pump house would also require installation of water and electric utilities, underground or overhead, which would be extended from existing service lines and along the pipeline ROW.

The boom storage building would be constructed in close proximity to the booster pump house for the storage of fuel spill containment booms and fuel transfer hose supplies. The building would require overhead door access for ease of loading/unloading. The estimated size of the storage building would be approximately 800 square feet.

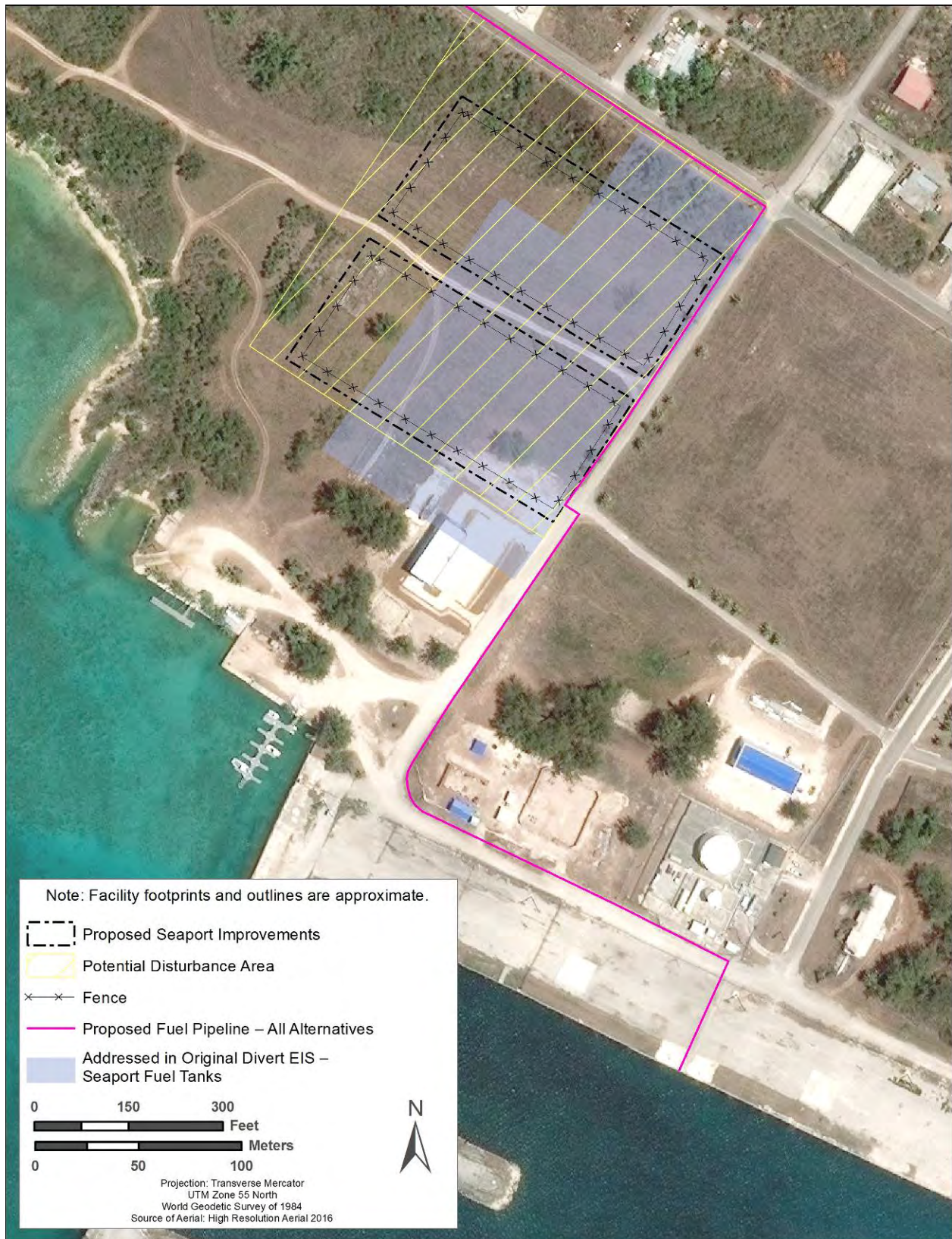


Figure 2-2. Proposed Support Infrastructure at the Tinian Seaport.

The proposed fuel pipeline would eliminate the need for bulk fuel storage tanks at the seaport that were proposed in the 2016 Divert EIS. The combined impervious surface footprint of the support infrastructure proposed in this SEIS is 4,550 square feet, compared to the 7,534 square feet for the fuel storage tanks and support structures proposed in the 2016 Divert EIS at the same location. Additionally, the combined area of potential disturbance proposed at the seaport in this SEIS (8.23 acres) is in the same area as the fuel storage tank area (5.29 acres) proposed in the 2016 Divert EIS. Therefore, much of the analysis presented in the 2016 Divert EIS for construction of the fuel storage tanks is applicable to the proposed construction of the support infrastructure at the seaport, including the booster pump house and boom storage building. **Figure 2-2** presents the support infrastructure location at the seaport compared to the previously analyzed footprint of the seaport bulk fuel tanks. Both support facilities would be enclosed within a secure fenced area (see **Figure 2-2**).

Construction of the support infrastructure would occur concurrently with the pipeline construction over approximately 2 to 3 years. As described for the pipeline operation and maintenance, USAF would follow Technical Order 37-1-1, UFC 3-460-03, and AFI 23-201 for the operation and maintenance of the support facilities.

Based on review of the 2016 Divert EIS and consideration of technical and siting factors, USAF determined that the proposed support infrastructure should be sited in the location originally proposed for the bulk fuel storage facilities at the seaport for the following reasons:

- The original site proposed for construction of the bulk fuel tanks was analyzed in the 2016 Divert EIS for construction and significant impacts were not identified.
- It is co-located with the Divert biosecurity facility and laydown yard, condensing the total land that would be required for these facilities
- It is within close proximity to the seaport offload header, allowing efficient transfer of the fuel from offload to the pump house.

The proposed support infrastructure would be constructed in the location presented in **Figure 2-2**, regardless of the pipeline route alternative proposed for construction.

2.1.3 Construction Materials

All materials would be transported to or produced on Tinian as described in the original Divert EIS and the 2016 Supplemental ESA Information. Transport of materials on Tinian to support construction of the fuel pipeline would not exceed the amount of fuel truck traffic analyzed in the 2016 Supplemental ESA Information; however, fuel truck traffic was included for the Divert implementation phase and transport of construction materials would occur along the pipeline route and during the construction phase. Construction materials could also be transported to the site by construction workers as part of their daily commute to the construction site. Details regarding construction worker support are provided in the **Construction Workers** section.

Movement of construction personnel, equipment, and supplies could result in the movement and spread of invasive plant and animal species to Tinian. In order to prevent the spread of invasive species, the routing of shipments through Guam would be minimized and redundant inspection of materials that must be shipped from that island (both before they arrive on Tinian and when

they arrive) would be conducted. USAF would also conduct risk analyses, develop and implement procedures, and participated in regional planning to reduce or eliminate the spread of invasive species.

Transport of construction materials to the seaport was addressed in the 2016 Supplemental ESA information for construction of the fuel tanks. Therefore, transport of construction materials will not be analyzed further.

2.1.4 Construction Workers

Approximately 75 construction workers, in addition to those included in the 2016 Supplemental ESA Information, could be required to support construction of the pipeline during the course of the 2- to 3-year construction period. It is anticipated that the peak number of workers would only be needed during shorter duration intensive or critical construction periods. In 2016, the construction workforce of Tinian was 122 people, and it is assumed that this entire workforce would support the construction proposed in the 2016 Supplemental ESA Information.

Therefore, it is assumed the entire workforce to support pipeline construction would be from off-island.

2.2 Roadway Improvements

USAF proposes to improve certain existing roadways previously analyzed for Divert vehicles in the 2016 Divert EIS that would support construction of all Divert facilities and, if needed, transfer of fuel via tanker truck. Roadway improvements have standalone value for supporting the Divert project and would occur independently of the decision to construct the pipeline and support infrastructure described in **Section 2.1**.

The route proposed for roadway improvements is the route proposed for fuel trucks in the 2016 Divert EIS and is shown in **Figure 2-3**. This 2.51-mile route travels from the Tinian seaport north to TR25, north along TR25 to its intersection with TR24, east along TR24 to its intersection with TR21, and finally north along TR21. A second route was evaluated for repair, but was dismissed from consideration because it did not meet the selection standard for requiring extensive improvement and reconstruction.

Generally, the road improvements would include replacement of the existing roadway surfaces, which would entail removing the existing deteriorated asphalt cap, which is approximately 2- to 4-inches thick; grading the road subsurface down approximately 8 inches below the original asphalt cap; laying a new 8-inch sub base; and finishing the surface with a new 3-inch asphalt cap. Asphalt removed from the deteriorated cap would be reused as road improvement material or recycled on Tinian to the extent feasible. Some portions of these roadways could require less extensive repairs. All roadway improvements would occur within the existing roadbeds and shoulders, and no roadbed widening or ROW alterations would occur. Additionally, lesser maintenance and repair of any road proposed for Divert, including TR21, could occur, as considered in the 2016 Divert EIS. Road improvements could take place prior to, during, or as repairs after construction of the Divert infrastructure identified in the 2016 Divert EIS; however, road improvements are not anticipated to exceed 1 year of total construction time.



Figure 2-3. Proposed Roadway Improvements

The engineering site visit indicated that a portion of the fuel truck route analyzed in the 2016 Divert EIS, from the seaport to TR21, is classified as poor/failing paved surfaces with potholes and uneven surfaces. The pavement of this route is deteriorating and cracked, and there are low spots in the pavement surfaces that retain water. Therefore, extensive roadway improvement and replacement along this route would be required.

The roadway improvements would be independent from the proposal to construct the pipeline and support infrastructure. If the pipeline is not constructed, this route would be utilized by fuel vehicles as described in the 2016 Divert EIS. Use of this route for fuel or construction vehicles would not exceed the amount of fuel truck traffic analyzed in the 2016 Divert EIS. Construction of the pipeline would eliminate the need for fuel transfer by vehicle; therefore, if the pipeline is constructed, USAF would utilize this route for all Divert construction vehicles rather than fuel vehicles.

2.2.1 Construction Materials

To construct the proposed road improvements, construction materials such as road base and asphalt would be needed along the entirety of the road proposed for improvements. All materials would be transported to or produced on Tinian as described in the 2016 Divert EIS. Materials would be transferred from the seaport along the same route that was proposed for fuel trucks in the 2016 Divert EIS. However, approximately 1,178 construction truck trips, in addition to those analyzed in the 2016 Divert EIS, would be needed for the road improvements, which equates to approximately 3 roundtrips per day by dump trucks over the course of 1 year. USAF would take reasonable precautions during construction to prevent particulate matter from becoming airborne, based on the construction standards for erosion control and the requirements of CNMI Chapter 65-10, Part 415. Where possible, paved roadways would be used to transport materials and workers. Vehicle speeds would be limited to 15 miles per hour (mph) or less at construction sites on unpaved roads.

2.2.2 Construction Workers

Approximately 25 construction workers, in addition to those analyzed in the 2016 Divert EIS, could be required to support construction of the road improvements. It is anticipated that the peak number of workers would only be needed during shorter duration intensive or critical construction periods. In 2016, the construction workforce of Tinian was 122 people, and it is assumed that this entire workforce would support the construction proposed in the 2016 Divert EIS. Therefore, it is assumed the entire workforce to support the road improvements would be from off-island. The impact analysis in **Section 4** of the SEIS will be based on peak construction workers to determine the maximum effect of construction workers, although most of the construction would be executed by fewer than peak construction worker crews.

2.3 Summary of Proposed Actions and Alternatives

In summary, USAF proposes to accomplish the following actions:

- Construct a fuel pipeline from the Tinian seaport to Tinian International Airport along either the West or East route. In support of the pipeline, construct infrastructure at the Tinian seaport, to include a booster pump house and associated fire protection systems, a boom storage building, and necessary utility connections.

- Improve the roadway along the fuel truck route that was analyzed in the 2016 Divert EIS, excluding TR21. If the pipeline is not constructed, this route would be used by fuel truck traffic as analyzed in the 2016 Divert EIS. If the pipeline is constructed, this route would be utilized to support construction of all of the Divert projects.

The Proposed Actions and alternatives are shown in **Figure 2-4**.

2.4 Action Area

The action area for this project includes all areas proposed for construction as shown in **Figure 2-4**, the watersheds that the proposed construction would occur in, and the nearshore marine environment of Tinian where these watersheds drain. Marine threatened and endangered species do not occur in the construction footprint, as the proposed project is on land. However, marine threatened and endangered species have the potential to occur within the action area offshore of the construction footprint because of the potential for discharge into coastal waters. Coastal waters surrounding Tinian serve as the discharge areas for all surface runoff and subsurface drainage from the island. Perennial or intermittent streams are not included within the action area because they do not occur on Tinian. The limestone plateaus of Tinian are too porous to support stream or wetland development, and most precipitation either evaporates or percolates into the highly permeable limestone substrata.

Surface water systems are typically defined in terms of watersheds. A watershed is a land area bounded by topography that drains water to a common destination. On Tinian, this destination is eventually coastal waters. Coastal waters are waters that are adjacent to the shorelines that contain a measurable quantity or percentage of seawater, including, but not limited to, sounds, bays, lagoons, bayous, ponds, and estuaries. Watersheds divide the landscape into hydrologically defined areas, and serve to drain, capture, filter, and store water and determine its subsequent release. Stormwater is surface water generated by precipitation that may percolate into permeable soils or runoff, which occurs when the stormwater flows across the top of impervious or saturated surficial areas.

The Tinian seaport occurs within the Makpo Watershed, which drains west-southwest into the Philippine Sea (CNMI BECQ 2016) (**Figure 2-5**). Tinian International Airport spans across the Puntan Daiplolamanibot Watershed, which drains west into the Philippine Sea and the Masalok Watershed, which drains northeast into the Pacific Ocean (CNMI BECQ 2016). Stormwater drainage ditches and swales direct water off the runway and airfield into the stormwater retention area and the large, excavated depressions in between the runway and taxiway. The action area spans across the Puntan Daiplolamanibot, Makpo, and Masalok watersheds.

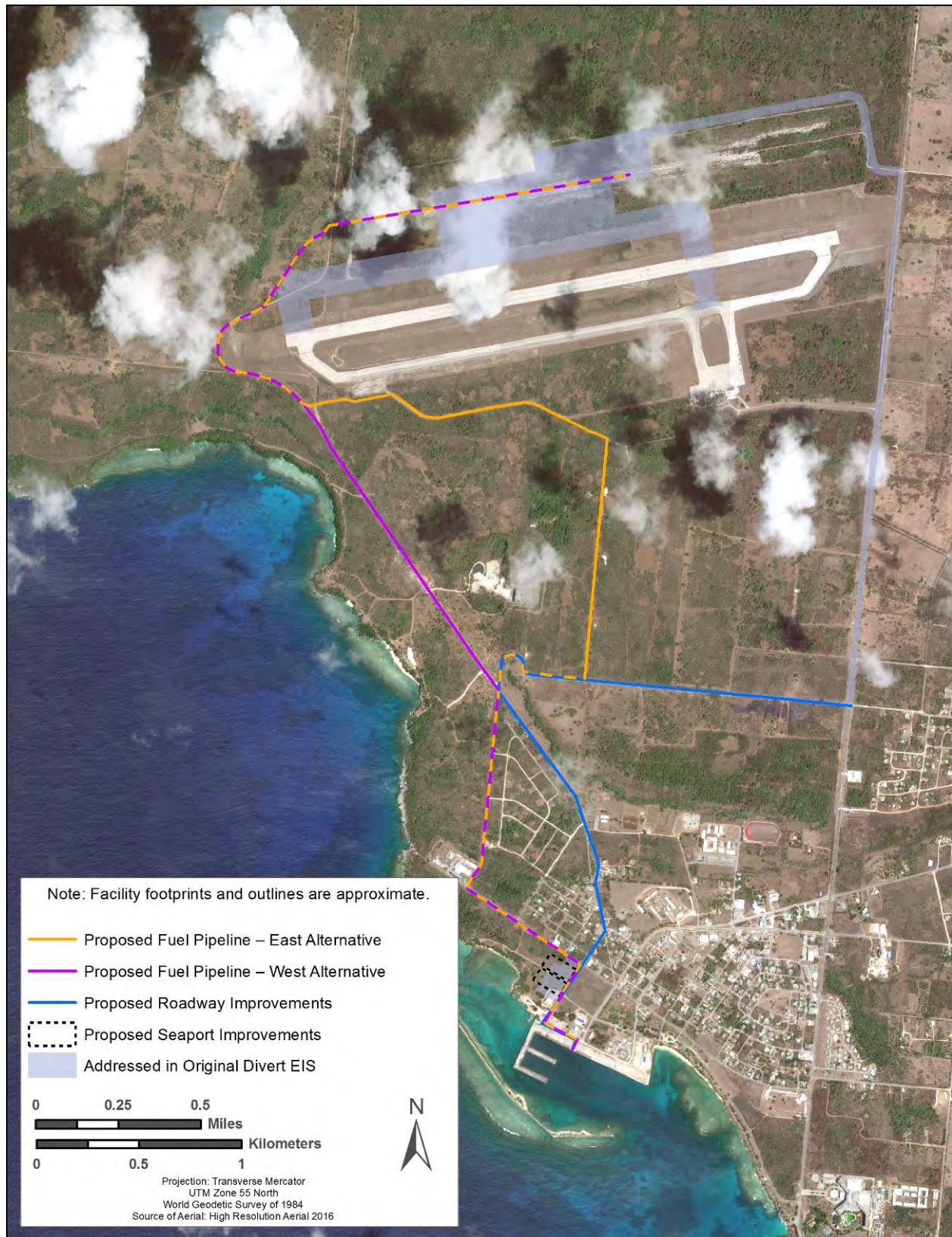


Figure 2-4. Summary of Proposed Actions and Alternatives



Figure 2-5. Watersheds on Tinian (from CNMI BECQ 2016)

3. Minimization of Impacts to Water Quality

USAF would implement planning, design, operations, and maintenance standards for fuel infrastructure that, by reducing impacts on water quality, would ultimately reduce potential impacts on coastal waters and therefore, marine threatened and endangered species. Strategies would be used to reduce the potential for increases in stormwater runoff, altered hydrologic conditions, groundwater contamination, construction and operation-related accidents, release of petroleum products, and altered water quality that have the potential to adversely affect marine threatened and endangered species.

These actions and standards are dictated by federal, DoD, USAF, or CNMI regulations or guidance that would be implemented under the Proposed Actions. These are routine and common practice and are not specific to the Proposed Actions. These compliance actions and industry standards are built into the design, construction, and operation of the proposed infrastructure and when implemented, would reduce the potential for environmental impacts, including adverse effects on marine threatened and endangered species.

Based on the design, implementation, and management of controls described in **Sections 3.1, 3.2, and 3.3**, USAF does not anticipate that stormwater runoff or petroleum, oil, and lubricants (POL) would be discharged into the nearshore waters of Tinian during or after construction, or that the Proposed Actions would cause a measureable increase in the volume or discharge rate of fresh water into the marine environment. USAF would be committed to ensuring that any stormwater runoff or POL release from the project site is consistent with CNMI Water Quality Standards (CNMI BECQ 2014a), which are described in detail in **Section 3.2.6**.

3.1 Planning and Design

USAF would plan and design stormwater management and fuels infrastructure to ultimately reduce potential environmental impacts. Designs would reduce the potential for an increase in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, construction and operation-related accidents, and a release of petroleum products.

3.1.1 Stormwater Management and Low Impact Development

USAF design for the proposed pipeline infrastructure and roadway improvements would focus on maintaining predevelopment hydrology and preventing net increases in stormwater runoff once construction is complete, to the extent practical. “Predevelopment hydrology” is defined as the pre-project hydrologic conditions of temperature, rate, volume, and duration of stormwater flow from the project site. The permanent stormwater management infrastructure for the actions described in **Section 2.1 and 2.2** would be designed so that the post-development peak discharge rate frequency would not exceed the pre-development peak discharge rate for the 25-year frequency storm event (CNMI BECQ and GEPA 2006). USDA NRCS has calculated a 25-year, 24-hour rainfall event to be 12.49 inches for Saipan (USDA NRCS 2008).

As impervious surfaces would not be increased beyond those analyzed in the 2016 Divert EIS, additional calculation of pre- and post-development stormwater volumes would not be

necessary (DoD 2015). USAF would maintain predevelopment hydrology through implementation of low impact development (LID), performance standards, and best management practices (BMPs), consistent with the previous EFH consultation. LID would apply to the fuel infrastructure, to the extent practical. USAF would also develop and implement plans, and conduct monitoring, to ensure that water flowing from project sites meets CNMI water quality standards. USAF would implement all applicable stormwater management and low impact strategies identified in Section 4.16 of the original Divert EIS and Section 3 of the Supplemental Information provided for informal consultation.

Table 3-1 provides an example of BMPs that USAF would incorporate into their permanent stormwater infrastructure design, to capture stormwater runoff and meet water quality treatment goals. These BMPs would be consistent with LID requirements of UFC 3-210-01 *Low Impact Development* (DoD 2015) and were selected based on the following criteria:

1. can capture and treat the full water quality volume
2. are capable of approximately 80 percent total suspended solids removal
3. are capable of meeting management objectives for specific resource protection areas through elevated total phosphorus, total nitrogen and/or fecal coliform bacteria removal
4. have acceptable longevity in the field.

Table 3-1. Permanent Structural Stormwater Management BMPs

Group	Practice	Description
Infiltration	Infiltration Trenches/Chambers	An infiltration practice that stores the water quality volume in the void spaces of a limestone aggregate trench or within an open chamber before it is infiltrated into underlying soils within the B or C soil horizons.
	Infiltration Basin	An infiltration practice that stores the water quality volume in a shallow surface depression before it is infiltrated into the underlying soils within the B or C soil horizons.
Filtering Practices	Bioretention	A shallow depression that treats stormwater as it flows through a soil matrix, and is returned to the storm drain system, or infiltrated into underlying soils or substratum.
Open Channels	Dry Swale	An open vegetated channel or depression explicitly designed to detain and promote filtration of stormwater runoff into an underlying fabricated soil matrix.

Source: CNMI BECQ and GEPA 2006.

As previously described, the permanent stormwater management system and associated BMPs would be designed so that the post-development peak discharge rate frequency would not exceed the pre-development peak discharge rate for the 25-year frequency storm event (CNMI BECQ and GEPA 2006). The BMPs would also be designed to meet water quality criteria, overland erosion and channel protection criteria, overbank flood control/receiving stream criteria, and recharge criteria.

Additional LID site features that USAF could deploy include rain gardens, vegetated filter strips, downspout disconnection, reduced impervious area, tree preservation or re-vegetation using native plants, soil amendments.

3.1.2 Fuel Infrastructure Planning, Design, and Management Standards

To reduce the likelihood of spills during construction and operation of the pipeline infrastructure, as well as the impact of spills (e.g., or spill migration to nearshore waters) in the unlikely event that one should occur, all proposed fuels infrastructure on Tinian would be designed and constructed according to the most stringent applicable federal and CNMI requirements.

It is the firm policy of the Department of Defense to design and construct fueling facilities in a manner that will prevent damage to the environment by accidental discharge of fuels, their vapors or residues.

Specific standards include, but are not limited to, the following:

Standard 1: General Design and Construction. USAF would follow UFC 3-460-01 Design: Petroleum Fuel Facilities for material, design, fabrication, erection and inspection of the pipeline and support infrastructure.

Standard 2: Infrastructure Protection. USAF would plan and design all fuel infrastructure with the goal of protecting the fuels, storage, and transfer capability from enemy attack, terrorists, sabotage, fire, seismic activity, and other potential damaging influences.

Standard 3: Cathodic Protection. Cathodic protection would be provided for all carbon steel and stainless steel underground piping, in accordance with UFC 3-570-02N and 40 CFR § 280. The cathodic protection system would be isolated from the filter/separator discharge header and the hydrant pump house bulk receipt system by isolation flanges, which would keep the impressed current isolated to the underground portion of the transfer pipeline.

Standard 4: Industry Requirements. Piping design, materials, fabrication, assembly, erection, inspection, and pressure tests would be in accordance with ANSI/ASME B31.3 *Process Piping*.

Standard 5: Roadways. Underground piping which passes under public roadways or railroad tracks would be designed in accordance with Department of Transportation regulations 49 CFR § 195 and American Petroleum Institute (API) Recommended Practice (RP) 1102.

Standard 6: Venting. The pipeline would be equipped with high point vents and low point drains. The high point vents would be used to remove noncondensing gas from the pipeline. The low point drains would be used to drain water or particulate matter from the pipe and can also be used to fully drain the pipe if required. The high point vents and low point drains would be installed in pits. The pits would be equipped with traffic rated covers and lockable to prevent vandalism and theft.

Standard 7: Pig Launcher: The transfer pipeline would be equipped with a permanently installed pig launcher at the booster pump house and a permanently installed pig receiver at the bulk storage pump house. The transfer pipeline would be designed to be piggable to allow for cleaning and testing of the line between the booster pump house and the hydrant pump house.

Standard 8: Valves. The transfer pipeline would be equipped with an isolation valve pit midway between the booster pump house and the bulk storage pump house. The isolation valve pit would be equipped with a double block and bleed valve that would be used during pressure testing and can be closed in the event of an emergency upstream or downstream of the valve. The transfer pipeline would also be equipped with a double block and bleed valve after it transitions aboveground at the bulk storage pump house. The double block and bleed valve at the booster pump house and the double block and bleed valve at the bulk storage pump house can be used to fully isolate the underground section of the transfer pipeline and would be used when annual and five year pressure testing of the pipeline is required.

Standard 9: Personnel Training. USAF will annually train all personnel handling POL in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; and general facility operations.

Standard 10: Equipment Testing. USAF will maintain all petroleum equipment in good functioning order, including regular testing and checking for any failure. This greatly adds to the effectiveness of spill prevention control and countermeasures.

Standard 11: On-site Personnel. USAF would provide a full-time onsite person or persons to inspect and maintain all POL infrastructures, in accordance with USAF requirements. These personnel would be trained to provide USAF with spill planning, preparedness and response capability, in accordance with the SPCC and FRP required by 40 CFR Part 112 and AFI 32-7044. This capability could thereby potentially upgrade island-wide capability for spill response through cooperative spill response agreements that could be developed, if determined applicable.

3.2 Construction

During construction, USAF would implement measures to prevent the spread of invasive species and as dictated by existing regulations and industry standards for stormwater management, erosion control, and POL handling that would reduce potential impacts on marine threatened and endangered species by reducing environmental impacts. Strategies would include reducing the potential for an increase in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, and a release of petroleum products during construction. During construction of the pipeline infrastructure and roadways, USAF would manage stormwater runoff in accordance with a USEPA NPDES Construction General Permit and would perform the following activities:

- implement erosion and sediment controls
- stabilize soils
- implement pollution prevention measures
- provide and maintain buffers around surface waters
- prohibit certain discharges
- utilize surface outlets for discharges from basins and impoundments.

3.2.1 Invasive Species

EO 13112 directs agencies to prevent the spread of invasive species in their work. To prevent the introduction of brown tree snakes and the spread of other invasive species, control and interdiction methods agreed upon by USFWS and USAF for construction of facilities at the Tinian International Airport (USFWS 2013, USFWS 2015) would be implemented during construction of the pipeline and for other proposed infrastructure upgrades. These measures, which include minimizing the routing of shipments through Guam, and redundant inspection of materials that must be shipped from that island, would reduce to a very low level the risk that a brown tree snake would be transported to Tinian during pipeline construction.

3.2.2 Stormwater Pollution Prevention Plan

USAF would develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction that would adhere to USEPA Guidelines. The SWPPP would be completed prior to submitting the Notice of Intent for permit coverage. The SWPPP will describe the following:

- responsible parties
- site evaluation, assessment, and planning
- documentation of compliance with other federal requirements
- erosion and sediment controls
- permanent construction BMPs
- pollution prevention standards
- inspection and corrective actions
- training requirements
- certification and notification requirements
- operation and maintenance of permanent stormwater controls.

Site-Specific Measures. USAF would design all construction site stormwater management measures to accommodate (safely convey without creating erosive conditions) the 10-year frequency storm. The 10-year frequency storm represents a large event that will generally produce significant runoff and yet has a high chance of occurring in any given year (i.e., 10 percent) (CNMI BECQ and GEPA 2006).

USAF would design all temporary sediment trapping devices to retain runoff from a minimum of the 10-year storm. The 10-year storm represents a frequent event that generates runoff and potential sediment load (CNMI BECQ and GEPA 2006). USDA NRCS has calculated a 10-year, 1-hour rainfall event to be 2.92 inches for Saipan (USDA NRCS 2008).

For maximum efficacy, USAF site-specific stormwater management measures during construction would include some, or all, of the following to manage stormwater runoff from the 10-year frequency storm:

- **Stabilized construction entrances.** Stabilized construction entrances are temporary crushed rock/coral pads located at all points where vehicles enter or leave a construction site. The purpose of a stabilized entrance is to reduce the tracking of sediment/mud from the site onto paved roads and parking lots.

- **Silt fencing.** A temporary barrier of geotextile fabric, silt fencing is installed across a slope, around stockpiles, or along a perimeter. The purpose of a silt fence is to intercept sediment-laden runoff from small drainage areas of disturbed soil, slow runoff velocity, and allow sediment to settle out. Alternatives to silt fencing could include the following.
 - o earth berms: linear barrier of compacted soil used to block or divert runoff.
 - o compost socks: mesh tubes (also called filter socks or tubes) filled by blower with organic or wood mulch. They can be used around site perimeters, as conveyance checks, and as inlet protection.
 - o silt dikes: reusable, triangular, foam product covered in geotextile used along perimeters, curbs, and as check dams.
- **Berms and swales.** Berms and swales, depending on their location, can be used to divert “clean” runoff around disturbed areas, or to move “dirty” runoff to sediment traps. Berms (also called earth berms or diversion dikes) are mounds of compacted soil placed at the top or base of slopes, along the site perimeter, or across exposed areas. Swales are temporary channels used to convey runoff to a sediment trapping device.
- **Check dams.** Small check dams constructed of rock/coral, bagged sand, compost tubes, or other durable materials are placed across an open drainage channel to reduce erosive runoff flows and allow sediment to settle out.
- **Channels.** Vegetated or lined channels are used to safely convey flows from stabilized areas or outlets without damage from erosion. Waterways are typically stabilized with grass, erosion control matting, rock rip rap, gabions, or concrete depending on slope, soil, and runoff velocity.
- **Basins and traps.** Large basins and small traps are temporary ponding structures used to collect runoff and allow sediment to settle out before runoff leaves site. Basins and traps are formed by an embankment and/or excavation.
- **Stabilization.** Covering an area of bare ground with vegetation, topsoil, mulch, or erosion control blankets for temporary or permanent erosion prevention is critical. Temporary stabilization is often needed because grading operations can last several months and extend into or through the rainy season. Final stabilization will be required for project close out. Vegetative cover can be established through a combination of seeding techniques, topsoil amendments, and mulching to conserve moisture and control weeds.
- **Erosion control blankets.** Temporary erosion control blankets (also called matting) are used to hold seed and soil in place, particularly on steep slopes. There are many types of products available made of biodegradable or synthetic materials.
- **Inlet protection.** Various inlet protection devices can be used as temporary structures to keep silt, sediment, and construction debris from entering storm drains through open inlets. Devices should trap sediment while allowing water to slowly flow over or through materials.

- **Outlet protection.** Rock should be placed around and below an outlet to stabilize the outlet, reduce the depth and velocity of discharge waters, and prevent downstream erosion. Outlet protection applies to culverts, outfalls from basins, and other conduits.
- **Level spreaders.** Level spreaders are temporary (or permanent) devices that take concentrated flow from a pipe, berm, or swale and release it evenly over a wider area to prevent erosion and promote infiltration. This is particularly useful where sheet flow discharges through vegetated buffers are possible.

3.2.3 Stormwater Monitoring

All stormwater management structures and practices would be inspected and maintained during all stages of the construction process in accordance with the SWPPP and CNMI regulations to ensure proper function. Inspections would be conducted by on-site USAF or contractor personnel. At a minimum, those inspections would occur following major rainfall to ensure that stormwater control structures are functioning as designed and remain effective.

USAF would implement an adaptive management approach that would be based on information obtained during regular monitoring and inspection of construction stormwater management controls. USAF would identify any structures that are damaged or are not functioning in accordance with applicable standards and repair them. All construction stormwater management procedures will ensure maximum protection of the marine environment. These procedures will be detailed in a SWPPP, and will comply with all applicable USEPA NPDES Construction General Permit requirements. USAF has programmed for costs associated with stormwater monitoring and repair, if needed, to ensure timely completion of these inspections and repairs as a part of an adaptive management process. The USAF Engineering Technical Letter 14-1 *Construction and Operation and Maintenance Guidance for Storm Water Systems* provides inspection checklists and schedules for each type of stormwater management control that would be followed for inspections and maintenance.

3.2.4 Erosion and Sediment Control Standards

USAF would follow standards for erosion and sediment control during construction of both Proposed Actions recommended by CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations*, most recently published in 2017, and the 2006 *CNMI and Guam Stormwater Management Manual* (CNMI BECQ and GEPA 2006), including the following:

- **Standard 1:** Minimize unnecessary clearing and grading from all construction sites. Clearing and grading shall only be performed within areas needed to build the project, including structures, utilities, roads, recreational amenities, post-construction stormwater management facilities, and related infrastructure. Clearing should only be scheduled during the dry season if possible. Mass clearing during the wet season should be avoided.
- **Standard 2:** Whenever practicable and feasible, construction shall be phased to limit disturbance to only one area of active construction at a time. Future phases shall not be disturbed until construction of prior phases is complete and the land area is stabilized.

- **Standard 3:** Disturbed areas shall be stabilized as soon as feasibly possible after construction is completed within a designated construction area, and in no case longer than 14 days after completion of active construction.
- **Standard 4:** Steep slopes shall be protected from erosion by limiting clearing of these areas in the first place or, where grading is unavoidable, by providing special techniques to prevent upland runoff from flowing down a steep slope and through immediate stabilization to prevent gullyng. A steep slope is defined as any slope over 20 percent (5:1) in grade over a length of 50 feet.
- **Standard 5:** Perimeter sediment controls shall be applied to retain or filter concentrated runoff from disturbed areas to trap or retain sediment before it leaves a construction site. Upland runoff should be diverted around excavations where possible.
- **Standard 6:** Sediment trapping and settling devices shall be employed to trap and/or retain suspended sediments and allow time for them to settle out in cases where perimeter sediment controls (e.g., silt fence) are deemed to be ineffective in trapping suspended sediments on-site.
- **Standard 7:** All construction site managers (or superintendents) shall provide documentation that they have received adequate training in the application and maintenance of erosion and sediment control practices.
- **Standard 8:** All construction site managers must participate in a pre-construction meeting with the applicable authority to review the provisions of the erosion and sediment control plan and make any field adjustment necessary to implement the intent of the plan to minimize erosion and maximize sediment retention on-site throughout the construction process.
- **Standard 9:** Construction should be scheduled to minimize soil exposure in the rainy season (1 July–30 November) and during periods of coral spawning. The 2014 CNMI Water Quality Standards note that to avoid coral spawning, a stoppage period starting around the June or July full moon (to be determined by the Bureau of Environmental and Coastal Quality), is required. The stoppage period, if determined to be applicable, shall be no less than twenty one calendar days (CNMI BECQ 2014a). USAF will also contact CNMI BECQ to determine when soil exposing work should be halted during spring rainfall events to avoid adversely affecting soft corals that are spawning.
- **Standard 10** Erosion and sediment control practices shall be aggressively maintained throughout all phases of construction. All erosion and sediment control plans shall have an enforceable operation and maintenance agreement.

USAF would keep waste materials, stockpiles, and building supplies tied down or covered to protect from wind or stormwater. Additionally, in accordance with CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations*, USAF would minimize grading, filling, clearing of vegetation or other disturbance of the soil during inclement weather and for the resulting period of time when the site is in a saturated, muddy or unstable condition.

3.2.5 Erosion and Sediment Control Plan

In compliance with CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations*, USAF would develop an Erosion and Sediment Control Plan that would be implemented during construction. The plan would include the following, at a minimum:

- elevations and dimensions including quantity, and extent of proposed grading
- existing tree locations, size, species, and the proposed extent and manner of tree cutting and vegetation clearing
- a description of equipment and methods to be employed.

3.2.6 Water Quality Management

Parameter that provide an indication of water quality include concentration of dissolved oxygen; levels of fecal coliform bacteria from human and animal wastes; concentrations of plant nutrients nitrogen and phosphorus; amount of particulate matter suspended in the water (turbidity); and amount of salt (salinity). In many bodies of water, the concentration of chlorophyll-a, a green pigment found in microscopic algae, is also filtered from water samples to give a measure of the microalgae living in the water column. Quantities of pesticides, herbicides, heavy metals and other contaminants may also be measured to determine water quality.

USAF is required to comply with CNMI water quality standards in compliance with a Clean Water Act, Section 401 Certification. **Table 3-2** provides the CNMI BECQ-published water quality standards for the waters of CNMI, which are the minimum water quality criteria that the USAF would comply with for discharges into Tinian waters (CNMI BECQ 2014a) during construction. Parameters can be added to or deleted from the list based upon knowledge of the onsite activities. For example, if weeds are to be controlled by a particular herbicide, it could be included on the list of parameters. USAF would also implement an adaptive management approach during construction based on information obtained during regular monitoring and inspection if CNMI water quality standards are not being met.

Table 3-2. 2014 CNMI Water Quality Standards

Criteria	Level*
Enterococci	Shall not exceed a geometric mean of 35 per 100 milliliters (mL) based on samples taken in any 30 day interval. The Statistical Threshold Value is 130 Enterococci per 100 mL.
E. coli	Shall not exceed a geometric mean of 126 per 100 mL based on samples taken in any 30 day interval. The Statistical Threshold Value is 410 E. coli per 100 mL
pH	Shall not deviate more than 0.5 units from a value of 8.1; no lower than 7.6 or higher than 8.6
Nitrate-Nitrogen	Concentration shall not exceed 0.20 milligrams per liter (mg/L)
Total Nitrogen	Concentration shall not exceed 0.40 mg/L
Orthophosphate	Concentration shall not exceed 0.025 mg/L
Total Phosphorous	Concentration shall not exceed 0.025 mg/L
Ammonia	Concentration shall not exceed 0.02 mg/L
Dissolved oxygen	Concentration all waters shall not be less than 75 percent saturation. Where natural conditions cause lower dissolved oxygen levels, controllable water quality factors shall not cause further reductions.
Total suspended solids	Concentrations of suspended matter at any point shall not be increased from ambient conditions at any time, and should not exceed 5 mg/L except when due to natural conditions.
Salinity	No alterations of the marine environment shall occur that would alter the salinity of marine or estuarine waters more than 10 percent from ambient conditions or which would otherwise adversely affect the indigenous biota and sedimentary patterns, except when due to natural causes.
Temperature	Water temperature shall not vary by more than 1.0 °C from the ambient conditions.
Turbidity	Turbidity at any point, as measured by nephelometric turbidity units, shall not exceed 0.5 nephelometric turbidity units over ambient conditions.
Oil and Petroleum Products	The concentration of oil or petroleum products in any Commonwealth or State waters shall not: (a) Be detectable as a visible film, sheen, or discoloration of the surface, or cause an objectionable odor. (b) Cause tainting of fish or other aquatic life, be injurious to the indigenous biota, or cause objectionable taste in drinking water. (c) Form an oil deposit on beaches or shoreline, or on the bottom of a body of water.
Enterococci	Shall not exceed a geometric mean of 35 per 100 mL based on samples taken in any 30 day interval. The Statistical Threshold Value is 130 Enterococci per 100 mL.

Source: CNMI BECQ 2014a

Note: *The level given is the most stringent standard for the marine waters of Tinian. Less stringent standards are applicable for some criteria for discharges into the San Jose harbor or fresh waters.

3.3 Infrastructure Operation Actions and Standards

Once construction is complete, USAF would implement measures in **Sections 3.3.1 through 3.3.5** for long-term stormwater control and management of fuels infrastructure that would ultimately reduce potential environmental impacts on biological resources, geology and soils, water resources, and hazardous materials and wastes. These strategies would reduce the post-construction potential for: long-term increases in stormwater runoff, altered hydrologic

conditions, altered water quality, decline in groundwater recharge, groundwater contamination, construction and operation-related accidents, and a release of petroleum products.

3.3.1 Stormwater Monitoring

USAF would conduct post-construction site visits to inspect all permanent stormwater infrastructure and assess stormwater management structures and validate if they have been constructed according to plans and specifications.

All existing and USAF-constructed stormwater management structures and practices would be systematically inspected and maintained. USAF would revise the existing SWPPP or develop a new SWPPP for management of stormwater infrastructure once construction is complete. The SWPPP would guide the monitoring inspections, which would be conducted by on-site USAF or contractor personnel. At a minimum, those inspections would occur following major rainfall to ensure that stormwater control structures are functioning as designed and remain effective.

USAF would also implement an adaptive management approach based on information obtained during regular monitoring and inspection of permanent stormwater management controls. USAF would identify any structures that are damaged or are not functioning in accordance with applicable standards and repair them. The objectives and required standards described above would serve as thresholds for determining whether the construction stormwater management system would need to be improved to avoid affecting the nearshore marine environment. USAF Engineering Technical Letter 14-1 provides inspection checklists and schedules for each type of stormwater management control that would be followed for inspections and maintenance (USAF 2014).

The stormwater management system would be adaptively managed and revised or improved when necessary to ensure that all planned objectives and required standards are being met.

3.3.2 Water Quality Management

Based on the design, implementation, and management of controls described in **Sections 3.3.1 and 3.3.2**, USAF does not anticipate that stormwater runoff or POL would be discharged into the nearshore waters of Tinian during or after construction, or that the Proposed Actions would cause a measureable increase in the volume or discharge rate of fresh water into the marine environment. However, USAF would be committed to ensuring that any stormwater runoff or release from the project sites post-construction are consistent with CNMI Water Quality Standards.

3.3.3 Spill Prevention Control and Countermeasures

USAF would develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan (as required by Section 311(j)(1)(C) of the Clean Water Act as amended by the Oil Pollution Act of 1990) to control the potential for contamination from the unlikely event of a spill during construction of the Proposed Actions.

The SPCC Plan would be prepared, maintained, and implemented to prevent, control, counteract, and report of all spills. The SPCC Plan would provide measure to prevent, and to the maximum extent practicable, to remove a worst case discharge from the facility. The plan

would be certified by an appropriately licensed or certified technical authority ensuring that the plan considers applicable industry standards for spill prevention and environmental protection, and that the plan is prepared in accordance with good engineering practice and is adequate for the facility. Specifically, the SPCC Plan would include:

- **Prevention Section.** The prevention section of the plan would contain information on the facility; charts of drainage patterns; designated water protection areas; maps showing locations of various infrastructure which store, handles, and transfer POL that could produce a spill; critical water resources; land uses; and possible migration pathways. Maps would also be included, as appropriate, to predict direction and rate of flow, as well as the total quantity of substances that might be spilled as a result of a major failure.
- **Arrangements for Emergency Services.** The plan would describe arrangements with local police departments, fire departments, hospitals, contractors, and emergency response teams to coordinate emergency services. The plan would include a list of all emergency equipment, such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment, at each site where this equipment is required; an evacuation plan and a designated meeting place.
- **Spill Control Section.** The control section of the plan would identify resources for cleaning up spills, and directions on how to provide assistance to other agencies when requested. This section of the plan would contain a prioritized list of various critical water and natural resources that would be protected in the event of a spill. The plan would identify other resources addressed in prearranged agreements that are available to cleanup or reclaim a large spill, if such spill exceeds the response capability of the facility.

Bioremediation could be used in the event of a spill, which could overcome the factors limiting rates of microbial hydrocarbon biodegradation. While microbial communities are adversely impacted by spills, some microbe species have the capacity to biodegrade hydrocarbons and play a major role in spill remediation. Examples of bioremediation include adding water to soils to maintain sufficient moisture for microbial growth or growing vegetation to increase the rate of jet fuel removal from the terrestrial environment.

3.3.4 Facility Response Plan

USAF would also develop a Facility Response Plan, per the Oil Pollution Act of 1990 which amended the Clean Water Act, which would address an accidental "catastrophic" spill. The Facility Response Plan would include the resources of all industrial activities and the U.S. Coast Guard to direct how to handle an incident of the scale beyond any single individual facility's capability to respond.

3.3.5 Inspection and Monitoring of Fuel Systems

To ensure proper operation of all fuel infrastructure, USAF would follow Technical Order 37-1-1, *General Operations and Inspection of Installed Fuel Storage and Dispensing Systems* and UFC 3-460-03, *Operation and Maintenance: Maintenance of Petroleum Facilities*. The safe, efficient,

and economical operation of petroleum dispensing systems, and associated infrastructure depends largely on an effective and proactive recurring maintenance program. USAF would follow UFC 3-460-03, which establishes the required frequency intervals for the recurring maintenance. Operation and maintenance of the pipeline would be managed by a PIMP to assist with and guide pipeline integrity maintenance. PIMPs improve the integrity management of piping systems and help prevent leaks or pipeline failures. The plans are developed based on the principles of *API Standard 570 Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems* and federal and local regulations.

Additional standards and regulations that would be observed for operation, inspection, and monitoring of the fuel pipeline and infrastructure include the following:

Standard 1: Pressure Testing. An automatic pipe pressure testing system would be installed at the booster pump house. The system would be attached to the bulk receipt line and the transfer pipeline. The system would be used to conduct periodic integrity tests of the pipelines and ensure the pipelines are in good working order. Hydrostatic testing would be conducted in accordance with ANSI/ASME B31.3 and UFC 3-460-03.

Standard 2: Valves and Piping. USAF would periodically inspect, in accordance with the PIMP all valves, piping, and appurtenances associated with fuels infrastructure in accordance with API 570 which is the recognized industry standard.

Standard 3: Pipeline Safety Management Systems: USAF would follow API RP 1173, which provides guidance in developing or maintaining a pipeline safety management system. Elements of the management system include: leadership and management commitment; stakeholder engagement; risk management; operational controls; incident investigation, evaluation, and lessons learned; safety assurance; management review and continuous improvement; emergency preparedness and response; competence, awareness, and training; and documentation and recordkeeping.

Standard 4: Leak Detection. USAF would follow API RP 1175 and implement a “Leak Detection Program Management.” API RP 1175 is an industry consensus document that provides a risk-based approach to managing a leak detection program, including developing a leak detection culture and strategy, selecting the appropriate leak detection system, and monitoring leak detection program performance. This RP also identifies Control Center procedures, training, and the roles and responsibilities of Control Center personnel, as well as identifying proper testing of equipment and alarms.

4. Listed Species and Critical Habitat in the Action Area

At least 14 marine species classified as threatened or endangered under the federal ESA occur or could occur in the waters surrounding Tinian (see **Table 4-1**). This includes, five whales, two fish, three sea turtles, and three corals.

Table 4-1. Marine Threatened and Endangered Species with Potential to Occur Near Tinian

Common Name	Scientific Name	Federal Status	CNMI Status
Blue whale	<i>Balaenoptera musculus</i>	E	
Fin whale	<i>Balaenoptera physalus</i>	E	
Humpback whale (Western North Pacific DPS)	<i>Megaptera novaeangliae</i>	E	
Sei whale	<i>Balaenoptera borealis</i>	E	
Sperm whale	<i>Physeter catodon</i>	E	
Green turtle (Central West Pacific DPS)	<i>Chelonia mydas</i>	T	TE
Hawksbill turtle	<i>Eretmochelys imbricate</i>	E	TE
Olive ridley turtle	<i>Lepidochelys olivacea</i>	T	TE
Leatherback turtle	<i>Dermochelys coriacea</i>	E	
Scalloped hammerhead shark (Indo-West Pacific DPS)	<i>Sphyrna lewini</i>	T	
Giant manta ray	<i>Manta birostris</i>	T	
Coral - No common name	<i>Acropora globiceps</i>	T	
Coral - No common name	<i>Acropora retusa</i>	T	
Coral - No common name	<i>Seriatopora aculeata</i>	T	

Key: E = Endangered, T = Threatened, TE = Threatened and Endangered under CNMI Law

ESA-listed whales that occur near Tinian include blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*). The ESA-listed large whale species generally have a seasonal occurrence (mid-November thru mid-May) in the Mariana Archipelago while making migrations to feeding areas in higher latitudes (DON 2005, DON 2007, NMFS 2012). Because deep waters come close to shore around the Mariana Archipelago, it is possible that deepwater marine mammal species (those occurring along and seaward of the shelf break) could make their way into waters within a few miles of shore (e.g., sperm whales) (DON 2007, Fulling et al. 2011).

Four listed species of sea turtles have been documented near Tinian (see **Table 4-1**). Green sea turtles and hawksbill sea turtles are known to forage offshore of Tinian, and there is a small population of green sea turtles that nests there (Pultz et al. 1999, Kolinski 2001, Maison et al.

2010, NAVFAC 2014). Ninety-four percent of the sea turtles observed offshore of Tinian during surveys in July 2013 were green sea turtles (the remainder were hawksbills) and 75 percent of the green sea turtles were juveniles (NAVFAC 2014). Leatherback sea turtles are uncommon in the Tinian area; however, there have been two sightings of the species in open water (NAVFAC 2015). Nesting by green sea turtles likely occurs on all or most of the beaches on Tinian (Minton et al. 2009, Maison et al. 2010, DON 2010a), and nesting activity has been observed in all months (NAVFAC 2014). The CNMI is part of the migratory range of olive ridley sea turtles, but they are not known to nest there (WRPFMC Undated).

Scalloped hammerhead sharks are found worldwide in coastal warm temperate and tropical seas in the Atlantic, Pacific, and Indian oceans between 46°N and 36°S. The giant manta ray is found worldwide in tropical, subtropical, and temperate bodies of water; it is commonly found offshore, in oceanic waters, and near productive coastlines. These species were not observed during coastal surveys of Tinian for corals and sea turtles in support of the U.S. Marine Corps CNMI Joint Military Training EIS (NAVFAC 2014).

Three species of ESA-listed coral could occur offshore of Tinian (see **Table 3.2-4**), although only one of these species, *Acropora globiceps*, has been documented to date (NAVFAC 2014). Colonies of *Acropora globiceps* occur in the intertidal zone, upper reef slopes, and reef flats in water shallower than 26 feet (DON 2015).

5. Environmental Baseline Conditions

This section describes the current conditions and baseline of the following selected environmental factors that were considered to evaluate effects of the proposed Tinian Divert infrastructure improvements on marine species: topography, geology, and soils; land use; water resources; and the nearshore marine environment.

5.1 Topography, Geology, and Soils

5.1.1 Physiography and Topography

Tinian is composed of five limestone plateaus at varying elevations, separated by steep slopes and escarpments. The West route, East route, and roadway improvements are within the Central Plateau and Median Valley, and the seaport support infrastructure is within the Median Valley (see **Figure 5-1**).

The Central Plateau is characterized by broad and gently sloping terrain that is isolated by the steep slopes and scarps at its southern and northern boundaries. These steep slopes and scarps are associated with north-south trending faults. The Median Valley is a low, broad depression with little relief that is bounded by faults (University of Guam 2002, DON 2015).

Topography at the Tinian International Airport (at the northern end of the West and East routes) is relatively flat with elevations ranging from approximately 60 to 100 feet above mean sea level (MSL) (DON 2010b, USGS 1999). Elevation surrounding the airstrip drops towards the ocean to the east and west. Between the airport and the seaport (where the West route, East route, and roadway improvements are located), elevations range from approximately 20 feet above MSL near the seaport and shoreline to approximately 85 feet above MSL to the north.

Topography at the seaport where the fuel support infrastructure is located, ranges from less than 10 feet above MSL to approximately 30 feet above MSL (USGS 1999).

5.1.2 Geology

Karst topography exists on Tinian due to the presence of limestone on the island. Limestone is a soluble rock primarily composed of calcium carbonate; on Tinian, the source of calcium carbonate is primarily from coral reef. Karst is a distinctive topography formed by dissolution of underlying soluble rocks by surface water or groundwater. Karst is characterized by caves, sinkholes, and subsurface drainage. These dissolution features are created when rainwater, which is slightly acidic, dissolves carbonate rocks, such as limestone. **Figure 5-2** depicts the types of subsurface karst development on carbonate islands such as Tinian, although not all cave types occur on all carbonate islands (Stafford et al. 2005). Although karst topography does exist on Tinian, no karst features were detected during site investigations for the 2016 Divert EIS on Tinian, and karst features identified during geologic investigations by Gingerich and Yeatts in 2000 do not overlap the action area (University of Guam 2002).

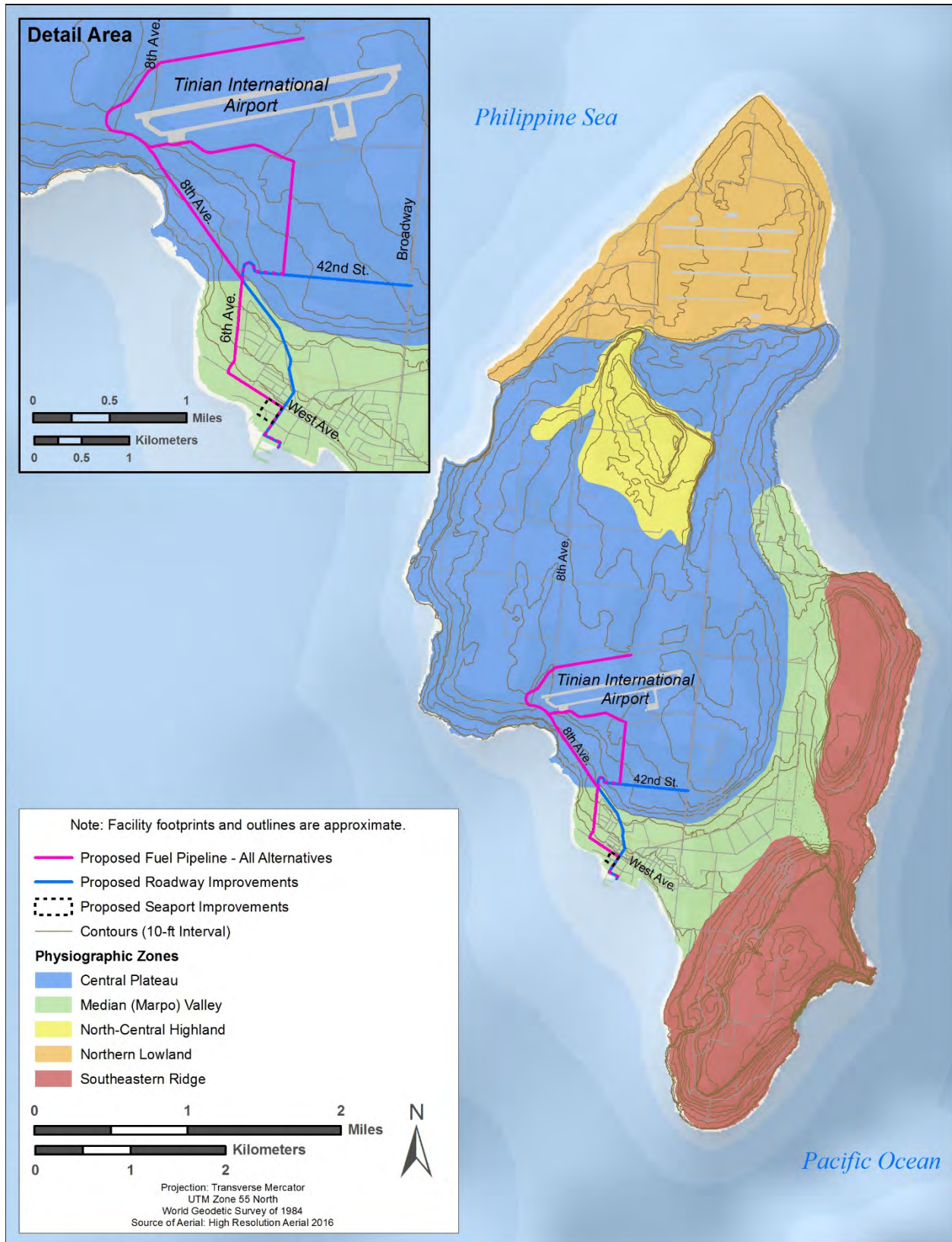


Figure 5-1. Tinian Physiography and Topography

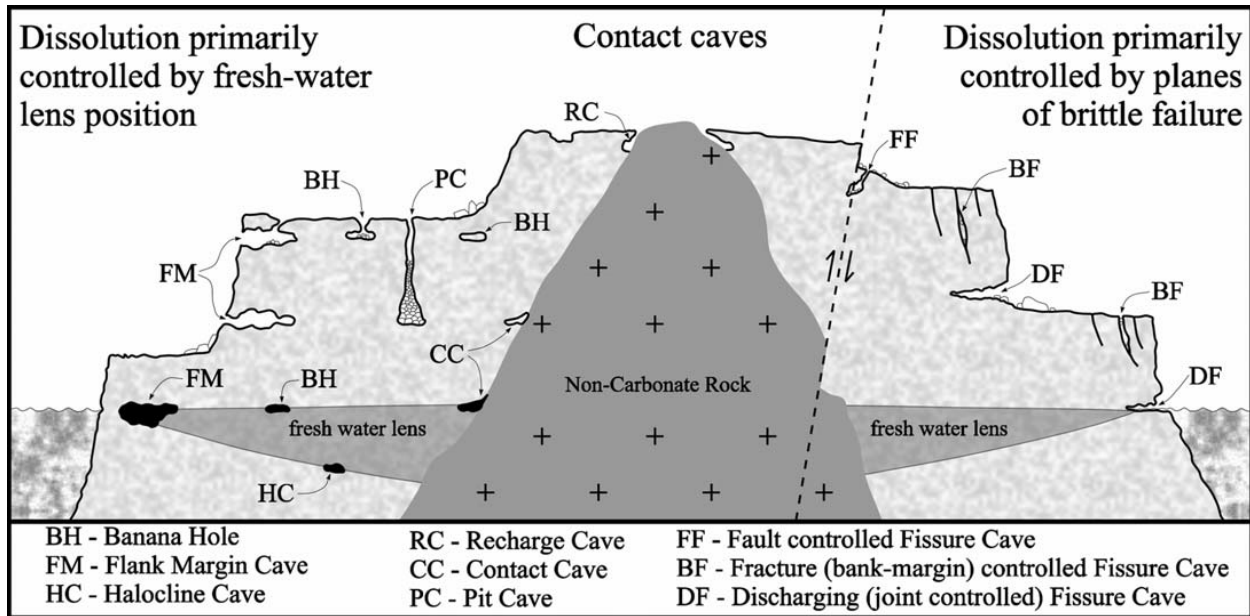


Figure 5-2. Types of Subsurface Karst Development on Carbonate Islands
(Stafford et al. 2005)

The action area is at or near Tinian's western coastline (see **Figure 5-1**). In the coastal regions of Tinian, Mariana limestone deposits are overlain by Holocene limestone, developing sands and gravels, and reefs (USGS 2002). Most of the shoreline on Tinian consists of limestone cliffs with sea level caverns, cuts, notches, and slumped borders. Reef development occurs primarily on the western coast, with minor fringing or apron reef development on the northern, eastern, and southern coasts (DON 2010a). Additionally, limestone outcrops occur at or near the ground surface at the Tinian International Airport (USAF 2016a).

5.1.3 Soils

Soil profiles on limestone regions are shallow and highly porous, (University of Guam 2002).

Table 5-1 lists the characteristics of soils mapped in the action area. There are six (excluding fill land) soil classes covering 97.7 acres present within the action area (see **Table 5-1** and **Figure 5-3**). Fill land comprises approximately 3.3 acres of the West and East routes and 0.78-acre of the roadway improvements. No important farmland soils are within the action area; therefore, farmland soils are not discussed further.

Table 5-1. Characteristics of Soils Mapped in the Action Area on Tinian

Soil Class Mapping Unit	Texture	Erosion Hazard*	Location (acres within action area)	Characteristics
Chinen-Urban Land	Urban land	Slight to moderate	West route (11.2 acres), East route (12.2 acres), roadway improvements (0.92 acre)	Shallow, well-drained, nearly level soils and urban areas
Chinen	Clay loam, very gravelly sandy loam	Slight to moderate	West route (22.2 acres), East route (23.0 acres), roadway improvements (3.2 acres)	Shallow to moderately deep, well-drained, nearly level to strongly sloping soils
Chinen-Rock Outcrop	Clay loam, rock	Moderate to severe	West route (6.2 acres), East route (7.5 acres), roadway improvements (0.52 acre)	Shallow, well-drained, nearly level to strongly sloping soils and rock outcrop; on limestone escarpments and plateaus
Dandan-Chinen	Clay loam, clay	Slight to moderate	West route (6.2 acres), East route (13.6 acres), roadway improvements (3.1 acres)	Shallow to moderately deep, well drained, nearly level to strongly sloping soils
Takpochao-Rock Outcrop	Rock	Slight	East route (0.04 acre)	Very shallow, well-drained, nearly level to strongly sloping soils and rock outcrop; on limestone escarpments and plateaus
Shioya	Loamy sand	Slight	West route (9.4 acres), East route (9.4 acres), seaport (8.2 acres), roadway improvements (0.70 acre)	Very deep, excessively drained, level to nearly level soils

Sources: USDA NRCS 1989, DON 2010b, USDA NRCS 2018

*Erosion hazard range is provided when multiple soil types are present within a soil class. Typically, the greater the slope, the greater the erosion hazard.

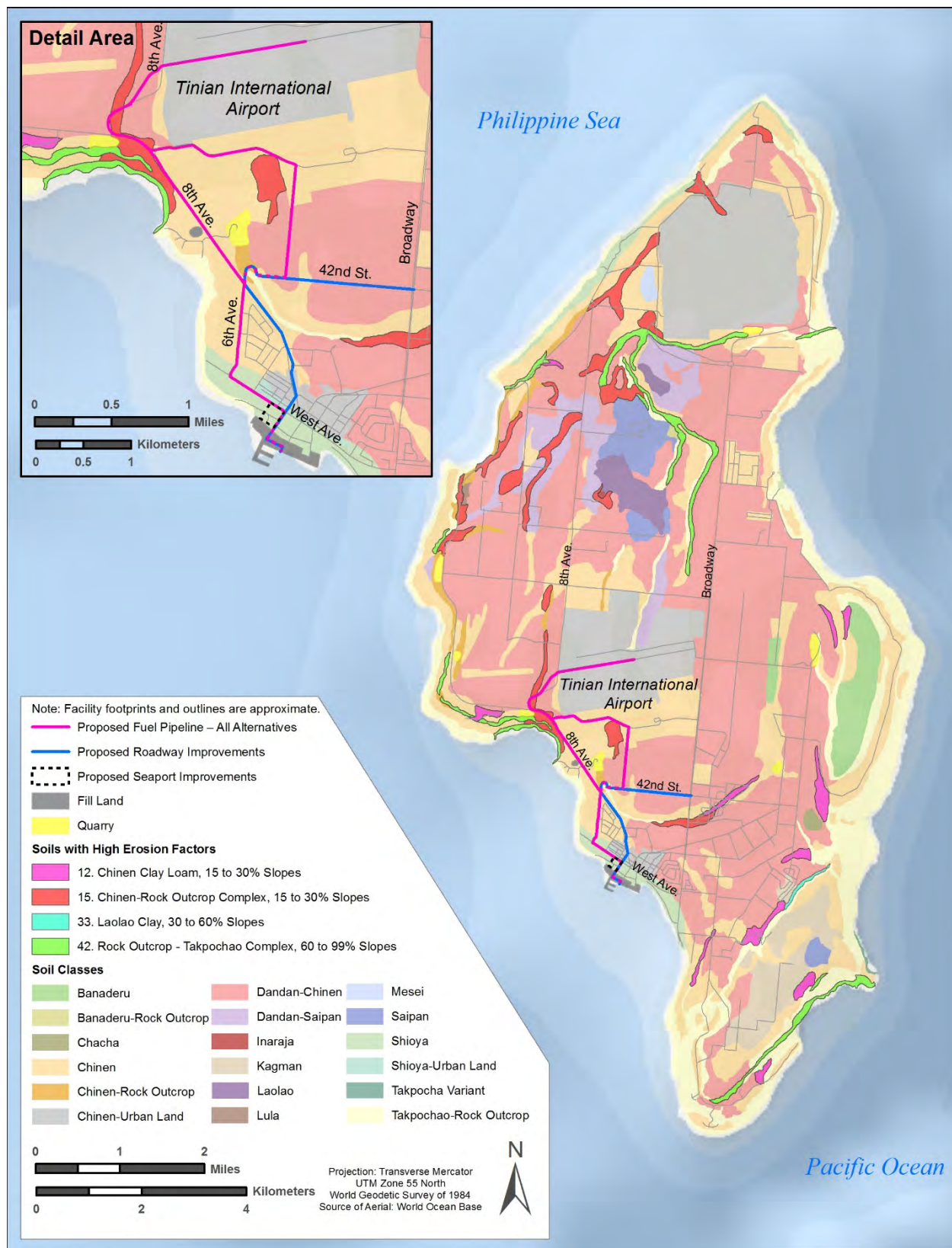


Figure 5-3. Tinian Soils Classes and Soils with High Erosion Factors

5.2 Land Use

Land use on Tinian is overseen by the CNMI Department of Public Lands (DPL), as the island does not have a local island-specific land use zoning board, zoning laws, or zoning maps. CNMI DPL land use designations are a combination of land ownership and land uses. The Office of Planning and Development was established in 2017 to oversee land use planning and sustainable development, consistent with DPL. Most land on Tinian is public land, and can include several uses such as civic, village and agricultural homesteads, nuisance activities (i.e., landfill, power generation, wastewater treatment plant, airport), public facilities (i.e., government offices, ports facilities, schools, roads), and community services. Land uses on the southern portion of Tinian are shown in **Figure 5-4**.

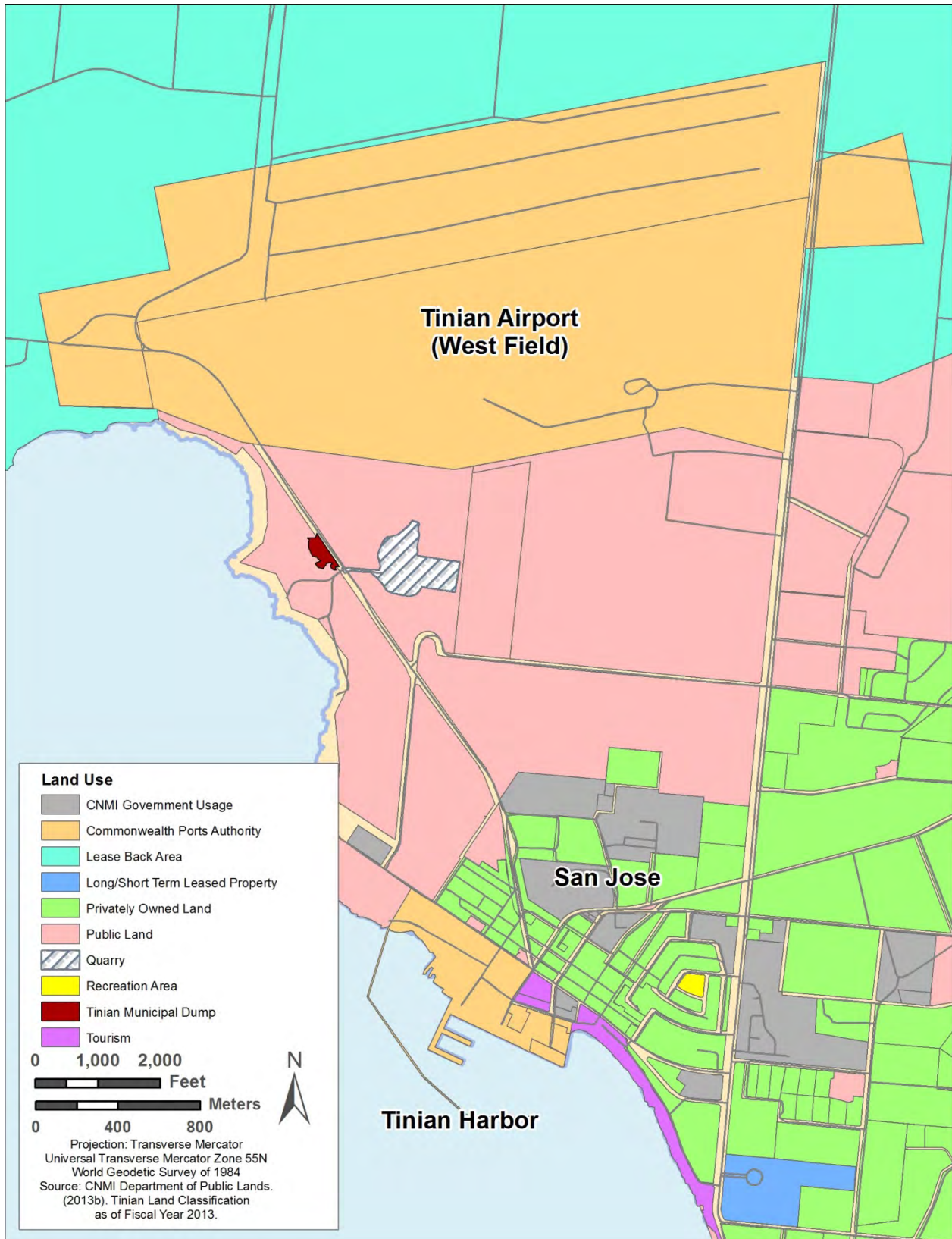
Tinian International Airport and the Tinian seaport are owned and operated by the Commonwealth Ports Authority under the Commonwealth Ports Authority Act. The airport is situated on approximately 1,400 acres of public land that is designated as a public facility. The area surrounding the airport is public land designated primarily as public facility undeveloped, undeveloped public land, and various conservation and agriculture uses (CNMI DPL 2018). The Tinian seaport, which is also a public facility, contains two piers, a small boat ramp, and a bulk fuel plant. It has undergone emergent repairs to the sea wall, bollards, and fenders and continues to support some shipping vessels. The land surrounding the seaport includes public and private land that is a mixture of public facility, residential, public facility undeveloped, undeveloped public land, and commercial/service industry uses (CNMI DPL 2018). Other land uses south of the airport and north of the seaport within public land include a quarry and a landfill (Tinian Municipal Dump).

5.3 Water Resources

5.3.1 Groundwater

The main source of freshwater on Tinian is groundwater from a basal freshwater lens within an aquifer composed of high-permeability coralline limestone (Takpochao Limestone) overlying low-permeability volcanic rock (Gingerich 2002). The basal fresh water lens extends from 2 to 4 feet above MSL to approximately 80 to 160 feet below sea level at its deepest point (DON 2010c) (see **Figure 5-2**). Elevations of the water table in the action area range from 0.4 feet MSL at the proposed seaport and West route to 1.2 feet above MSL along the East route and at Tinian International Airport. Groundwater flows radially from the center of the island to coastal discharge zones (see **Figure 5-5**).

All fresh groundwater on Tinian originates as precipitation, mainly rainfall. The rain either runs off, evaporates or is transpired by vegetation, or recharges the groundwater system. Approximately 7 percent of the annual rainfall becomes runoff, approximately 56 percent is evapotranspired, and approximately 37 percent recharges the groundwater. Tinian receives approximately 80 inches of annual rainfall with a distinct wet season (July through September) and dry season (February through March) (CNMI BECQ and GEPA 2006).



Source: DON 2010b

Figure 5-4. Land Use Near the Proposed Actions

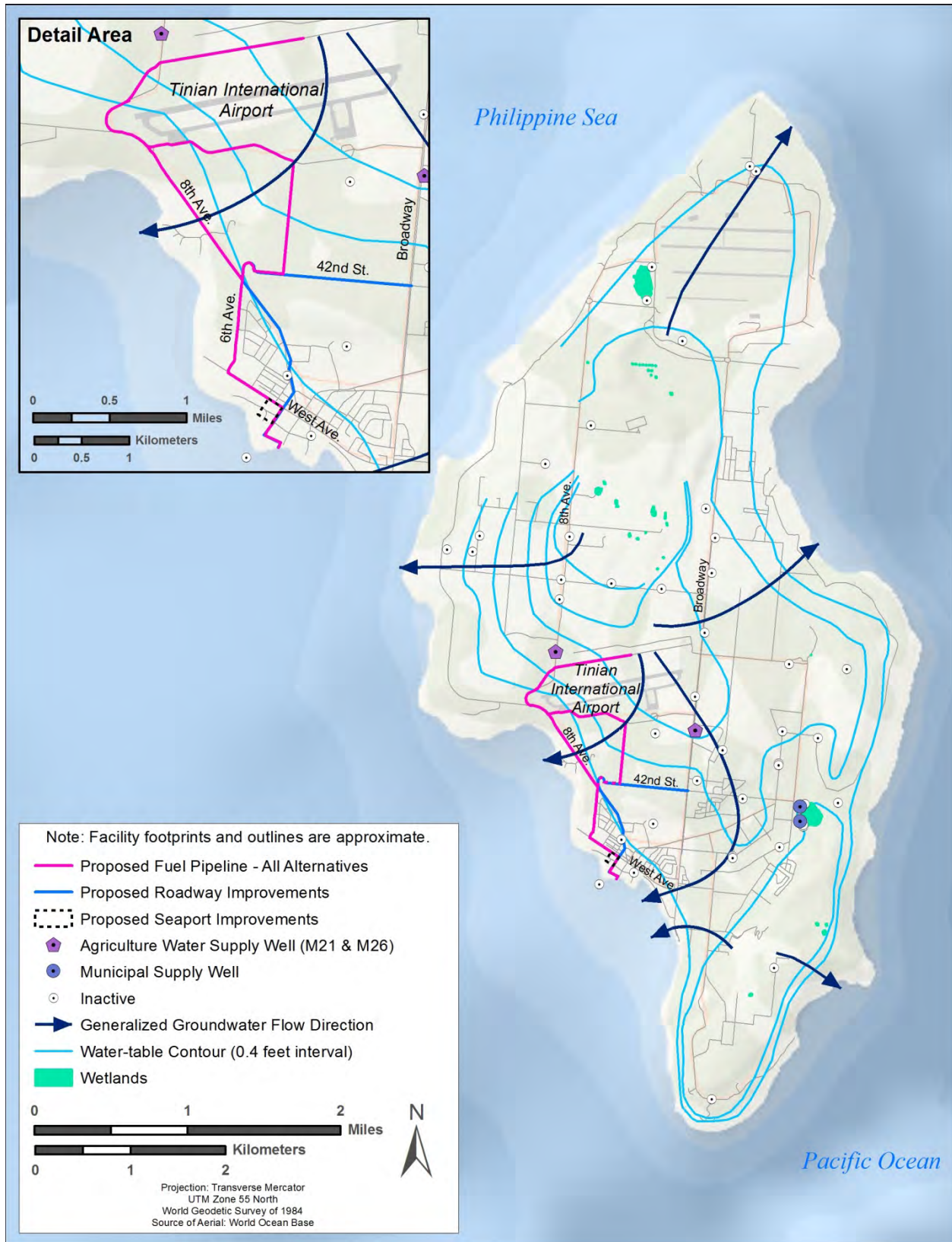


Figure 5-5. Water Map of Tinian

Existing groundwater resources may be capable of supplying up to 7 million gallons per day of potable fresh water (USAF 2016a). Water is withdrawn from the Makpo aquifer at a Maui-type well located east of San Jose Village (CPA and FAA 1998). From 1990 to 1997, groundwater withdrawal from this municipal well, the major source of water, averaged approximately 780 gallons per minute, or approximately 1.1 million gallons per day (Gingerich 2002). No sole source aquifer is designated on the island (CPA and FAA 1998).

5.3.2 Surface Water and Coastal Waters.

As discussed in **Section 2.4**, there are no perennial or intermittent streams on Tinian. Drainage throughout most of Tinian is underground and water generally percolates downward into porous limestone rock, which ultimately drain into coastal waters. The coastal waters associated with the Makpo, Puntan Daiplolamanibot, and Masalok watersheds are included in the action area.

The CNMI Water Quality Standards define two classes (AA and A) of marine water uses (CNMI BECQ 2016). The majority of the coastal marine waters are Class AA, meaning that these waters should remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human source or actions. The uses protected in these waters are the support and propagation of marine life, conservation of coral reefs and wilderness areas, oceanographic research, and aesthetic enjoyment and compatible recreation inclusive of whole body contact and related activities. Class A waters are protected for their recreational use and aesthetic enjoyment; other uses are allowed as long as they are compatible with the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water is of a limited body contact nature.

The coastal waters of the Makpo Watershed, the location of the proposed infrastructure at the seaport, are designated as Class A marine waters for recreational purposes and aesthetic enjoyment and are to be protected for these uses. The coastal waters of the Puntan Daiplolamanibot and Masalok watersheds are designated as Class AA marine waters.

The coastal waters of the Makpo Watershed are impaired (Category 5) for aquatic life use because of low dissolved oxygen levels at one monitoring site (although the other sites have improved) and poor aquatic habitat and for recreational use because of Enterococci exceedances. The coastal waters of the Puntan Daiplolamanibot and Masalok watersheds are impaired (Category 5) and are not attaining recreational use because of Enterococci. Total maximum daily loads for these impaired waters are required (CNMI BECQ 2016). Aquatic habitat is ranked as “fair” at Puntan Daiplolamanibot and “good” at Masalok (CNMI BECQ 2016).

5.3.3 Wetlands

Wetland habitats on Tinian are typically discrete areas of impermeable clay that impound rainwater. In periods of drought, the water level in these wetlands drops and open water dramatically decreases. The largest wetland area on Tinian, Hagoi Lake (36 acres) in the northern lowland is supplied perennially by groundwater. Other Tinian wetlands are considered ephemeral because they are not large enough to sustain during periods of low rainfall. The Makpo wetland once supported open water, but municipal groundwater pumping significantly altered the water levels (DON 2010b).

None of the wetlands on Tinian are in close proximity to the action area. The closest wetland is more than 1 mile away from the proposed pipeline routes.

5.3.4 Flood Zones

According to Federal Emergency Management Agency Flood Insurance Rate Map Panel Number 750001 0040 B (effective date 15 May 1991), three areas designated as Flood Zone A occur near the Tinian International Airport (FEMA 1991). These flood zones are areas with a 1 percent annual chance of flooding. Because they are not associated with floodplains of surface water bodies, these flood zones are not protected under EO 11988, *Floodplain Management*. These flood zones are associated with depressions created by former excavation activities and are only considered flood zones because of their potential to hold water during heavy rain.

5.4 Marine Environment

The Tinian coastline is lined with rocky intertidal areas, steep cliffs, and the occasional sandy beach (DON 2015). Tinian's shoreline has 13 beaches (10 on the west coast [leeward side] and 3 on the east coast [windward side]) and is mostly undeveloped, except for Tinian Harbor (DON 2015). These beaches are comprised primarily of medium to coarse sands, gravel, and coral rubble (DON 2013). Coral reef habitat (hard bottom) covers approximately 8.9 square miles of the area around Tinian (Brainard 2012). There are approximately 0.10 to 0.15 square mile of reef flat around Tinian (Brainard 2012). Emergent vegetation is not found around Tinian (International Business Publications, USA 2011) with the seagrass, *Enhalus acoroides*, found at Unai Chiget.

As described in Brainard 2012, surveys conducted in 2003, 2005, and 2007 recorded moderately low sand cover around Tinian, suggesting that the substrate around the island is predominantly hard. The distribution of habitat complexity and live coral cover around Tinian were both varied and in some areas appeared to associate well with each other (Brainard 2012).

The island of Tinian is virtually surrounded by shore-attached fringing reef (Riegl and Dodge 2008; Brainard 2012). Coral, starfish, sea urchins, sea cucumbers, mollusks, and tube worms are the most common types of invertebrates found on Tinian reefs (DON 2010b). Most of the reef habitat on Tinian has 1 to 10 percent hard coral cover, but patches exceeding 50 percent cover do occur, particularly in shallow waters (Minton et al. 2009; Brainard 2012; DON 2014; Heenan et al. 2015). These patches are on the northwest side of Tinian between Lamnibot Bay and Ustri "Cross" Point. Survey data from 2009, 2011, and 2014, indicate that the predominant benthic group is turf algae (approximately 48 percent cover), followed by macroalgae (approximately 19 percent cover), hard corals (approximately 16 percent cover), and encrusting algae (approximately 5 percent cover) (Heenan et al. 2015). Sites surveyed in 2009, 2011, and 2014 were classified primarily as mid-depth (20 to 60 feet) forereef sites but also included shallow (0 to 20 feet) and deep (60 to 200 feet) forereef sites (Heenan et al. 2015). In 2014, the water depth of the sample sites ranged from approximately 10 to 100 feet. Shore-attached fringing reefs are the dominant reef habitat type on Tinian. Well-developed reef crests are less common and there are seven well-developed reef flats on Tinian. Most of the surface water runoff from the Tinian International Airport and surrounding area flows toward Unai Barcinas

and Unai Leprosarium. All of the reef flats on Tinian are extremely small compared with well-developed reef flat habitats in the Mariana Island archipelago such as in Tumon Bay and Piti Bay on Guam (DON 2015).

Fish biomass was higher in 2011 than 2009 and 2014 for all consumer groups (groups of fish based on diet) (planktivores, secondary consumers, and piscivores) except primary consumers. Note that primary consumers include herbivores and detritivores, while secondary consumers include omnivores and benthic invertivores. Survey data from 2009, 2011, and 2014 indicate that fish biomass by consumer group generally followed the same trend as the southern Mariana Island region. That is, the largest biomass is from the primary consumers, followed by secondary consumers, piscivores, and planktivores (Heenan et al. 2015).

6. Effects of the Action

The proposed Tinian Divert infrastructure improvements include planning, construction, and operation. The project is completely on land and neither the construction nor operation of the infrastructure include in-water activities. Thus, the proposed project would not directly affect the marine environment but has the potential to indirectly affect marine threatened and endangered species in the action area through stormwater runoff, sedimentation, and spills of hydrocarbons and other pollutants.

In order to avoid these indirect effects, USAF will develop and implement plans and procedures, design facilities, and adaptively manage their actions and facilities, as described in **Section 3** and as summarized below, to avoid and minimize runoff of stormwater and sediment and POL discharge into the nearshore marine environment, both during and after construction.

The design of the proposed pipeline infrastructure and roadway improvements would focus on maintaining predevelopment hydrology and preventing net increases in stormwater runoff once construction is complete. Fuel infrastructure would be designed, constructed, operated and maintained according to the most stringent applicable federal and CNMI requirements in order to reduce the likelihood of spills during construction and operation of the pipeline infrastructure, as well as the impact of spills (e.g., or spill migration to nearshore waters) in the unlikely event that one should occur. Impervious surfaces would not be increased beyond those planned for the original Divert project and additional calculation of pre- and post-development stormwater volumes would not be necessary (DoD 2015). Thus, the Tinian Divert infrastructure improvements are expected to result in no or an unmeasurably small increase in the total amount of sediment, fresh water, or other pollutants flowing into the ocean.

USAF would also implement an adaptive management approach that would be based on information obtained during regular monitoring and inspection of temporary and permanent stormwater management controls and fuel infrastructure. USAF would ensure the proper operation, maintenance and integrity of the pipeline by implementing the measures discussed in **Section 3.3.5**. USAF would identify any structures that are damaged or are not functioning in accordance with applicable standards and repair them. The stormwater management system would also be improved when necessary to ensure that all planned objectives and required standards continue to be met. In addition, the planned objectives and required standards described above would serve as thresholds for determining whether the construction stormwater management system would need to be improved to avoid affecting the nearshore marine environment. USAF is committed to program, fund, and execute post-construction stormwater BMPs. These requirements are currently programmed for military construction projects to ensure timely completion of these requirements as a part of an adaptive management process during the construction phase. After the construction is completed, post-construction BMP requirements will be detailed in a SWPPP. Programmed funds will be used exclusively when BMP triggers to be outlined in the SWPPP are met.

In addition, USAF would develop and implement spill control and prevention measures to prevent the release of fuel or other contaminants during construction and operation of the fuel infrastructure. An SPCC Plan shall be prepared and maintained to ensure maximum protection

of the marine environment in the unlikely event of a hazardous material spill during construction and operation of the fuel infrastructure.

In summary, and based on the following site conditions and project plans, the Tinian Divert infrastructure improvements would result in no or insignificant effects on marine threatened and endangered species.

These conclusions are based on the following:

- No activities would be conducted in marine waters.
- There would be no net increase of activity at the Tinian harbor, beyond what was previously analyzed in the 2016 Divert EIS and no modification of in-water facilities there.
- LID strategies will be used for long-term stormwater infrastructure design (**Section 3.1.1**).
- All proposed fuels infrastructure on Tinian would be designed, constructed, operated and maintained according to the most stringent applicable federal and CNMI requirements (**Sections 3.1, 3.2, and 3.3**).
- During construction, USAF and its contractors will manage stormwater runoff in accordance with the USEPA NPDES Construction General Permit and will develop the following plans and comply with the following standards.
 - o A SWPPP will be developed and implemented in accordance with USEPA guidelines (**Section 3.2.2**)
 - o An ESCP will be developed and implemented in accordance with CNMI regulations (**Section 3.2.5**).
 - o Standards for erosion and sediment control recommendations in the CNMI and Guam Stormwater Management Manual would be met (**Section 3.2.4**).
- The site-specific stormwater management measures implemented during construction will meet the following requirements.
 - o Accommodate runoff from the 10-year frequency storm (**Section 3.2.2**).
 - o Retain onsite sediment in runoff from a 10-year frequency storm (**Section 3.2.2**).
- USAF will halt or modify work that could result in the release of sediments from construction sites when corals are spawning (**Section 3.2.4**).
- Facilities will be designed and adaptively managed to ensure that any stormwater discharges meet CNMI Water Quality Standards (**Sections 3.2.3, 3.2.6, and 3.3.1**).
- All stormwater management and spill prevention structures and practices will be monitored during construction and operation in accordance with the SWPPP and CNMI regulations to ensure proper function. The stormwater management system will be

adaptively managed and improved when necessary to ensure that all planned objectives and required standards are being met (**Sections 3.1., 3.2, and 3.3**).

- USAF would ensure proper operation, inspections, maintenance, and monitoring of all fuel infrastructure, by following all federal requirements, which establish frequency intervals for maintenance (**Section 3.3.5**).
- Spill prevention and control measures and plans will be developed and implemented for construction and operation of the fuel infrastructure to prevent the release of pollutants and to respond to unanticipated event (**Sections 3.3.3 and 3.3.4**).

7. Summary and Conclusions

USAF completed consultation with the NMFS in 2012 and 2016, as required under Section 7 of the ESA, for the implementation of Divert activities and exercises at the Tinian International Airport. That proposed action included, among many other actions, the construction of fuel infrastructure at the Tinian airport and seaport, as well as fuel transport from the seaport to the airport by tanker truck. Following completion of that consultation process, USAF conducted further evaluation of the fuel requirement and associated infrastructure, and now proposes to construct a fuel pipeline and associated infrastructure at the Tinian seaport to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support the Divert activities. This BA evaluates the potential effects of those supplemental Divert activities on threatened and endangered species in the marine environment.

The design of the proposed pipeline infrastructure and roadway improvements would focus on maintaining predevelopment hydrology and preventing net increases in stormwater runoff once construction is complete. Impervious surfaces would not be increased beyond those analyzed in the 2016 Divert EIS; additional calculation of pre- and post-development stormwater volumes would not be necessary (DoD 2015). USAF would also implement an adaptive management approach that would be based on information obtained during regular monitoring and inspection of temporary and permanent stormwater management controls. USAF would ensure the proper operation, maintenance and integrity of the proposed fuel infrastructure. Based on these project controls, the Tinian improvements are expected to result in no or an unmeasurably small increase in the total amount of sediment, fresh water, or other pollutants flowing into the ocean. Therefore, **USAF concludes that the Tinian Divert infrastructure improvements are not likely to adversely affect any marine threatened and endangered species under NMFS jurisdiction.**

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NOV 19 2018

RE: Tinian Divert Infrastructure Improvements (PIR-2018-10464, I-PI-18-1693-AG)

Dear Mr. Ingoglia:

On October 17, 2018, NOAA's National Marine Fisheries Service (NMFS) received your written request for concurrence that the U.S. Air Force (USAF)'s proposed Tinian Divert Infrastructure Improvements project is not likely to adversely affect (NLAA) the following endangered or threatened species under NMFS' jurisdiction: endangered hawksbill sea turtles and Central West Pacific Distinct Population Segment (DPS) green sea turtles, threatened Indo-West Pacific DPS scalloped hammerhead sharks, *Acropora globiceps*, *A. retusa*, and *Seriatopora aculeata*. There is no critical habitat designated in the action area. This response to your request was prepared by NMFS 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 underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The concurrence letter will be available through NMFS' Public Consultation Tracking System [<https://pcts.nmfs.noaa.gov>]. A complete record of this consultation is on file at the Pacific Island Regional Office, Honolulu, Hawaii.

Proposed Action

The USAF previously consulted with NMFS twice on activities in Tinian, on October 30, 2012 and March 28, 2016 (NMFS No. PIR-2016-9800). In the previous consultations, we concluded that the USAF's action was not likely to adversely affect ESA-listed species in the action area. The USAF is requesting consultation for changes in the action.

The USAF is proposing to improve the existing airfield at the Tinian International Airport and Tinian seaport to accommodate joint military cargo, tanker, and fighter aircraft that may



bediverted from their primary airfields or that may be operated from those fields to support periodic exercises, and humanitarian and disaster relief assistance. The USAF will also conduct military aircraft training at the runway when the airfield at Anderson AFB is not available. In the previous consultation, the USAF proposed to construct tanks near the seaport to store fuel.

The USAF is proposing to construct a fuel pipeline and associated infrastructure at the Tinian seaport to transport fuel from there to the airport, which will eliminate the need for the construction of fuel tanks and operations that would include trucking fuel from the tanks to the airport. Most of the pipeline will be buried within the right-of-way of the access road, and will be equipped with an impressed current cathodic protection system and would be designed to allow for cleaning and testing of the pipeline between the seaport and the airport. We evaluated the potential effects of those changes and the project as a whole to ESA-listed species.

The USAF will construct a parking apron, cargo pad, taxiway, maintenance facility, access road, jet fuel receiving facilities, a pipeline, fire suppression system, boom storage building, fencing, and utilities. The USAF will also reroute an existing road.

In total, the USAF will add up to 98 acres of new impervious surfaces to the action area, but could add less than that total. There is an abandoned airstrip of unknown size where some of the new facilities are being proposed. The USAF may remove the existing impervious surfaces to place new ones, or the new facilities may be built on the existing impervious surfaces, resulting in no net gain for portions of the project. The combined impervious surface footprint of the support infrastructure proposed is 4,550 square feet, compared to the 7,534 square feet for the fuel storage tanks and support structures analyzed in the 2016 consultation. Additionally, the combined area of potential disturbance proposed at the seaport (8.23 acres) is in the same area as the fuel storage tank area (5.29 acres) analyzed in the 2016 consultation. Therefore, much of the analysis in the 2016 consultation for construction of the fuel storage tanks is applicable to the new proposal for construction of the support infrastructure at the seaport. Impervious surfaces would not be increased beyond those analyzed in the 2016 consultation. The USAF will also incorporate low impact development measures into their designs to reduce their impact on the action area and the surrounding environment.

The USAF proposes to build a series of berms and swales to contain runoff and maximize infiltration. The USAF is designing stormwater treatment facilities to accommodate the volume and peak discharge flows of approximately 18 acre-feet, which is based on 2.2 inches of precipitation per year or at least the 95th percentile storm, based on the 24-hour precipitation depth average over a minimum of 10 years. This design is intended to maintain predevelopment hydrology and prevent net increase in stormwater runoff.

Action Area

The action area for this project is based on the area affected by potential stressors from the action. The action area for the previous consultations was based on noise from aircrafts, which were estimated to be the in-water area in line with and directly beneath the approach and departure paths of the aircraft operating out of these fields, up to about one mile from the shoreline. We expect the action area for this reinitiation of consultation to be identical to the

action area analyzed in those consultations. The installation of a pipeline in place of fuel tanks and associated operational changes is not expected to change the action area.

Listed Species

The USAF determined that the ESA-listed threatened and endangered species under NMFS jurisdiction listed in Table 1 are known to occur, or could reasonably be expected to occur, in nearshore areas in Tinian and thus may be present in the action area.

Table 1- ESA listed species considered in this consultation.

ESA Species	Listing Status	Listing Date and Federal Register Notice	Critical Habitat Date and Federal Register Notice (if applicable)
Central North Pacific Green sea turtle DPS (<i>Chelonia mydas</i>)	Threatened	05/06/2016 81 FR 20057	Not designated
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Endangered	06/02/1970 35 FR 8491	09/02/1998 63 FR 46693 None within action area
Indo-West Pacific Scalloped hammerhead shark DPS (<i>Sphyrna lewini</i>)	Threatened	09/02/2014 79 FR 38213	Not designated
Coral (no common name) <i>Acropora globiceps</i>	Threatened	10/10/2014 79 FR 53851	Not designated
Coral (no common name) <i>Acropora retusa</i>	Threatened	10/10/2014 79 FR 53851	Not designated
Coral (no common name) <i>Seriatopora aculeata</i>	Threatened	10/10/2014 79 FR 53851	Not designated

Detailed information about the biology, habitat, and conservation status of sea turtles and scalloped hammerhead shark can be found in their status reviews, recovery plans, federal register notices, and other sources at <http://www.nmfs.noaa.gov/pr/species/esa/>.

Analysis of Effects

To determine that a proposed action is NLAA listed species, NMFS must find that the effects of the proposed action are expected to be insignificant, discountable, or beneficial as defined in the joint USFWS-NMFS Endangered Species Consultation Handbook: 1) insignificant effects relate to the size of the impact and should never reach the scale where take occurs¹; 2) discountable effects are those that are extremely unlikely to occur; and 3) beneficial effects are positive effects

¹ Take” is defined by the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species. NMFS defines “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.” NMFS defines “harm” as “an act which actually kills or injures fish or wildlife.” Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering. Take of species listed as endangered is prohibited at the time of listing, while take of threatened species may not be specifically prohibited unless NMFS has issued regulations prohibiting take under section 4(d) of the ESA.

without any adverse effects (USFWS & NMFS 1998). This standard, as well as consideration of the probable duration, frequency, and severity of potential interactions, was applied during the analysis of effects of the proposed action on ESA-listed marine species, as is described in detail in the USAF's consultation request.

All of the structures and development associated with this project is upland and far from the nearshore marine environment. The USAF may affect listed species during and after program implementation in the following ways:

- Exposure to elevated noise;
- collision with vessels; and
- exposure to waste and discharge.

Exposure to Elevated Noise. The USAF may affect listed species exposed to upland construction-related noises. Man-made sounds can affect animals exposed to them in three ways: non-auditory damage to gas-filled organs, hearing loss expressed in permanent threshold shift (PTS) or temporary threshold shift (TTS), and behavioral responses or changes. The majority of noises from upland construction and aircraft will be aerial and not originating in water.

Airborne noises transfer to water poorly and is not expected to be heard at significant levels below the surface. The USAF anticipates an increase of aircraft activity for 8 weeks per year, and an estimated 720 operations (360 take-offs and 360 landings). The noise created by aircraft are not likely to be at levels that would be detected by corals, or harmful to scalloped hammerhead sharks or sea turtles. Sea turtles could be exposed by airborne sounds if they are at the surface while aircrafts are flying overhead, but exposure times would be short and unlikely to be long enough to cause TTS.

Sea turtles and scalloped hammerhead sharks could be exposed to increased vessel noise and traffic as vessels are bringing supplies and materials during construction, and to fuel ships after construction is complete. Vessel engine, propeller and other associated noises are generally within the range of hearing of all marine mammals, sea turtles, and manta rays. Larger vessels produce louder sounds that travel longer distances from the source and have the potential to cause TTS in sea turtles or scalloped hammerhead sharks. However, at the loudest levels, the sounds are being generated while the vessels are moving, which decreases the duration of exposure to animals in the action area and would therefore be extremely unlikely to result in TTS. At lower levels, which could occur as the vessel is in port, the sounds generated are not loud enough to cause TTS to sea turtles or sharks. We expect sounds generated from vessel movement to have insignificant effects on listed species.

NMFS has suggested behavior response thresholds of 120 dB_{RMS} threshold for continuous sounds and 160 dB_{RMS} for impulsive sounds for marine mammals and 160 dB_{RMS} for all types of sounds for sea turtles. Noises from the action will generate sounds louder than those respective thresholds, which could affect listed species in their zone of influence. According to the practical spreading model, the zone of influence could extend far from the source.

Although the NOAA acoustic threshold exists for behavioral responses, it is less understood or studied than hearing loss and non-acoustic injury. The majority of sounds generated by this action would be airborne where only sea turtles at the surface are reasonably likely to be exposed. The majority of in-water sound would be generated in Tinian Harbor, which is an active harbor with daily commercial activity and sounds from the project's activities would be similar to daily activities at the harbor. Sea turtles and scalloped hammerhead sharks may respond to noises by avoiding, halting their activities, experience reduced hearing by masking, or attraction to source noises. Avoidance is most likely, and a common natural reaction by listed species and considered low risk. Sea turtles and scalloped hammerhead sharks are large and agile, and capable of swimming away safely from any disturbance that would harm them. We expect minimal risk from behavioral changes by sea turtles and scalloped hammerhead sharks exposed to sounds generated during construction. We expect the sounds generated during this action will have insignificant effects to sea turtles and scalloped hammerhead sharks.

Vessel Collisions. The USACE will use a variety of vessels during the action including a barge and small vessels to transport materials and supplies to the construction site. There is a potential for vessels to collide with sea turtles and scalloped hammerhead sharks as the vessel travels from port to the construction site. Scalloped hammerhead sharks are not required to breathe at the surface and are extremely unlikely to be struck by vessels. Large vessels are generally slow moving and the number of vessel trips are relatively limited.

NMFS (2008) estimated 37.5 sea turtle vessel strikes and mortalities per year from an estimated 577,872 trips per year in Hawaii. This calculates to a 0.006% probability of a vessel strike for all vessels and trips, many of who are not reducing speeds or employing lookouts for listed species. We have less vessel data from Tinian but the mechanisms of vessel collision are likely similar to those in Hawaii, and expect probabilities to be similar. Although interactions may be less probable because the sea turtle population in Tinian is much smaller than in the Main Hawaiian Islands. Thus, we expect effects on sea turtles and scalloped hammerhead sharks from vessel collisions to be discountable.

Hazardous Wastes. The USAF will add impervious surfaces and increase activities at the airport and roads from the seaport to the airport, which could increase pollution generation on land. The USAF determined that the addition of facilities, covering up to 98 acres of new impervious surface will have an insignificant effect on listed corals, sea turtles and scalloped hammerhead sharks. After surveying the topography, geologic, and hydrologic properties of the soils, the USAF concluded that the buildout of the facilities will have an insignificant impact on marine resources because the changes in runoff after buildout will be immeasurable. The highly permeable soils and land offer adequate infiltration and opportunities for bioswale treatment to remove suspended solids and pollutants from runoff being generated from the new impervious surfaces.

The USAF is building a series of berms and swales that are designed to hold water from running off the site before it can be treated or infiltrated. The USAF are sizing the stormwater treatment features to treat up to 18 acre-feet of water generated from the runoff of the new impervious surfaces. This would effectively treat the amount of water generated from the most common large storms where pollutants could be carried off site into waterways. Water generated from one

source during larger storms is often buffered because water is running off and ponding elsewhere, and any addition to water quantity from the project would appear immeasurable. Pollutants from impervious surfaces are generally minimal after the first flush when pollutant concentrations are the highest runs off. If storms produces precipitation greater than the stormwater treatment site is sized for, pollutant loads from the new impervious surface will be immeasurable.

We concur that the proposed stormwater treatment methods and sizes are adequate to treat runoff associated with the new impervious surfaces, and differences in water quality and water quantity of water entering marine waters where listed species are exposed will be immeasurable, and frequency, duration and intensity of stormwater flowing into marine waters are likely to be immeasurable as well. We concur that such effects from stormwater generated from the new facilities will be insignificant to listed corals, sea turtles, and scalloped hammerhead sharks.

The USAF is also implementing a Spill Prevention, Control, and Countermeasure Plan and several technical orders that include facility response, inspection and monitoring, pipeline safety management, and maintenance. These measures are intended to avoid and minimize the effects of catastrophic failures or spills that could affect aquatic habitats. The potential effects to listed species from impact by catastrophic spill due to leaking, rupture, or spill is highly unlikely and we concur that such effects would be discountable.

In this consultation, NMFS considered the information and assessments in the USAF's consultation request and follow-up materials, and the best scientific information available about the biology and expected behaviors of the ESA-listed marine species considered in this consultation. The risks to ESA-listed corals, sea turtles and scalloped hammerhead sharks include exposure to elevated noise, collision with vessels, and exposure to waste and discharge. We considered each of these risks and determined them to be either discountable (vessel strike, direct contact, exposure to wastes) or insignificant (general disturbance, turbidity, noise, changes to habitat). NMFS agrees with 1) the list of ESA-listed species and critical habitat potentially exposed to the effects of the action; 2) the suite of identified stressors; and 3) the USAF's assessment of exposure risk and significance of exposure to those stressors.

Conclusion

NMFS concurs with your determination that the proposed Tinian Divert Infrastructure Improvements project is not likely to adversely affect Central West Pacific green sea turtle DPS, hawksbill sea turtle, and Indo-West Pacific scalloped hammerhead shark DPS, *Acropora globiceps*, *A. retusa*, and *Seriatopora aculeata*. This conclusion is based on your description of the action, the methods and material identified, and BMPs included in the description of the action. We expect all aspects of the project will be implemented as described, including BMPs. This concludes your consultation responsibilities for this action under the ESA for species under NMFS' jurisdiction. If necessary, consultation pursuant to Essential Fish Habitat would be completed by NMFS' Habitat Conservation Division in separate communication.

ESA Consultation must be reinitiated if: 1) take occurs; 2) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent

not previously considered; 3) the identified action is subsequently modified in a manner causing effects to listed species or designated critical habitat not previously considered; or 4) a new species is listed or critical habitat designated that may be affected by the identified action.

If you have further questions please contact Joel Moribe on my staff at (808) 725-5142 or joel.moribe@noaa.gov. Thank you for working with NMFS to protect our nation's living marine resources.

Sincerely,

A handwritten signature in black ink, reading "Ann M. Garrett". The signature is fluid and cursive, with the first name "Ann" being the most prominent.

Ann M. Garrett
Assistant Regional Administrator

NMFS File No. (PCTS): PIR-2018-10464
PIRO Reference No.: I-PI-18-1693-AG

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http://www.nmfs.noaa.gov/pr/pdfs/laws/esa_section7_handbook.pdf

D-4. Essential Fish Habitat (EFH) Assessment and Correspondence with NMFS

USAF developed an EFH Assessment to evaluate the potential effects on EFH from the Proposed Actions. The Assessment documents the evaluation conducted by USAF to determine whether the Proposed Actions would adversely affect EFH. The USAF has chosen not to include a copy of the EFH Assessment in this Appendix because it repeats much of the information (project information, existing conditions, proposed compliance actions) included in the Marine Biological Assessment (**D-54**), the effects analysis in the SEIS (**Section 4.9**), the EFH Assessment from the 2016 Divert EIS (Final EIS, Appendices Volume, Appendix B), and the compliance actions and industry standards provided in **Appendix F**. USAF provided the EFH Assessment to NMFS for their review, comment, and concurrence. A copy of NMFS concurrence with the USAF determination of effects on EFH is provided on page **D-121**.

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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, Hawaii 96818
(808) 725-5000 • Fax: (808) 725-5215

Mr. J Mark Ingoglia
Chief, Environmental & Real Property Branch
Air Force Civil Engineer Center
25 E St. Suite C-200
Joint Base Pearl Harbor-Hickam HI, 96853-5420

April 29, 2019

Dear Mr. Ingoglia:

The National Marine Fisheries Service, Pacific Islands Regional Office (NMFS), received a request from your office (hereafter, USAF) to complete a supplemental essential fish habitat (EFH) consultation for the addition of Tinian Divert infrastructure improvements to the Tinian Divert FEIS EFH Assessment (EFHA). We originally consulted on this project in April 2016, but due to newly proposed activities this supplemental consultation was appropriate and provides an opportunity to consider if new scientific information changes the basis of prior conservation recommendations. NMFS appreciates this opportunity to coordinate with the USAF and provide comments pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act), section 305 (b) (2) and 50 C.F.R 600.920.

Project Description

In order to streamline the Tinian Divert infrastructure improvements supplemental EFH consultation, the USAF's EFHA from the Tinian Divert FEIS, all supporting materials and analysis are incorporated by reference 50 CFR 600.920(e)(5). Project activities and methods are superseded only where new information has been provided by the USAF. However, NMFS will consider sources of scientific information that may be new to the USAF. Conservation recommendations will be revised only where these sources of supplemental information change the basis for NMFS determination.



The proposed Tinian Divert infrastructure improvements include the construction of a fuel pipeline and support infrastructure to transport fuel between the seaport and the airport, and road improvements between the seaport and airport to better support the Divert activities. These improvements will be added to the original project design which includes construction of the following structures: a maintenance facility, a jet fuel receiving, storage and distribution system, a cement cargo pad, and a cement parking apron.

Pipeline Construction and Operation

The proposed pipeline will be installed to a depth of approximately 3 feet with an 80-foot easement for potential disturbance during construction. Once installed, the pipeline will occupy 6 feet of unencumbered space, allowing for a minimum of 2 feet on either side of the pipeline, within a 20-foot easement. The pipeline installation will occur in two separate sections. The first section includes a bulk receipt pipeline that connects the seaport bulk receipt header to a booster pump house. The second section of the pipeline connects the booster pump house to the Divert bulk receipt fuel tanks on the north side of the airport. Low point drains will be installed approximately every 500 feet along the second section of pipeline. These points are designed to drain water or particulate matter from the pipe or to fully drain the pipe if required. Low point drains will be installed in pits to allow access below ground surface. The transfer pipeline is 12-inch diameter with an externally coated carbon steel pipe including impressed current cathodic protection designed to allow for cleaning and testing of the pipeline between the seaport and the airport. The pits will be lined with fiberglass to prevent infiltration to the subsurface soils or groundwater which allow access below the ground surface. During cleaning any drained material will be removed from the pits via a vacuum truck or similar process. Once the pipeline is installed, jet fuel will be delivered to and offloaded at the Tinian seaport per the existing fuel supply chain and fuel receipt protocols. The pipeline rate of flow is approximately 2,000 gallons per minute. The pipeline will be used to fill two 60,000 barrel and one 100,000 barrel tanks at the airport.

Seaport Improvements Support Infrastructure

The booster pump house, boom storage building, and other support infrastructure proposed in the SEIS will reduce the impervious surface footprint at the port by roughly 2000 square meters when compared to the 2016 Divert EIS at the same location. The combined area of potential terrestrial disturbance proposed at the seaport increases the total proposed area by 3 acres, with no direct in water disturbance. This represents approximately a 35 percent increase in disturbance during the constructive phases

resulting in an overall 25 percent reduction in impervious surface associated with the support infrastructure at the port.

Roadway Improvements

The road improvements include replacement of the existing roadway surfaces along a 2.5-mile route connecting the Tinian seaport and the Tinian airport. The improvements occur along several Tinian Road's (TR) including: TR25, TR24 and TR21. Improvements include removing the existing deteriorated asphalt cap, which is approximately 2- to 4-inches thick; grading the road subsurface down approximately 8 inches below the original asphalt cap; laying a new 8-inch sub base; and finishing the surface with a new 3-inch asphalt cap. All roadway improvements are designed to occur within the existing roadbeds and shoulders, and no roadbed widening or right of way alterations are planned.

The roadway improvements are independent from the proposal to construct the pipeline and support infrastructure. If the pipeline is not constructed, the improved roadways will be utilized by fuel vehicles as described in the 2016 Divert EIS. Use of this route for fuel or construction vehicles does not exceed the amount of fuel truck traffic analyzed in the 2016 Divert EIS. Construction of the pipeline would eliminate the need for fuel transfer by vehicle; therefore, if the pipeline is constructed, USAF would utilize this route for all Divert construction vehicles rather than fuel

Consultation History and Updates

The USAF originally submitted the request for this consultation in October of 2018, just prior to Tinian being devastated by Super Typhoon Yutu. Following the storm USAF put a hold on all consultations until further damage and feasibility assessments could be completed at the proposed projects sites. On March 29, 2019 USAF concluded that the Tinian Divert infrastructure improvements could move forward as planned without the need to redesign the projects or redraft the supplemental EFHA document.

In October 2018, NMFS provided seventeen comments to the draft supplemental EFHA document that was shared by USAF for the divert infrastructure improvements, recommending a range of substantive and contextual changes or updates to the document. We would like to thank USAF for integrating twelve of our comments directly into the Supplemental EFHA document and for providing clarification or promising future action on the other five comments we provided.

NFMS would also like to make the USAF aware that since the initial development of the supplemental EFHA document in October 2018 the Western Pacific Regional Fisheries Management Council (WPRFMC) has redefined the Coral Reef Ecosystem Management Unit Species, removing the requirement to consult for this group of species under EFH. The removal of these species does not currently change the EFH consultation footprint as the nearshore shallow water column and benthic communities are still important for Pelagic and Bottomfish assemblages, but CREMUS is no longer an MUS considered in this consultation.

NMFS Concerns

Adverse Effect and Stressors

We categorize adverse effect types in four categories: temporary, short-term, long-term, and permanent. The severity is measured by intensity and spatial extent of the stressor, while the adverse effect type is based on the recovery rate from the impact and the pervasiveness of the impact at the ecological scale. Standard EFH effects analysis normally will use the most sensitive and hard-to-replace EFH resources based on the recovery time back to the baseline or the highest following stable state likely. Considering recruitment and growth rates of impacted fauna, oceanographic and geomorphologic features, and anticipated future conditions; living EFH resources which are altered or lost can be quantified as a debt. Non-living resources can also be adversely affected and lost, such as removal or impairment of feature to serve as shelter. These types of effects tend to be permanent.

The most likely adverse effects to EFH from this project are associated with stormwater and spills, both of which are typically temporary in nature, but have the potential for a high level of intensity, leading to the introduction of sedimentation and contaminants into nearshore waters. Updating the 10-year and 25-year storm rainfall estimates should greatly improve design elements within the stormwater pollution prevention plan (SWPPP) minimizing sedimentation risks, but until monitoring data can confirm the continued success of SWPPP design elements, sediment remains the primary concern.

Increase in Sedimentation and Turbidity: can cause smothering of benthic species and block sunlight necessary for those species that rely on photosynthesis. In corals, sedimentation has been shown to reduce species diversity, change growth patterns, and reduce growth and survival (Rogers 1990), while in seagrass beds sedimentation can result in covering plants, eventually leading to mortality. For fish, sedimentation is less likely to cause significant impacts because of their mobility, but some effects are

still possible. Fish may be displaced from their normal home range which may result in negative intra- and interspecies interactions, which may impact fitness, lead to lower reproductive success, and make individuals less able to find prey or avoid predators (Kjelland *et al.* 2015).

Increase in Contaminants: can reduce fitness and cause mortality of exposed organisms. At the coral assemblage level, metal pollution has been linked to decreased coral species abundance, diversity (Ramos et al. 2004), and cover (Scott 1990). Often, contaminants entering the marine environment are lighter than water, and thus float on the surface where much of it evaporates within a few days (Neff et al. 2000). For those contaminants that sink, the effects on coral colonies may include mortality, tissue death, reduced growth, impaired reproduction, bleaching, and reduced photosynthetic rates (Fucik et al. 1984, Cook and Knap 1983, Neff and Anderson 1981). Few studies have been conducted on the adverse effects of oil on tropical fish, but decreased growth, altered behavioral responses, and changes in metabolic rate have been observed (Johnson et al. 1979, Kloth and Wohlschlag 1972).

EFH Determination

As with the 2016 consultation, the USAF has determined that minimal impacts will occur to EFH from the Tinian Divert infrastructure improvement activities provided all federal and CNMI regulations are followed when developing and implementing BMPs and so long as they use a proactive approach to monitoring and adaptive management for storm water, land-based runoff and spill control. We agree with this finding and would like to thank the USAF for the very collaborative approach they have taken to address concerns about both storm water and spill control.

Through consultation, the USAF considered the best climate information available and promised to update the 10-year and 25-year storm rainfall estimates as it pertains to construction infrastructure and permanent infrastructure designs stormwater management. Likewise, the USAF has committed to program, fund, and execute post construction stormwater best management practices (BMPs) as part of an adaptive management process to help avoid and minimize stormwater impacts should the existing (BMPs) or infrastructure fail.

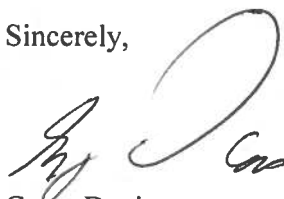
Given that the USAF readily integrated the best available scientific information, and the stressors analyzed in the supplemental consultation do not otherwise change the basis for our conservation recommendations from 2016, we will not provide additional recommendations. Our Conservation from 2016 are incorporated by reference and continue to apply to the USAF Divert project activities

described in the FEIS and those described in the Supplemental EFHA. However, we would like to again request continued involvement as plans and schedules are developed for the following actions:

- Tinian Harbor: we remain concerned about the cumulative impacts to Tinian harbor that will be created by increased usage of limited harbor facilities in association with the Divert project, the proposed activities associated with the CNMI Joint Military Training DEIS, USACE harbor improvements, and other commercial activities that are in development. We would like to continue working with USAF, other facets of DOD, USACE and other local stakeholders to continue monitoring cumulative impacts to the harbor, managing impacts and finding solutions.
- Storm Water Pollution Prevention Plan: Development of the SWPPP will likely require coordination amongst a broad range of local and federal partners given the number mandates associated with managing this threat to nearshore waters. We would like to be included as a stakeholder once formal development of this document is initiated and is specifically interested in participating in development of the monitoring plan and thresholds for adaptive management.
- Facilities Response Plan: We would appreciate the opportunity to review and provide comments to a near-final draft of this document.
- Spill Prevention Control and Countermeasure (SPCC) Plan: We would appreciate the opportunity to review the SPCC plan both at the construction phase and for the implementation phase of the project.

Thank you for the opportunity to comment on this proposed action. Should you have any questions, please contact Steve McKagan at the CNMI Field Office steven.mckagan@noaa.gov or 670-234-0004.

Sincerely,



Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division

CC: Malia Chow – NMFS
William Grannis – USAF

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APPENDIX E

Air Quality Analysis Supporting Documentation



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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

E-1. West Route Emissions for Trenching, Construction, Coating, and Grading

1. General Information

- Action Location

Base: GENERIC BASE

County(s): Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS Supplemental EIS,
Commonwealth of the Northern Mariana Islands

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 8 / 2020

- Action Purpose and Need:

This proposed action address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed December 7, 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

In the original EIS, USAF proposed to construct facilities and infrastructure at the Tinian International Airport (North Option) to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The original EIS evaluated construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS.

USAF now proposes to construct a fuel pipeline, and associated additional grading for layout at the seaport, to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support Divert activities.

- Action Description:

Emissions are estimated for the following, for the SEIS:

1. Construct a west routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
2. Construct an east routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
3. Construct additional graded surfaces for pipeline infrastructure support at the Tinian seaport. (Grading)
4. Operate emergency generators at the Tinian seaport. (Emergency Generators)
5. Construct road improvements on certain existing roads that will be used for operations. (Excavation, Paving)

Of these items, numbers 1, 2, and 5 are in this file.

- Point of Contact

Name: Terri Rector

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Title: Contractor
Organization: HDR
Email: terri.rector@hdrinc.com
Phone Number: 512-914-4415

- Activity List:

Activity Type	Activity Title
2. Construction / Demolition	1. Pipeline Construction, West Route

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Tinian
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: 1. Pipeline Construction, West Route

- Activity Description:

Trench and install west routing pipeline, as follows:
-existing ROW
-width 80 feet
-depth 3 feet

- Activity Start Date

Start Month: 8
Start Month: 2020

- Activity End Date

Indefinite: False
End Month: 7
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	7.499197
SO _x	0.084726
NO _x	39.636101
CO	31.525736
PM 10	39.504772

Pollutant	Total Emissions (TONs)
PM 2.5	1.685227
Pb	0.000000
NH ₃	0.009250
CO ₂ e	8220.4

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft²): 52800
Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 0

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 4.08

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0732	0.0013	0.4042	0.5124	0.0183	0.0183	0.0066	119.74
Graders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Scrapers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1913	0.0026	1.3434	0.7938	0.0540	0.0540	0.0172	262.91

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10_{FD}: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)
HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft²): 52800
Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 0

- Trenching Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 0

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Worker Trips

Average Worker Round Trip Commute (mile): 4.08

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0732	0.0013	0.4042	0.5124	0.0183	0.0183	0.0066	119.74
Graders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Scrapers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1913	0.0026	1.3434	0.7938	0.0540	0.0540	0.0172	262.91
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM_{10FD} = (20 * ACRE * WD) / 2000$$

PM_{10FD}: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

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NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)
HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

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2.3.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial
Area of Building (ft²): 43901
Height of Building (ft): 2
Number of Units: N/A

- Building Construction Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 4.08

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 4.08

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Cranes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0898	0.0013	0.6610	0.3917	0.0256	0.0256	0.0081	128.83
Forklifts Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0320	0.0006	0.1690	0.2160	0.0070	0.0070	0.0028	54.467
Generator Sets Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0395	0.0006	0.3232	0.2731	0.0149	0.0149	0.0035	61.081
Tractors/Loaders/Backhoes Composite								

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	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897
Welders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0310	0.0003	0.1734	0.1816	0.0102	0.0102	0.0027	25.672

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building (ft²)

BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft³ to trips (0.42 trip / 1000 ft³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

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$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)
 VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)
 0.002205: Conversion Factor grams to pounds
 EF_{POL} : Emission Factor for Pollutant (grams/mile)
 VM : Worker Trips On Road Vehicle Mixture (%)
 2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

$$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$$

VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)
 BA : Area of Building (ft²)
 BH : Height of Building (ft)
 (0.38 / 1000): Conversion Factor ft³ to trips (0.38 trip / 1000 ft³)
 HT : Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)
 VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)
 0.002205: Conversion Factor grams to pounds
 EF_{POL} : Emission Factor for Pollutant (grams/mile)
 VM : Worker Trips On Road Vehicle Mixture (%)
 2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
 Start Quarter: 1
 Start Year: 2020

- Phase Duration

Number of Month: 36
 Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information

Building Category:
 Total Square Footage (ft²): 134048
 Number of Units: N/A

- Architectural Coatings Default Settings

Default Settings Used: No
 Average Day(s) worked per week: 5

- Worker Trips

Average Worker Round Trip Commute (mile): 4.08

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
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POVs	50.00	50.00	0	0	0	0	0
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2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$$VMT_{WT} = (1 * WT * PA) / 800$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

1: Conversion Factor man days to trips (1 trip / 1 man * day)

WT: Average Worker Round Trip Commute (mile)

PA: Paint Area (ft²)

800: Conversion Factor square feet to man days (1 ft² / 1 man * day)

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft²)

2.0: Conversion Factor total area to coated area (2.0 ft² coated area / total area)

0.0116: Emission Factor (lb/ft²)

2000: Conversion Factor pounds to tons

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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

E-2. East Route Emissions for Trenching, Construction, Coating, and Grading

1. General Information

- Action Location

Base: GENERIC BASE

County(s): Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS Supplemental EIS,
Commonwealth of the Northern Mariana Islands

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 8 / 2020

- Action Purpose and Need:

This proposed action address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed December 7, 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

In the original EIS, USAF proposed to construct facilities and infrastructure at the Tinian International Airport (North Option) to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The original EIS evaluated construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS.

USAF now proposes to construct a fuel pipeline, and associated additional grading for layout at the seaport, to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support Divert activities.

- Action Description:

Emissions are estimated for the following, for the SEIS:

1. Construct a west routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
2. Construct an east routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
3. Construct additional graded surfaces for pipeline infrastructure support at the Tinian seaport. (Grading)
4. Operate emergency generators at the Tinian seaport. (Emergency Generators)
5. Construct road improvements on certain existing roads that will be used for operations. (Excavation, Paving)

Of these items, numbers 1, 2, and 5 are in this file.

- Point of Contact

Name: Terri Rector

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Title: Contractor
Organization: HDR
Email: terri.rector@hdrinc.com
Phone Number: 512-914-4415

- Activity List:

Activity Type	Activity Title
2. Construction / Demolition	2. Pipeline Construction, East Route

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Tinian
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: 2. Pipeline Construction, East Route

- Activity Description:

Trench and install east routing pipeline, as follows:
-existing ROW
-width 80 feet
-depth 3 feet

- Activity Start Date

Start Month: 8
Start Month: 2020

- Activity End Date

Indefinite: False
End Month: 7
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	8.680969
SO _x	0.097174
NO _x	45.497254
CO	35.618945
PM 10	39.747442

Pollutant	Total Emissions (TONs)
PM 2.5	1.927462
Pb	0.000000
NH ₃	0.012200
CO _{2e}	9480.0

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

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2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft²): 52800
Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	2	8
Other Construction Equipment Composite	2	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	4	8
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 0

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 4.95

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Scrapers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1913	0.0026	1.3434	0.7938	0.0540	0.0540	0.0172	262.91
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

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- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10_{FD}: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)
HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)

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1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)
 VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
 EF_{POL} : Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft²): 52800
Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 0

- Trenching Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 4.95

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 4.95

- Worker Trips Vehicle Mixture (%)

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	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Scrapers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1913	0.0026	1.3434	0.7938	0.0540	0.0540	0.0172	262.91
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10_{FD}: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)
HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial
Area of Building (ft²): 53262
Height of Building (ft): 2
Number of Units: N/A

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- Building Construction Default Settings

Default Settings Used: No

Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 4.95

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 4.95

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Cranes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0898	0.0013	0.6610	0.3917	0.0256	0.0256	0.0081	128.83
Forklifts Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0320	0.0006	0.1690	0.2160	0.0070	0.0070	0.0028	54.467
Generator Sets Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0395	0.0006	0.3232	0.2731	0.0149	0.0149	0.0035	61.081
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897
Welders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0310	0.0003	0.1734	0.1816	0.0102	0.0102	0.0027	25.672

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building (ft²)

BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft³ to trips (0.42 trip / 1000 ft³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Vender Trips Emissions per Phase

$$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$$

VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)

BA: Area of Building (ft²)

BH: Height of Building (ft)

(0.38 / 1000): Conversion Factor ft³ to trips (0.38 trip / 1000 ft³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{VT} : Vender Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date

Start Month: 8

Start Quarter: 1

Start Year: 2020

- Phase Duration

Number of Month: 36

Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information

Building Category:

Total Square Footage (ft²): 162632

Number of Units: N/A

- Architectural Coatings Default Settings

Default Settings Used: No

Average Day(s) worked per week: 5

- Worker Trips

Average Worker Round Trip Commute (mile): 4.95

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDBGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

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HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase

$$VMT_{WT} = (1 * WT * PA) / 800$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

1: Conversion Factor man days to trips (1 trip / 1 man * day)

WT: Average Worker Round Trip Commute (mile)

PA: Paint Area (ft²)

800: Conversion Factor square feet to man days (1 ft² / 1 man * day)

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft²)

2.0: Conversion Factor total area to coated area (2.0 ft² coated area / total area)

0.0116: Emission Factor (lb/ft²)

2000: Conversion Factor pounds to tons

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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

E-3. Seaport Infrastructure Construction

1. General Information

- Action Location

Base: GENERIC BASE

County(s): Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS Supplemental EIS,
Commonwealth of the Northern Mariana Islands

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 8 / 2020

- Action Purpose and Need:

This proposed action address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed December 7, 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

In the original EIS, USAF proposed to construct facilities and infrastructure at the Tinian International Airport (North Option) to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The original EIS evaluated construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS.

USAF now proposes to construct a fuel pipeline, and associated additional grading for layout at the seaport, to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support Divert activities.

- Action Description:

Emissions are estimated for the following, for the SEIS:

1. Construct a west routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
2. Construct an east routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
3. Construct additional graded surfaces for pipeline/infrastructure support at the Tinian seaport. (Grading)
4. Operate emergency generators at the Tinian seaport. (Emergency Generators)
5. Construct road improvements on certain existing roads that will be used for operations. (Excavation, Paving)

- Point of Contact

Name: Terri Rector

Title: Contractor

Organization: HDR

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Email: terri.rector@hdrinc.com
Phone Number: 512-914-4415

- Activity List:

Activity Type	Activity Title
2. Construction / Demolition	3. Seaport Infrastructure Construction

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Tinian
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: 3. Seaport Infrastructure Construction

- Activity Description:

Increase of 2.84 acres of disturbed land at the seaport.

- Activity Start Date

Start Month: 8
Start Month: 2020

- Activity End Date

Indefinite: False
End Month: 7
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	3.391832
SO _x	0.047988
NO _x	23.179181
CO	16.594434
PM 10	45.267075

Pollutant	Total Emissions (TONs)
PM 2.5	0.962947
Pb	0.000000
NH ₃	0.001838
CO _{2e}	4754.2

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 36
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft²): 123710

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Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	2	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 0

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 2

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0732	0.0013	0.4042	0.5124	0.0183	0.0183	0.0066	119.74
Graders Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Scrapers Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.1913	0.0026	1.3434	0.7938	0.0540	0.0540	0.0172	262.91
Tractors/Loaders/Backhoes Composite								
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CH ₄	CO _{2e}
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

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	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDGT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDGV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
LDDT	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
HDDV	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800
MC	00.6330	00.0090	00.5200	10.3730	00.0280	00.0140		00.0950	00500.800

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10_{FD}: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)
HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works

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NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL} : Vehicle Emissions (TONs)

VMT_{WT} : Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL} : Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

E-4. Emergency Generator Operations

1. General Information

- Action Location

Base: GENERIC BASE

County(s): Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS Supplemental EIS,
Commonwealth of the Northern Mariana Islands

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 8 / 2023

- Action Purpose and Need:

This proposed action address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed December 7, 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

In the original EIS, USAF proposed to construct facilities and infrastructure at the Tinian International Airport (North Option) to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The original EIS evaluated construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS.

USAF now proposes to construct a fuel pipeline, and associated additional grading for layout at the seaport, to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support Divert activities.

- Action Description:

Emissions are estimated for the following, for the SEIS:

1. Construct a west routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
2. Construct an east routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
3. Construct additional graded surfaces for pipeline/infrastructure support at the Tinian seaport. (Grading)
4. Operate emergency generators at the Tinian seaport. (Emergency Generators)
5. Construct road improvements on certain existing roads that will be used for operations. (Excavation, Paving)

Items 3 and 4 above are in this file.

- Point of Contact

Name: Terri Rector

Title: Contractor

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Organization: HDR
Email: terri.rector@hdrinc.com
Phone Number: 512-914-4415

- Activity List:

Activity Type		Activity Title
2.	Emergency Generator	4. Emergency Generator Operation at Seaport

2. Emergency Generator

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: 4. Emergency Generator Operation at Seaport

- Activity Description:

During operations, run emergency generators as needed or for power outage, at seaport.

- Activity Start Date

Start Month: 8

Start Year: 2023

- Activity End Date

Indefinite: Yes

End Month: N/A

End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.028697
SO _x	0.000501
NO _x	1.038072
CO	0.275750
PM 10	0.032425

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.032425
Pb	0.000000
NH ₃	0.000000
CO ₂ e	53.3

2.2 Emergency Generator Assumptions

- Emergency Generator

Type of Fuel used in Emergency Generator: Diesel

Number of Emergency Generators: 2

- Default Settings Used: No

- Emergency Generators Consumption

Emergency Generator's Horsepower: 835

Average Operating Hours Per Year (hours): 48

2.3 Emergency Generator Emission Factor(s)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Emergency Generators Emission Factor (lb/hp-hr)

VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
0.000716	0.0000125	0.0259	0.00688	0.000809	0.000809			1.33

2.4 Emergency Generator Formula(s)

- Emergency Generator Emissions per Year

$$AE_{POL} = (NGEN * HP * OT * EF_{POL}) / 2000$$

AE_{POL}: Activity Emissions (TONs per Year)

NGEN: Number of Emergency Generators

HP: Emergency Generator's Horsepower (hp)

OT: Average Operating Hours Per Year (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hp-hr)

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DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

E-5. Road Improvement Excavation and Paving

1. General Information

- Action Location

Base: GENERIC BASE

County(s): Tinian

Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS Supplemental EIS,
Commonwealth of the Northern Mariana Islands

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 8 / 2020

- Action Purpose and Need:

This proposed action address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed December 7, 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52), and specifically the North Option (Final EIS, Section 2.5.2, page 2-28), as a future Divert location.

In the original EIS, USAF proposed to construct facilities and infrastructure at the Tinian International Airport (North Option) to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The original EIS evaluated construction of fuel infrastructure at the Tinian airport and seaport, and also evaluated fuel transport from the seaport to the airport by tanker truck. After the ROD was signed in December 2016, USAF conducted further evaluation of the fuel requirement and associated infrastructure, including the feasibility of different alternatives that were not considered in the original EIS.

USAF now proposes to construct a fuel pipeline, and associated additional grading for layout at the seaport, to transport fuel from the seaport to the airport. USAF also proposes to improve certain existing roads between the seaport and airport to support Divert activities.

- Action Description:

Emissions are estimated for the following, for the SEIS:

1. Construct a west routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
2. Construct an east routing fuel pipeline from the Tinian seaport to the Tinian International Airport. (Trenching, Construction, Coating, Grading)
3. Construct additional graded surfaces for pipeline infrastructure support at the Tinian seaport. (Grading)
4. Operate emergency generators at the Tinian seaport. (Emergency Generators)
5. Construct road improvements on certain existing roads that will be used for operations. (Excavation, Paving)

Of these items, numbers 1, 2, and 5 are in this file.

- Point of Contact

Name: Terri Rector

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Title: Contractor
Organization: HDR
Email: terri.rector@hdrinc.com
Phone Number: 512-914-4415

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	5. Road Improvement

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Tinian
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: 5. Road Improvement

- Activity Description:

Improve existing roads with pavement.

- Activity Start Date

Start Month: 8
Start Month: 2020

- Activity End Date

Indefinite: False
End Month: 7
End Month: 2021

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.707004
SO _x	0.009331
NO _x	3.797345
CO	5.064120
PM 10	7.768826

Pollutant	Total Emissions (TONs)
PM 2.5	0.203293
Pb	0.000000
NH ₃	0.012871
CO _{2e}	838.9

2.1 Trenching/Excavating Phase

2.1.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date

Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration

Number of Month: 12
Number of Days: 0

2.1.2 Trenching / Excavating Phase Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft²): 63360
Amount of Material to be Hauled On-Site (yd³): 0
Amount of Material to be Hauled Off-Site (yd³): 11780

- Trenching Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 20
Average Hauling Truck Round Trip Commute (mile): 0

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 40

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDGT	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
HDGV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDDV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDDT	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
HDDV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
MC	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600

2.1.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$$PM_{10FD} = (20 * ACRE * WD) / 2000$$

PM_{10FD}: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd³)

HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

2.2 Paving Phase

2.2.1 Paving Phase Timeline Assumptions

- Phase Start Date

Start Month: 8

Start Quarter: 1

Start Year: 2020

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Phase Duration

Number of Month: 12

Number of Days: 0

2.2.2 Paving Phase Assumptions

- General Paving Information

Paving Area (ft²): 318067

- Paving Default Settings

Default Settings Used: No

Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 40

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 40

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO _{2e}
LDGV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDGT	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
HDGV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDDV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
LDDT	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
HDDV	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600
MC	00.7810	00.0090	00.7260	11.5710	00.0300	00.0160		00.0950	00495.600

2.2.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE_{POL}: Construction Exhaust Emissions (TONs)

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NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft²)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd³ / 27 ft³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$$VOC_P = (2.62 * PA) / 43560$$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft²)
43560: Conversion Factor square feet to acre (43560 ft² / acre)² / acre)

E-6. West and East Route Pipeline Construction Emissions, Calculation Spreadsheet

Worksheet Descriptions

Workbook Tab/Worksheet	Description
Total Divert w W Pipeline	Summarizes total emissions by calendar year for Divert Project with West Pipeline Route and Associated Infrastructure Construction
Total Divert w E Pipeline	Summarizes total emissions by calendar year for Divert Project with East Pipeline Route and Associated Infrastructure Construction
Combustion_Evaporative	Estimates emissions from non-road equipment exhaust and evaporative volatile organic compound emissions for constructing the Divert project without storage tank and pipeline infrastructure support at the seaport. From original EIS with tank construction equipment removed.
Fugitive Dust	Estimates particulate emissions from construction activities including earthmoving, vehicle traffic, and windblown dust for the Divert project without the West Pipeline. No changes from original EIS.
Grading	Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions for the Divert project without the West Pipeline. No changes from original EIS.
Construction Commuter	Estimates emissions for construction workers commuting to the site, without the West Pipeline. No changes from original EIS.
Haul Truck On-Road	Estimates emissions from hauling construction materials to the project site for the Divert Project without the West Pipeline. No changes from original EIS.
SEIS ACAM Emissions	Shows ACAM-estimated emissions for SEIS Activities: W pipeline construction, Seaport Pipeline Infrastructure Construction, E pipeline construction, Roadway construction, and Generators operation. (Relevant results incorporated into totals in this workbook.)
SEIS ACAM Inputs	Estimates and describes parameters input into ACAM for SEIS activities.

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APPENDIX E: AIR QUALITY ANALYSIS SUPPORTING DOCUMENTATION

Summary of Air Pollutant Emissions from Divert with West Pipeline - Construction

Total Emissions Over Period

	NO _x (tons)	VOC (tons)	CO (tons)	SO ₂ (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO ₂ e (tons)
Combustion and Evaporative	14.655	1.023	6.120	0.574	0.948	0.919	1,760.231
Fugitive Dust	-	-	-	-	207.558	20.746	-
Construction Commuter	0.975	1.205	13.984	0.0159	0.040	0.017	874.603
Haul Truck On-Road	0.294	0.027	0.157	0.001	0.009	0.009	76.223
W Pipeline Construction	39.636	7.499	31.526	0.085	39.505	1.685	8,220.400
Seaport Pipe Support	23.179	3.392	16.594	0.048	45.267	0.963	4,754.200
TOTAL	78.74	13.15	68.38	0.72	293.33	24.34	15,685.66

Total Annual Emissions

Construction Emissions by Calendar Year	NO _x (tons)	VOC (tons)	CO (tons)	SO ₂ (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO ₂ e (metric tonnes)
Year 1	26.25	4.38	22.79	0.24	97.78	8.11	4,743.26
Year 2	26.25	4.38	22.79	0.24	97.78	8.11	4,743.26
Year 3	26.25	4.38	22.79	0.24	97.78	8.11	4,743.26
Significance Criteria Threshold (tpy)	100	100	100	100	100	100	Not Applicable

Note: Construction duration is estimated to be 36 months and the emissions are assumed to be distributed evenly over the construction period.

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Summary of Air Pollutant Emissions from Divert with East Pipeline - Construction

Total Emissions Over Period

	NO _x (tons)	VOC (tons)	CO (tons)	SO ₂ (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO ₂ e (tons)
Combustion and Evaporative	14.655	1.023	6.120	0.574	0.948	0.919	1,760.231
Fugitive Dust	-	-	-	-	207.558	20.746	-
Construction Commuter	0.975	1.205	13.984	0.0159	0.040	0.017	874.603
Haul Truck On-Road	0.294	0.027	0.157	0.001	0.009	0.009	76.223
E Pipeline Construction	45.497	8.681	35.619	0.097	39.747	1.927	9,480.000
Seaport Pipe Support	23.179	3.392	16.594	0.048	45.267	0.963	4,754.200
TOTAL	84.60	14.33	72.47	0.74	293.57	24.58	16,945.26

Total Annual Emissions

Construction Emissions by Calendar Year	NO _x (tons)	VOC (tons)	CO (tons)	SO ₂ (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO ₂ e (metric tonnes)
Year 1	28.20	4.78	24.16	0.25	97.86	8.19	5,124.16
Year 2	28.20	4.78	24.16	0.25	97.86	8.19	5,124.16
Year 3	28.20	4.78	24.16	0.25	97.86	8.19	5,124.16
Significance Criteria Threshold (tpy)	100	100	100	100	100	100	Not Applicable

Note: Construction duration is estimated to be 36 months and the emissions are assumed to be distributed evenly over the construction period.

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APPENDIX E: AIR QUALITY ANALYSIS SUPPORTING DOCUMENTATION

Combustion and Evaporative Emissions - Divert without Fuel Tank and Loading Area

Combustion Emissions of VOC, NO_x, SO₂, CO, PM_{2.5}, PM₁₀, and CO₂ due to Construction

Assumptions

When multiple options exist under the general construction activities the most conservative value will be used to quantify air emission.

General Construction Activities

Area Disturbed (ft²)

Construct Taxiway	1,385,300 ft ²	
Construct Road Re-Route	40,585 ft ²	
Construct New Access Roads	128,924 ft ²	
Construct Maintenance Facility	7,570 ft ²	
Construct Jet Fuel System and Fire Pump System (Operational, Bulk and at the Port of Tinian)	0 ft ²	Not applicable to SEIS.
Construct Hazardous Cargo Pad	299,754 ft ²	
Construct Parking Apron	1,729,805 ft ²	

Total General Construction Area:	7,570 ft ²	
	0.2 acres	
Total Demolition Area:	0 ft ²	
	0.0 acres	
Total Pavement Area:	3,584,368 ft ²	
	82.3 acres	
Total Disturbed Area:	3,591,938 ft ²	
	82.5 acres	
Construction Duration:	36 months	
1 Yr Project Construction Activity:	240 days/yr	Assume 12 months, 4 weeks per month, 5 days per week.

Emission Factors Used for Construction Equipment

References: Guide to Air Quality Assessment, Sacramento Metropolitan Air Quality Management District (SMAQMD), 2004; and U.S. EPA NONROAD Emissions Model, Version 2005.0.0

Emission factors are taken from the NONROAD model and were provided to eM by Larry Landman of the Air Quality and Modeling Center (Landman.Larry@epamail.epa.gov) on 12/14/07. Factors provided are for the weighted average US fleet for CY2007.

Assumptions regarding the type and number of equipment are from SMAQMD Table 3-1 unless otherwise noted.

Grading

Equipment	No. Req ^d ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Bulldozer	1	13.60	0.96	5.50	1.02	0.89	0.87	1456.90
Motor Grader	1	9.69	0.73	3.20	0.80	0.66	0.64	1141.65
Water Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	3	41.64	2.58	15.71	0.83	2.55	2.47	4941.53

Paving

Equipment	No. Req ^d ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Paver	1	3.83	0.37	2.06	0.28	0.35	0.34	401.93
Roller	1	4.82	0.44	2.51	0.37	0.43	0.42	536.07
Truck	2	36.71	1.79	14.01	3.27	1.99	1.93	4685.95
Total per 10 acres of activity	4	45.37	2.61	18.58	0.91	2.78	2.69	5623.96

Demolition

Equipment	No. Req ^d ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Loader	1	13.45	0.99	5.58	0.95	0.93	0.90	1360.10
Haul Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	2	31.81	1.89	12.58	0.64	1.92	1.87	3703.07

Building Construction

Equipment ^d	No. Req ^d ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Stationary								
Generator Set	1	2.38	0.32	1.18	0.15	0.23	0.22	213.06
Industrial Saw	1	2.62	0.32	1.97	0.20	0.32	0.31	291.92
Welder	1	1.12	0.38	1.50	0.08	0.23	0.22	112.39
Mobile (non-road)								
Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Forklift	1	5.34	0.56	3.33	0.40	0.55	0.54	572.24
Crane	1	9.57	0.66	2.39	0.65	0.50	0.49	931.93
Total per 10 acres of activity	6	39.40	3.13	17.38	3.12	2.83	2.74	4464.51

Architectural Coatings

Equipment	No. Req ^d ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Air Compressor	1	3.57	0.37	1.57	0.25	0.31	0.30	359.77
Total per 10 acres of activity	1	3.57	0.37	1.57	0.25	0.31	0.30	359.77

- The SMAQMD 2004 guidance suggests a default equipment fleet for each activity, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.
- The SMAQMD 2004 reference lists emission factors for reactive organic gas (ROG). For the purposes of this worksheet ROG = VOC. The NONROAD model contains emissions factors for total HC and for VOC. The factors used here are the VOC factors.
- The NONROAD emission factors assume that the average fuel burned in nonroad trucks is 1100 ppm sulfur. Trucks that would be used for the Proposed Actions will all be fueled by highway grade diesel fuel which cannot exceed 500 ppm sulfur. These estimates therefore over-estimate SO₂ emissions by more than a factor of two.
- Typical equipment fleet for building construction was not itemized in SMAQMD 2004 guidance. The equipment list above was assumed based on SMAQMD 1994 guidance.

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APPENDIX E: AIR QUALITY ANALYSIS SUPPORTING DOCUMENTATION

Combustion and Evaporative Emissions - Modified Alternative 2A - Construction Phase (Tinian North) - Continued

Project-Specific Combustion and Evaporative Emission Factor Summary

Source	Equipment Multiplier*	Project-Specific Emission Factors (lb/day)						
		NO _x	VOC	CO	SO ₂ **	PM ₁₀	PM _{2.5}	CO ₂
Grading Equipment	8	333.130	20.616	125.679	6.663	20.364	19.753	39532.211
Paving Equipment	8	362.938	20.846	148.627	7.259	22.209	21.543	44991.655
Demolition Equipment	1	31.808	1.886	12.584	0.636	1.923	1.865	3703.074
Building Construction	1	39.396	3.130	17.382	3.116	2.829	2.744	4464.512
Air Compressor for Architectural Coating	1	3.574	0.373	1.565	0.251	0.309	0.300	359.773
Architectural Coating**		7.091						

*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project.

**Emission factor is from the evaporation of solvents during painting, per "Air Quality Thresholds of Significance", SMAQMD, 1994

Example: SMAQMD Emission Factor for Grading Equipment NO_x = (Total Grading NO_x per 10 acre)*(Equipment Multiplier)

Summary of Input Parameters

	Total Area (ft ²)	Total Area (acres)	Total Days	
Grading:	3,591,938	82.46	6	(from "Grading" worksheet)
Paving:	3,584,368	82.29	49	
Demolition:	0	0.00	0	
Building Construction:	7,570	0.17	240	
Architectural Coating	7,570	0.17	20	(per SMAQMD "Air Quality of Thresholds of Significance", 1994)

NOTE: The 'Total Days' estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day, which is a factor derived from the 2005 MEANS

Heavy Construction Cost Data, 19th Edition, for 'Asphaltic Concrete Pavement, Lots and Driveways - 6" stone base', which provides an estimate of square

feet paved per day. There is also an estimate for 'Plain Cement Concrete Pavement', however the estimate for asphalt is used because it is more conservative.

The 'Total Days' estimate for demolition is calculated by dividing the total number of acres by 0.02 acres/day, which is a factor also derived from the 2005

MEANS reference. This is calculated by averaging the demolition estimates from 'Building Demolition - Small Buildings, Concrete', assuming a height

of 30 feet for a two-story building; from 'Building Footings and Foundations Demolition - 6" Thick, Plain Concrete'; and from 'Demolish, Remove

Pavement and Curb - Concrete to 6" thick, rod reinforced'. Paving is double-weighted since projects typically involve more paving demolition.

The 'Total Days' estimate for building construction is assumed to be 230 days, unless project-specific data is known.

Project Combustion and Evaporative Emissions by Activity (lbs)

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
Grading Equipment	1,998.78	123.70	754.08	39.98	122.18	118.52	237,193
Paving	17,783.98	1,021.44	7,282.74	355.68	1,088.23	1,055.58	2,204,591
Demolition	-	-	-	-	-	-	0
Building Construction	9,455.12	751.15	4,171.75	747.92	678.97	658.60	1,071,483
Architectural Coatings	71.48	149.28	31.31	5.02	6.19	6.00	7,195
Total Emissions (lbs):	29,309.35	2,045.57	12,239.88	1,148.60	1,895.57	1,838.70	3,520,463

Results: Project Annual Combustion and Evaporative Emission Rates

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
Total Project Combustion and Evaporative Emissions (lbs)	29,309.35	2,045.57	12,239.88	1,148.60	1,895.57	1,838.70	3,520,463
Total Project Combustion and Evaporative Emissions (tons)	14.65	1.02	6.12	0.57	0.95	0.92	1,760.23

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APPENDIX E: AIR QUALITY ANALYSIS SUPPORTING DOCUMENTATION

Construction Fugitive Dust Emissions - Divert without Pipeline

Construction Fugitive Dust Emission Factors

	Emission Factor	Units	Source
General Construction Activities	0.19 ton PM ₁₀ /acre-month		MRI 1996; EPA 2001; EPA 2006
New Road Construction	0.42 ton PM ₁₀ /acre-month		MRI 1996; EPA 2001; EPA 2006

PM_{2.5} Emissions

PM _{2.5} Multiplier	0.10	(10% of PM ₁₀ emissions assumed to be PM _{2.5})	EPA 2001; EPA 2006
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Control Efficiency

0.50	(assume 50% control efficiency for PM ₁₀ and PM _{2.5} emissions)	EPA 2001; EPA 2006
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Project Assumptions

New Roadway Construction (0.42 ton PM₁₀/acre-month)

Duration of Construction Project	12 months
Area	82.3 acres

General Construction Activities (0.19 ton PM₁₀/acre-month)

Duration of Construction Project	12 months
Area	0.2 acres

	Project Emissions (tons/year)			
	PM ₁₀ uncontrolled	PM ₁₀ controlled	PM _{2.5} uncontrolled	PM _{2.5} controlled
New Roadway Construction	414.72	207.36	41.47	20.74
General Construction Activities	0.40	0.20	0.02	0.01
Total	415.12	207.56	41.49	20.75

General Construction Activities Emission Factor

0.19 ton PM₁₀/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM₁₀/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM₁₀/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM₁₀/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM₁₀/acre-month) and 75% of the average emission factor (0.11 ton PM₁₀/acre-month). The 0.19 ton PM₁₀/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM₁₀/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended particulate (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District as well as the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM₁₀ and PM_{2.5} in PM nonattainment areas.

New Road Construction Emission Factor

0.42 ton PM₁₀/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM₁₀/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM₁₀/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

PM_{2.5} Multiplier

0.10

PM_{2.5} emissions are estimated by applying a particle size multiplier of 0.10 to PM₁₀ emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

Control Efficiency for PM₁₀ and PM_{2.5}

0.50

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM₁₀ and PM_{2.5} in PM nonattainment areas (EPA 2006). Wetting controls will be applied during project construction.

References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

Grading for Divert without Pipeline

Estimate of time required to grade a specified area.

Input Parameters

Construction area: 82.5 acres/yr (from Combustion Worksheet)
Qty Equipment: 25.0 (calculated based on 3 pieces of equipment for every 10 acres)

Assumptions

Terrain is mostly flat.
An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.
200 hp bulldozers are used for site clearing.
300 hp bulldozers are used for stripping, excavation, and backfill.
Vibratory drum rollers are used for compacting.
Stripping, Excavation, Backfill and Compaction require an average of two passes each.
Excavation and Backfill are assumed to involve only half of the site.

Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day	equip-days per acre	Acres/yr (project-specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	82.46	10.31
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	82.46	40.31
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	41.23	41.57
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	41.23	17.06
2315 310 5020	Compaction	Vibrating roller, 6" lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	82.46	28.92
TOTAL								138.17

Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 138.17
Qty Equipment: 25.00
Grading days/yr: 5.53

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Construction/Staff Commuter Emissions - Divert Without Pipeline

Emissions from construction workers commuting to the job site are estimated in this spreadsheet.

Emission Estimation Method: Air Force Civil Engineer Center (AFCEE), Air Emissions Factor Guide to Air Force Mobile Sources, October 2014.

Assumptions:

Passenger vehicle emission factors for scenario year 2015 are used.

The average roundtrip commute for a construction/staff worker = 40 miles
 Number of construction days = 240 days
 Number of construction/Staff workers (daily) = 150 people

Note: None

Personal Operating Vehicle (POV) On-Road Emission Factors for Year 2016 (grams/mile)

NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
0.614	0.759	8.810	0.010	0.025	0.011	551.000

Source: Emission factors for all pollutants are from Table 5-28: On-Road Vehicle Emission Factors - 2016 POV, Gasoline Light Duty Trucks (LDGT) at low altitude, within AFCEE Air Emissions Factor Guide to Air Force Mobile Sources, October 2014.

Construction Commuter Emissions

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
lbs	1,949,206	2,409,524	27,968,254	31.746	79.365	34.921	1,749,206.349
tons	0.975	1.205	13.984	0.016	0.040	0.017	874.603

Example Calculation: NO_x emissions (lbs) = 60 miles/day * NO_x emission factor (lb/mile) * number of construction days * number of workers

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Construction/Haul Truck Emissions - Divert without Pipeline

Emissions from hauling construction supplies, demolition debris, fill, and excavated material are estimated in this spreadsheet.

Emission Estimation Method: Air Force Center for Environmental Excellence (AFCEE) Air Emissions Factor Guide to Air Force Mobile Sources, Dec. 2009.

Concrete Mixing and Dump Truck Assumptions:

Dump trucks carry 11 cubic yards of material per trip.

Concrete mixing trucks carry 10 cubic yards of material per trip.

The average distance from the port to Commercial Concrete Supply Company is 1.7 miles; therefore, dump trucks will travel 3.4 miles round trip.

The average distance from the Commercial Concrete Supply Company (CCSC) to the project site is 2.3 miles; therefore, concrete trucks will travel 4.6 miles round trip.

Fill Materials Assumptions:

Haul trucks carry 20 cubic yards of material per trip.

The average distance from the project site to the materials source is 20 miles; therefore, building material haul trucks will travel 40 miles round trip.

Estimated number of trips required by haul trucks = total amount of material/20 cubic yards per truck

Amount of demolition debris =	0 cubic yards	No Demolition in the Proposed Action
Amount of cement transported from port to CCSC =	4,004 cubic yards	
Amount of concrete transported from CCSC to project site =	64,780 cubic yards	
Amount of Excavation Materials for New Structures/Buildings =	3,364 cubic yards	Construction area multiplied by depth of disturbance which is assumed to be 12 feet.
Amount of Building/Structure Materials =	2,523 cubic yards	Construction area multiplied by 9 feet.
Number of dump trucks required (port to CCSC) =	364 heavy duty diesel haul truck trips, Cells rounded up	
Number of concrete mixing trucks required (CCSC to project site) =	6478 heavy duty diesel haul truck trips, Cells rounded up	
Number of trucks required (Building Materials) =	294 heavy duty diesel haul truck trips	
Miles per trip (port to CCSC) =	3.4 miles	
Miles per trip (CCSC to project site) =	4.6 miles	
Miles per trip (Building Materials) =	40.0 miles	

Low Altitude Heavy Duty Diesel Vehicle 8b (HDDV8b) Average Emission Factors (grams/mile)

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
HDDV8b	6.23	0.58	3.33	0.02	0.20	0.19	1615

Notes:

Emission factors for all pollutants are from Appendix A - On-Road Vehicle Emission Factors within AFCEE Air Emissions Factor Guide to Air Force Mobile Sources, Dec. 2009.

Emission factors from calendar year 2015 were used assuming the average vehicle model year is 2005.

HDDV8b Haul Truck Emissions

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
lbs	588.00	54.74	314.29	1.89	18.88	17.93	152,446.80
tons	0.29	0.03	0.16	0.00	0.01	0.01	76.22

Example Calculation: NO_x emissions (lbs) = 40 miles per trip * 34,955 trips * NO_x emission factor (g/mile) * lb/453.6 g

SEIS Emissions Estimated in ACAM

W Pipeline Construction		E Pipeline Construction		Seaport Grading Construction		Seaport Emergency Generator Operation	
Pollutant	Total Emissions (TONs)	Pollutant	Total Emissions (TONs)	Pollutant	Total Emissions (TONs)	Pollutant	Emissions Per Year (TONs)
VOC	7.50	VOC	8.68	VOC	3.39	VOC	0.029
SO _x	0.085	SO _x	0.10	SO _x	0.048	SO _x	0.00050
NO _x	39.64	NO _x	45.50	NO _x	23.18	NO _x	1.04
CO	31.53	CO	35.62	CO	16.59	CO	0.28
PM 10	39.50	PM 10	39.75	PM 10	45.27	PM 10	0.032
PM 2.5	1.69	PM 2.5	1.93	PM 2.5	0.96	PM 2.5	0.032
Pb	0	Pb	0	Pb	0	Pb	0
NH ₃	0.0093	NH ₃	0.012	NH ₃	0.0018	NH ₃	0
CO ₂ e	8220.40	CO ₂ e	9480	CO ₂ e	4754	CO ₂ e	53

Roadway Improvement
Construction

Pollutant	Total Emissions (TONs)
VOC	0.71
SO _x	0.0093
NO _x	3.80
CO	5.06
PM 10	7.77
PM 2.5	0.20
Pb	0
NH ₃	0.013
CO ₂ e	838.90

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SEIS Project Assumptions / ACAM Input Parameters

W Pipeline Construction

Miles of New Pipeline Construction (West)	4.08 miles
Worst case disturbed, ROW maximum width	80 feet
Pipeline depth	3 feet
Operational Easement Max ROW	20 feet
Area to be trenched	Existing , i.e. no road construction needed
Open trench area at any one time	430,848 ft2 (based on miles long x 20 feet easement)
Volume material excavated	52,800 ft2 (based on 0.5 mile sections)
Avg days/week worked	47,872.00 yd3 (based on area to be trenched x depth) 5
Graded area, Max	1,723,392
Graded area at any one time	52,800 ft2 (same as trenching estimate)
Pipeline diameter	2 ft (conservatively estimated)
"Area of Building" for pipeline construction	43,901 ft2 (estimated conservative pipe diameter x length of pipeline, for use in ACAM)
"Height of Building" for pipeline construction	2 ft (estimated conservative pipe diameter)
Estimated pipeline circumference	6.3 ft (estimated pipe circumference)
"Area" of pipe to be potentially coated	134,047.8 ft2 (circumference x pipe length, converted to feet)
Average hauling truck round trip commute, pipeline sections	4.08 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Average vendor round trip commute, pipeline sections	4.08 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Material to be hauled on site, trenching	0
Material to be hauled off site, trenching	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, trenching, construction, and gradin	4.08 miles (from San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)

E Pipeline Construction

Miles of New Pipeline Construction (East)	4.95 miles
Worst case disturbed, easement width	80 feet
Pipeline depth	3 feet
Operational Easement Max ROW	20 feet
Area to be trenched/graded	Existing , i.e. no road construction needed
Open trench area at any one time	522,720 ft2 (based on miles long x 20 feet easement)
Volume material excavated	52,800 ft2 (based on 0.5 mile sections)
Avg days/week worked	58,080 yd3 (based on area to be trenched x depth) 5
Pipeline diameter	2 ft (conservatively estimated)
"Area of Building" for pipeline construction	53,262 ft2 (estimated conservative pipe diameter x length of pipeline, for use in ACAM)
"Height of Building" for pipeline construction	2 ft (estimated conservative pipe diameter)
Estimated pipeline circumference	6.3 ft (estimated pipe circumference)
"Area" of pipe to be potentially coated	162,631.6 ft2 (circumference x pipe length, converted to feet)
Average hauling truck round trip commute, building activity	4.95 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Average vendor round trip commute, building activity	4.95 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Material to be hauled on site, trenching	0
Material to be hauled off site, trenching	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, trenching, construction, and gradin	4.95 miles (from San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)

Seaport Infrastructure for Piped Fuel Scenario

Original EIS land disturbance at seaport	5.39 acres
Piped Fuel Scenario Land Disturbance	8.23 acres
Amount of additional land disturbance, piped fuel scenario	2.84 acres
Conversion factor	43560 square feet per acre
Amount of additional land disturbance, piped fuel scenario	123710 ft2 (converted from above)
Avg days/week worked	5
Material to be hauled on site, disturbance/grading	0
Material to be hauled off site, disturbance/grading	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, San Jose to seaport	2 mi (San Jose is no more than 1 mi from the port)

Roadway Improvement

Length of Roadway to be improved	2.51 miles
Standard road width	24 ft
Total Road Improvement Area (LxW)	318067 ft2 based on length, width
Total disturbed road area at any one time	63360 ft2 based on 0.5 mi x width
Depth excavated	1 ft
Avg days/week worked	5
Timeframe	1 year
Material to be hauled off	11780 yd3 (based on depth excavated x total area)
Material to be hauled on site, disturbance/grading	0
Material to be hauled off site, disturbance/grading	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, San Jose to seaport	2.51 miles round trip (assume half road length from port x 2)

E-7. West and East Route Pipeline Operations Emissions, Calculation Spreadsheet

Worksheet Descriptions

Workbook Tab/Worksheet	Description
Total Divert Op w Pipeline	Summarizes total annual emissions for Operation of the Divert Project with Either East or West Pipeline Route and Associated Infrastructure.
Airfield Operations	Estimates emissions from aircraft operations: taxi, take-off and landings (sorties or LTOs), touch-and-go operations (TGOs), and low flybys (LFB) by base aircraft. The airfield operations emissions were not changed for the SEIS.
Commuter Vehicles	Estimates emissions for worker vehicles commuting for project operation. Fuel truck transfer was included in this worksheet in the original EIS, but was removed for the SEIS. The commuter vehicle emissions were not changed for the SEIS.
Aircraft Fueling	Estimates emissions from fuel loading (into aircraft). Fuel truck loading at the seaport was originally also included in this worksheet, but was removed for the SEIS. The aircraft fueling emissions were not changed for the SEIS.
Fuel Storage Tanks	Estimates emissions from Above Ground Storage Tanks. The original EIS included tanks at both the seaport and the flightline. The seaport tanks were removed for the SEIS, and the flightline storage tank emissions were unchanged for the SEIS.
SEIS ACAM Emissions	Shows ACAM-estimated emissions for SEIS Activities: W pipeline construction, Seaport Pipeline Infrastructure Construction, E pipeline construction, Roadway construction, and Seaport Emergency Generators operation. (Relevant results incorporated into totals in this workbook.)
SEIS ACAM Inputs	Estimates and describes parameters input into ACAM for SEIS activities.

Annual Air Emissions Summary for SEIS Divert with Pipeline Operations

Source Category	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	NO _x (tons)	SO _x (tons)	VOC (tons)
Airfield Operations	0.055	0.053	18.67	6.77	0.98	1.25
Commuter Vehicles	0.015	0.012	0.17	0.32	0.00059	0.028
Aircraft Fueling	-	-	-	-	-	0.0042
Fuel Storage Tanks	-	-	-	-	-	1.31
Emergency Generators	0.032	0.032	0.28	1.04	0.00050	0.029
TOTAL	0.10	0.10	19.11	8.13	0.98	2.62
Significance Criteria Threshold (tpy)	100	100	100	100	100	100

Source Category	CO ₂ e (lb)	CO ₂ e (kg)	CO ₂ e (metric tonnes)
Airfield Operations	8,833,755	4,006,991	4,007
Commuter Vehicles	183,189	83,095	83
Aircraft Fueling	-	-	-
Fuel Storage Tanks	-	-	-
Emergency Generators	106,600	48,354	48.35
TOTAL	9,123,545	4,138,440	4,138
Significance Criteria Threshold (tpy)	N/A	N/A	N/A

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Airfield Operations

Aircraft exercises under this alternative are based on assuming 2 to 4 KC-135R aircraft operating up to 8 weeks per year for a maximum of 720 KC-135R operations per year. Each operation is equivalent to one landing or one take-off (1 LTO Cycle = 2 operations).

Landing and Takeoff (LTO) Cycles

Description	Quantity
# of KC-135R LTO's per year	360

Legend

Airfield Activity Data (Worst Case Scenario)

Aircraft Model	Aircraft Model Used to Match to Available Emission Factors	Engine Model	# Engines	APU Model	# APUs	Notes	LTO Cycles
KC-135R	KC-135-R	F108-CF-201	4	No data on APUs		See below	360
Note: F108-CF-201 is the military designation of the CFM56-2B-1 engine.							

Criteria Pollutant Emission Factors

						Emission Factors in lb Pollutant per 1000 lb Fuel Burned						
Aircraft Model	Engine Model	# Engines	Reference Thrust Mode	LTO/TGO Thrust Mode	Fuel Flow (lb/hr)	PM10	PM2.5	CO	NO _x	SO ₂	VOCs	TIM
KC-135R	F108-CF-201	4	Idle	Idle	1016	0.06	0.06	30.70	4.00	1.06	2.10	47.7
KC-135R	F108-CF-201	4	Approach	Approach	2468	0.06	0.05	4.20	8.20	1.06	0.09	5.2
KC-135R	F108-CF-201	4	Climbout	Climbout	6500	0.05	0.05	0.90	16.00	1.06	0.06	1.6
KC-135R	F108-CF-201	4	Takeoff	Takeoff	7818	0.07	0.06	0.90	18.05	1.06	0.05	0.7

Emission factors from Air Force Civil Engineer Center (AFCEC) October 2014 Air Emissions Guide for Air Force Mobile Sources, Table 2-8

APU Emission Factors

APU Emission Factors in lb Pollutant per hour								
Aircraft Model	# APU	APU Model	PM10	PM2.5	CO	NO _x	SO ₂	VOCs
KC-135R			No Data Available.					

Default Time-In-Mode

Aircraft Type	Typical Duration by Mode (minutes)					
	Taxi/Idle-out	Takeoff	Climbout	Approach	Taxi/Idle-in	Total
KC-135R	32.8	0.7	1.6	5.2	14.9	55.2

Default Time-In-Mode rates are from AFCEC October 2014 Air Emissions Guide for Air Force Mobile Sources, Table 2-4

Greenhouse Gas Emission Factors

Units	CO ₂	CH ₄	N ₂ O
kg/gal fuel	9.80	---	---
g/gal fuel	---	0.27	0.31

Reference: Footnote 2, from Table 2-8 of the AFCEC August 2013 Air Emissions Guide for Air Force Mobile Sources.

Criteria Pollutant and VOC Calculated Emissions per LTO by Aircraft Type

Calculated as the sum of the products of [(minutes) * (fuel flow/minute) * (lbs pollutant/lb fuel)] for each of the thrust modes.

Reported Aircraft Model	LTO's per year	Emission in lb Pollutant per LTO						
		Fuel (lb)	PM10 (lb)	PM2.5 (lb)	CO (lb)	NO _x (lb)	SO _x (lb)	VOCs (lb)
KC - 135R	0	5144.6	0.3	0.3	103.7	37.6	5.5	6.9

Total Criteria Pollutant and VOC Emissions for maximum LTO's by Aircraft Type

Reported Aircraft Model	LTO's per year	Total LTO's	Fuel (lb)	PM10 (tons)	PM2.5 (tons)	CO (tons)	NO _x (tons)	SO _x (tons)	VOCs (tons)	APU
KC - 135R	0	360	1,852,065.6	0.05	0.05	18.67	6.77	0.98	1.25	0
Worst Case Scenario			1,852,065.60	0.05	0.05	18.67	6.77	0.98	1.25	0

Total gallons of fuel used for LTOs (277,671 gal.) is based on the 6.67 lb/gal density of JP-8 as provided in footnote 2, of Table 2-8 of the AFCEC October 2014 Air Emissions Guide for Air Force Mobile Sources. Emissions from LTO's are for the time up to and down from 3,000 feet elevation which is the default mixing height.

Greenhouse Gas Calculated Emissions

Assume aircraft will use 7,500 pounds of fuel per LTO cycle, which is from the ground to 10,000 feet and from 10,000 feet back to a landing.

This estimated fuel use was obtained from Maj. Travis Miyashiro, HIANG, PACAF A5XP. Fuel use and associated emissions above 10,000 feet are accounted for in the MIRC EIS.

Quantity (gallons)	Fuel Type	CH ₄ (kg)	N ₂ O (kg)	CO ₂ (kg)	CO ₂ -equivalent (kg)	CO ₂ -equivalent (metric tonne)
404,798	JP-8	109	125	3,967,016	4,006,991	4,007

The CH₄ and N₂O Global Warming Potential multipliers are 25 and 298, respectively from EPA's Climate Leadership, Emission Factors for Greenhouse Gas Inventories, Last Modified 4 April 2014.

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Commuter Vehicle Emissions - Divert without Fuel Truck Hauling

Assumptions: A Gross Vehicle Weight (GVW) of 36,200 lbs will be used, based off of an 84 passenger Blue Bird bus.
Assume 40 miles per roundtrip for busses.

Emission Factors

Relevant Vehicle Weight Classes for Which Emission Factors are Published

Vehicle Category	Description	SCC
HDDV8A	Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs GVW)	A2230070000
HDDV8B	Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs GVW)	A2230070000

Emission Factors for Calendar Year 2015

Vehicle Class	Model Year	Emission Factors in grams per Mile ^a							
		PM ₁₀	PM _{2.5}	CO	NOx	SOx	VOCs	CO ₂	Fugitive PM ₁₀
HDDV8A*	2005	0.2	0.19	2.8	5.47	0.01	0.48	1544.1	0.05
HDDV8B**	2005	0.2	0.19	3.33	6.23	0.02	0.58	1615.2	0.05

* Low Altitude Emission Factors for Heavy Duty Diesel Vehicles Class 8a

**Low Altitude Emission Factors for Heavy Duty Diesel Vehicles Class 8b

a) Emission factors from Appendix A of Air Emissions Factor Guide to Air Force Mobile Sources, AFCEE, December 2009

Greenhouse Gas Emission Factors for Calendar Year 2015

Vehicle Class	CH ₄ (g/mile)	N ₂ O (g/mile)
HDDV	0.0051	0.0048

g/mile = grams per mile

CH₄ = Methane; N₂O = Nitrous Oxide

b) Emission Factors from EPA's Climate Leadership, Emission Factors for Greenhouse Gas Inventories, Last Modified 4 April 2014 (<http://www.epa.gov/climateleadership/documents/emission-factors.pdf>).

Miles for Commuter Emissions for 8 week training exercises

Vehicle Class	Speed Miles/hour	Miles/Trip	Total Trips/Day	Hours/Day	Total Days	Total Miles	
HDDV8A - Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs GVW)		40	24		56	53,760	
HDDV8B - Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs GVW)	0			0	0.000	0	Removed for the SEIS.

Criteria and VOC Calculated Emissions

Vehicle Class	Model Year	Annual Miles	Criteria Pollutant Emissions (tons/year)					
			PM ₁₀	PM _{2.5}	CO	NOx	SOx	VOCs
HDDV8A - Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs GVW)	2005	53,760	0.015	0.012	0.166	0.324	0.001	0.028
HDDV8B - Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs GVW)	2005	0	0.000	0.000	0.000	0.000	0.000	0.000
Total			0.015	0.012	0.166	0.324	0.001	0.028

Particulate emissions include exhaust, brake wear, tire wear. Assume paved road.

Greenhouse Gas Calculated Emissions

Vehicle Class	Annual Miles	CO ₂ (lb/year)	CH ₄ (lb/year)	N ₂ O (lb/year)	CH ₄ GWP Multiplier	N ₂ O GWP Multiplier	CO ₂ Equivalent (lb/year)	CO ₂ Equivalent (metric tonnes/year)
HDDV8A - Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs GVW)	53,760	183,004.44	0.60	0.57	25	298	183,189.08	83.09
HDDV8B - Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs GVW)	0	0.00	0.00	0.00	25	298	0.00	0.00
Total		183,004.44	0.60	0.57	---	---	183,189.08	83.09

GWP = Global Warming Potential; 100-year GWP values obtained from EPA's Climate Leadership, Emission Factors for Greenhouse Gas Inventories, Last Modified 4 April 2014 (<http://www.epa.gov/climateleadership/documents/emission-factors.pdf>)

Emission Calculations Method - Fuel Truck and Commuter Vehicle Emissions for Modified Alternative 2a - Implementation Phase (Tinian North)

Calculation Method: Equation 4-1, AFCEE 2009, Mobile Emissions Guide

$$EP = VMTVehCat * EFPolVehCat * 0.002205$$

Where,

EP = Emissions of each individual pollutant (lb/yr)

VMTVehCat = Annual vehicle miles traveled by each vehicle category (LDGV, LDGT1, LDDV, etc.) (mi/yr)

EFPolVehCat = Emission factor of each pollutant for each vehicle category (g/mi)

0.002205 = Factor for converting grams to pounds (g/lb).

Aircraft Fueling: Fuel Transfer Air Emissions for Divert Operations without Seaport Fuel Truck Loading

Given:

Total Exercise Days (8 weeks)	56
Initial Fuel Fill Days	2.333333333
Remaining Fuel Fill Days	0
Total # of Fuel Trucks	6
Total Gallons per Fuel Truck	10,000
Trips per day per Fuel Truck	3
1 bbl conversion to gallons	42
Total Fuel (gal) during Initial Fill	420,000
Total Fuel (gal) during Remaining Exercise	0
Total Fuel (gal) during Exercise (8 Weeks)	420,000

SEIS Fuel Loading Operations

Location	Description	Fuel Type	Fuel Transferred (gal)	Category	
Flightline	Fueling Aircraft	JP-8	420,000	Loading	Left in for SEIS (was described in original EIS as Loading of Aircraft from Truck Stands)
Seaport, Loading Racks (50,000 bbl tank 1)	Loading Refueler Trucks	JP-8	0	Loading	Removed for SEIS
Seaport, Loading Racks (50,000 bbl tank 2)	Loading Refueler Trucks	JP-8	0	Loading	Removed for SEIS

Emission Factors

JP-8 emission factors (lb/Mgal)	Dispensing	Loading
	Splash	Bottom fill
Molecular Weight =	130	0.020
True Vapor Pressure (psia) =	0.011	
Dispensing Displacement losses =	0.0487	
Spillage =	0.7	
Total =	0.749	

AP-42 Table 7.1-2 dated 11/06
AP-42 Table 7.1-2 dated 11/06 @ 70F (annual avg.)
AP-42 Section 5.2 dated 6/08 Equation (1)
AP-42 Table 5.2-7 dated 6/08

Emission Calculations

Location	Description	Fuel Type	Fuel Transferred	Displaced Vapor	Spillage	Total VOC	Total VOC
			(gal)	(lb)	(lb)	(lb)	(tons)
Flightline	Loading Aircraft from Truck Fill Stands	JP-8	420,000	8.5	0	8.5	0.004
Seaport, Loading Racks (50,000 bbl tank 1)	Loading Refueler Trucks	JP-8	0	0.0	0	0.0	0.000
Seaport, Loading Racks (50,000 bbl tank 2)	Loading Refueler Trucks	JP-8	0	0.0	0	0.0	0.000
Total			420,000	8	0	8.47	0.0042

Emission Calculations Method - Fuel Loading Emissions

Displacement emissions for Diesel and JP-8 were estimated using Equation (1) from AP-42 Section 5.2, Transportation and Marketing of Petroleum Liquids, dated 6/08

$$L_L = 12.46 \text{ (SPM)/T}$$

Where

L_L = Loading loss in lb/10³ gal

S = Saturation Factor 1.45 for splash loading, 0.6 for bottom loading

M = molecular weight,

T = temperature of bulk liquid (assume average annual ambient temperature)

Fuel Storage Tank Emissions for Divert Operations without Seaport Tanks

Fuel storage tank emissions were estimated using the U.S. EPA TANKS storage tank emissions calculation software (Version 4.0.9d). The emissions calculations algorithms in the TANKS program are based on Chapter 7 of EPA's AP-42. Honolulu, Hawaii was used as a surrogate location for the tanks as meteorological data does not exist in TANKS for CNMI. Jet Kerosene fuel was used as the surrogate for JP-8 in the TANKS model as it is the closest in characteristics to JP-8.

Emission Calculations Summary from TANKS*

Tank Type	Throughput (gal.)	Working Loss (lbs)	Breathing Loss (lbs)	VOC Total (lbs)	VOC Total (tons)
Tank 1 (Seaport) - 50,000 bbl, cut and cover or AST					
Tank 2 (Seaport) - 50,000 bbl, cut and cover or AST					
Tank 3 (Airport) - 60,000 bbl, cut and cover or AST	114,545	5.25	714.88	720.13	0.36
Tank 4 (Airport) - 60,000 bbl, cut and cover or AST	114,545	5.25	714.88	720.13	0.36
Tank 5 (Airport) - 100,000 bbl, cut and cover or AST	190,909	8.75	1172.01	1180.76	0.59
Total		19.25	2,601.77	2,621.02	1.31

Removed for SEIS.

Removed for SEIS.

*See the following references for TANKS printouts. (SM12 - TANKS) & (SM13 - TANKS)

SEIS Emissions Estimated in ACAM

W Pipeline Construction		E Pipeline Construction		Seaport Grading Construction		Seaport Emergency Generator Operation		Roadway Improvement Construction	
Pollutant	Total Emissions (TONs)	Pollutant	Total Emissions (TONs)	Pollutant	Total Emissions (TONs)	Pollutant	Emissions Per Year (TONs)	Pollutant	Total Emissions (TONs)
VOC	7.50	VOC	8.68	VOC	3.39	VOC	0.029	VOC	0.71
SO _x	0.085	SO _x	0.10	SO _x	0.048	SO _x	0.00050	SO _x	0.0093
NO _x	39.64	NO _x	45.50	NO _x	23.18	NO _x	1.04	NO _x	3.80
CO	31.53	CO	35.62	CO	16.59	CO	0.28	CO	5.06
PM 10	39.50	PM 10	39.75	PM 10	45.27	PM 10	0.032	PM 10	7.77
PM 2.5	1.69	PM 2.5	1.93	PM 2.5	0.96	PM 2.5	0.032	PM 2.5	0.20
Pb	0	Pb	0	Pb	0	Pb	0	Pb	0
NH ₃	0.0093	NH ₃	0.012	NH ₃	0.0018	NH ₃	0	NH ₃	0.013
CO ₂ e	8220.40	CO ₂ e	9480	CO ₂ e	4754	CO ₂ e	53	CO ₂ e	838.90

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SEIS Project Assumptions / ACAM Input Parameters

W Pipeline Construction

Miles of New Pipeline Construction (West)	4.08 miles
Worst case disturbed, ROW maximum width	80 feet
Pipeline depth	3 feet
Operational Easement Max ROW	20 feet
Area to be trenched	Existing , i.e. no road construction needed
Open trench area at any one time	430,848 ft2 (based on miles long x 20 feet easement)
Volume material excavated	52,800 ft2 (based on 0.5 mile sections)
Avg days/week worked	47,872.00 yd3 (based on area to be trenched x depth)
	5
Graded area, Max	1,723,392
Graded area at any one time	52,800 ft2 (same as trenching estimate)
Pipeline diameter	2 ft (conservatively estimated)
"Area of Building" for pipeline construction	43,901 ft2 (estimated conservative pipe diameter x length of pipeline, for use in ACAM)
"Height of Building" for pipeline construction	2 ft (estimated conservative pipe diameter)
Estimated pipeline circumference	6.3 ft (estimated pipe circumference)
"Area" of pipe to be potentially coated	134,047.8 ft2 (circumference x pipe length, converted to feet)
Average hauling truck round trip commute, pipeline sections	4.08 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Average vendor round trip commute, pipeline sections	4.08 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Material to be hauled on site, trenching	0
Material to be hauled off site, trenching	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, trenching, construction, and grading	4.08 miles (from San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)

E Pipeline Construction

Miles of New Pipeline Construction (East)	4.95 miles
Worst case disturbed, easement width	80 feet
Pipeline depth	3 feet
Operational Easement Max ROW	20 feet
Area to be trenched/graded	Existing , i.e. no road construction needed
Open trench area at any one time	522,720 ft2 (based on miles long x 20 feet easement)
Volume material excavated	52,800 ft2 (based on 0.5 mile sections)
Avg days/week worked	58,080 yd3 (based on area to be trenched x depth)
	5
Pipeline diameter	2 ft (conservatively estimated)
"Area of Building" for pipeline construction	53,262 ft2 (estimated conservative pipe diameter x length of pipeline, for use in ACAM)
"Height of Building" for pipeline construction	2 ft (estimated conservative pipe diameter)
Estimated pipeline circumference	6.3 ft (estimated pipe circumference)
"Area" of pipe to be potentially coated	162,631.6 ft2 (circumference x pipe length, converted to feet)
Average hauling truck round trip commute, building activity	4.95 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Average vendor round trip commute, building activity	4.95 miles (from port or San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)
Material to be hauled on site, trenching	0
Material to be hauled off site, trenching	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, trenching, construction, and grading	4.95 miles (from San Jose, interim pipe distance one way and return; estimated as half finished pipe distance x 2)

Seaport Infrastructure for Piped Fuel Scenario

Original EIS land disturbance at seaport	5.39 acres
Piped Fuel Scenario Land Disturbance	8.23 acres
Amount of additional land disturbance, piped fuel scenario	2.84 acres
Conversion factor	43560 square feet per acre
Amount of additional land disturbance, piped fuel scenario	123710 ft2 (converted from above)
Avg days/week worked	5
Material to be hauled on site, disturbance/grading	0
Material to be hauled off site, disturbance/grading	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, San Jose to seaport	2 mi (San Jose is no more than 1 mi from the port)

Roadway Improvement

Length of Roadway to be improved	2.51 miles
Standard road width	24 ft
Total Road Improvement Area (LxW)	318067 ft2 based on length, width
Total disturbed road area at any one time	63360 ft2 based on 0.5 mi x width
Depth excavated	1 ft
Avg days/week worked	5
Timeframe	1 year
Material to be hauled off	11780 yd3 (based on depth excavated x total area)
Material to be hauled on site, disturbance/grading	0
Material to be hauled off site, disturbance/grading	0
Average truck hauling capacity, all	20 yd3 (original EIS, assume similar truck size)
Average worker round trip commute, San Jose to seaport	2.51 miles round trip (assume half road length from port x 2)

APPENDIX F

Compliance Actions and Industry Standards



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Appendix F: Compliance Actions and Industry Standards

This Appendix identifies actions and standards dictated by federal, Department of Defense (DOD), U.S. Air Force (USAF), or Commonwealth of the Northern Mariana Islands (CNMI) regulations or guidance that would be implemented under the Proposed Actions. These actions and standards are routine and common practice and are not specific to the Proposed Actions. Compliance actions and industry standards are built into the design, construction, and operation of the proposed infrastructure and would be implemented to reduce the potential for environmental impacts. This Appendix is not intended to be a comprehensive list of all regulations or guidance that would be implemented under the Proposed Actions but specifically focuses on those that would be incorporated into the Proposed Actions and appreciably reduce the potential for environmental impacts. USAF would comply with all applicable federal, DOD, USAF, and CNMI regulations and guidance for implementation of the Proposed Actions.

Compliance actions and industry standards that would reduce the potential for environmental impacts on a particular resource area are provided in **Section F1 and Table F-1**. Compliance actions and industry standards that would reduce the potential for environmental impacts on multiple resource areas are detailed in **Sections F2 through F5**, organized by the Proposed Action for which they would be implemented and by the phase of the action.

F1. Resource-Specific Actions and Standards

USAF has identified measures for reducing the potential for impacts on specific resource areas for one or both Proposed Actions. These resource-specific measures are summarized for both Proposed Actions in **Table F-1**.

Table F-1. Resource-Specific Compliance Actions and Industry Standards

Compliance Action	Pipeline/Support Infrastructure	Roadway Improvements
NOISE		
<u>Construction Equipment</u> - Construction activities could be restricted to between sunrise and sunset to reduce annoyance to adjacent populations. - Common measures such as using equipment exhaust mufflers would minimize noise impacts.	X	X
BIOLOGICAL RESOURCES		
<u>Migratory Birds during Construction</u> Surveys and/or monitoring for nesting birds during construction would be conducted and areas where active nests are found would be avoided, or other measures would be taken to avoid harming any migratory birds, nests, or eggs.	X	X
<u>Marine Resources</u> Compliance actions identified for geological resources and soils, water resources, and hazardous materials and wastes would reduce impacts on marine biological resources. See Sections F2 through F5.	X	X
CULTURAL RESOURCES		
No compliance actions have been identified for cultural resources.		
SOCIOECONOMICS		
No compliance actions have been identified for socioeconomics.		
ENVIRONMENTAL JUSTICE		
Compliance actions identified for geological resources and soils, water resources, and hazardous materials and wastes would reduce impacts on minority, low-income, elderly, or children populations in the unlikely event of a spill. See Sections F2 through F5 .	X	
HEALTH AND SAFETY		
<u>Construction Workers</u> - Potential impacts on construction contractor health and safety would be avoided or minimized by adherence to established federal and CNMI safety regulations. - Workers would be required to wear protective gear such as ear protection, steel-toed boots, hard hats, gloves, and other appropriate safety gear. - Contractors would be required to establish and maintain health and safety programs for their employees. - Equipment would be maintained and stored in accordance with the manufacturer's guidelines to prevent worker injury while operating equipment. - Safety Data Sheets for all hazardous materials and chemicals used or stored at the worksite would be kept on site and be available for immediate review. - Contractors, construction personnel, and USAF personnel would be properly trained on chemical, physical, and biological hazards as well as ergonomic stressors associated with construction and operations. - If contaminated soils were discovered during construction activities, all activities would be stopped and appropriate remedial measures would be implemented. - USAF would require appropriate plans (e.g., evacuation plans) and safety protocols related to geological hazards to be in place prior to the commencement of construction or operations to provide for adequate protection for construction and USAF personnel. - See Sections F2 through F5.	X	X
<u>Airfield Safety</u> Construction and maintenance activities would be coordinated with Tinian International Airport/CPA personnel to prevent airfield obstructions and safety hazards.	X	
<u>Explosives Safety</u> When working in areas where UXO could be present, USAF could provide a UXO technician to remain on site.	X	X

Compliance Action	Pipeline/Support Infrastructure	Roadway Improvements
<u>Public Healthy and Safety</u> • Signs would be posted to warn the public of hazards. • Construction would be coordinated with CNMI Department of Public Safety to ensure the ability of the emergency services personnel to respond to public emergencies. • To ensure proper coordination, an Incident Command System (ICS) could be established. An ICS would provide common terminology, organizational structure, duties, and operational procedures to operator personnel and various federal, state, and local agencies that may be involved in response operations. • See Sections F2 through F5	X	X
GEOLOGICAL RESOURCES AND SOILS		
<u>Erosion and Sediment Control</u> See Section F2 through F5	X	X
<u>Spill Prevention and Control</u> See Section F2 through F5	X	X
<u>Geologic Hazards</u> • All facilities and infrastructure would be constructed in accordance with seismic and tropical requirements, including those for seismic and wind loads outlined in American Society of Civil Engineers Standard 7-10 Minimum Design Loads for Buildings and Other Structures; UFC 3-301-1 Structural Engineering; UFC 3-310-04 Seismic Design for Buildings; and UFC 3-440-05N Tropical Engineering.	X	X
WATER RESOURCES		
<u>Water Quality</u> See Sections F2 through F5	X	X
<u>Storm Water Management and Monitoring</u> See Sections F2 through F5	X	X
INFRASTRUCTURE AND UTILITIES		
<u>Construction Debris</u> • Waste would be recycled per EO 13693 <i>Planning for Federal Sustainability in the Next Decade</i> and DOD requirements. • Waste from vegetation clearing for construction would be composted, as practicable. • The USAF would obtain all necessary permits for solid waste management and processing, including recycling, and green waste processing. Required permits could include the BECQ Solid Waste Collection and Solid Waste Processing permits. • Contractors hired for the various construction projects would be responsible for the removal and disposal of their construction wastes generated on site.	X	X
<u>Energy Efficiency</u> • New facilities would be designed to achieve Leadership in Energy and Environmental Design Silver certification; therefore, state-of-the-art energy efficiency would be expected and impacts on the electrical supply would be reduced. • The USAF would follow DOD Energy Conservation goals and therefore impacts on the electrical supply during implementation would be reduced.	X	
<u>Water Supply</u> The USAF would coordinate with local regulatory authorities and CUC to avoid any localized impacts on the water supply.	X	X
<u>Wastewater</u> • Prior to use of the U.S. military septic tank and leaching field or the Tinian Dynasty system, or development and use of a new system, USAF would obtain a wastewater treatment system permit from CNMI BECQ. • The proposed septic system and leach field at the seaport would be permitted through BECQ and would be managed in accordance with CNMI regulations.	X	X

Compliance Action	Pipeline/Support Infrastructure	Roadway Improvements
LAND USE AND RECREATION		
No compliance actions have been identified for land use.		
HAZARDOUS MATERIALS AND WASTE		
<u>Fuel Infrastructure Design, Management, Operation, and Inspection</u> See Sections F2 through F5	X	
<u>Spill Prevention and Control</u> See Section F2 through F5	X	X
<u>Hazardous Material Handling</u> - To avoid or minimize impacts from hazardous materials, all hazardous materials would be imported, collected, stored and handled in accordance with applicable federal, CNMI, and USAF hazardous materials management regulations. - Contractors would be responsible for the storage, handling, and disposal of hazardous wastes in accordance with federal, CNMI, and USAF hazardous waste management regulations. All collection, storage, and management of hazardous wastes by the contractor will be defined in the actual contract with the contractor, in coordination with CPA and the CNMI government.	X	X
<u>Environmental Condition of Property</u> - If environmental contamination or UXO is discovered during construction, the contractor would immediately stop work at the affected area, report the discovery to the USAF, property owner, and CNMI, as necessary, and implement appropriate safety measures. - If environmental contamination or UXO is identified, construction site plans should be revised to avoid the contamination areas or remediate them as practicable. Commencement of field activities should not resume in the affected area until the issue is investigated and resolved.	X	X
AIR QUALITY		
<u>Fugitive Dust</u> Fugitive dust control measures could include watering the construction surface and phasing work to limit dust, setting up wind fences to limit wind blown dust, and limiting vehicle speed to 15 mph or less at construction sites on unpaved roads.	X	X
<u>Construction Permitting</u> The USAF would coordinate with CNMI BECQ to obtain the necessary stationary source permits prior to commencing construction of any potential stationary source.	X	

F2. Planning and Design Actions and Standards

USAF would plan and design stormwater management and fuels infrastructure as described in **Section F2.1 and F2.2** to ultimately reduce potential environmental impacts. Designs would reduce the potential for an increase in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, construction and operation-related accidents, and a release of petroleum products.

F2.1 Stormwater Management and Low Impact Development

USAF design for the proposed pipeline infrastructure and roadway improvements would focus on maintaining predevelopment hydrology and preventing net increases in stormwater runoff once construction is complete, to the extent practical. “Predevelopment hydrology” is defined as the pre-project hydrologic conditions of temperature, rate, volume, and duration of stormwater flow from the project site. The permanent stormwater management infrastructure for the Proposed Actions would be designed so that the post-development peak discharge rate frequency would not exceed the pre-development peak discharge rate for the 25-year frequency

storm event (CNMI BECQ and GEPA 2006). USDA NRCS has calculated a 25-year, 24-hour rainfall event to be 12.49 inches for Saipan (USDA NRCS 2008). The USAF would review published rainfall intensity duration frequencies for CNMI and reconsider the appropriate 25-year storm estimate for permanent infrastructure design, before final engineering decisions are made in the SWPPP.

As impervious surfaces would not be increased beyond those analyzed in the 2016 Divert EIS, additional calculation of pre- and post-development stormwater volumes would not be necessary (DoD 2015). USAF would maintain predevelopment hydrology through implementation of low impact development (LID), performance standards, and best management practices (BMPs), consistent with the 2016 Divert EIS. LID would apply to the fuel infrastructure, to the extent practical. USAF would also develop and implement plans, and conduct monitoring, to ensure that water flowing from project sites meets CNMI water quality standards. USAF would implement all applicable stormwater management and low impact strategies identified in Section 4.16 of the 2016 Divert EIS.

Table F-2 provides an example of BMPs that USAF would incorporate into their permanent stormwater infrastructure design, to capture stormwater runoff and meet water quality treatment goals. These BMPs would be consistent with LID requirements of Unified Facilities Criteria (UFC) 3-210-01 *Low Impact Development* (DoD 2015) and were selected based on the following criteria:

1. can capture and treat the full water quality volume
2. are capable of approximately 80 percent total suspended solids removal
3. are capable of meeting management objectives for specific resource protection areas through elevated total phosphorus, total nitrogen and/or fecal coliform bacteria removal
4. have acceptable longevity in the field.

Table F-2. Permanent Structural Stormwater Management BMPs

Group	Practice	Description
Infiltration	Infiltration Trenches/Chambers	An infiltration practice that stores the water quality volume in the void spaces of a limestone aggregate trench or within an open chamber before it is infiltrated into underlying soils within the B or C soil horizons.
	Infiltration Basin	An infiltration practice that stores the water quality volume in a shallow surface depression before it is infiltrated into the underlying soils within the B or C soil horizons.
Filtering Practices	Bioretention	A shallow depression that treats stormwater as it flows through a soil matrix, and is returned to the storm drain system, or infiltrated into underlying soils or substratum.
Open Channels	Dry Swale	An open vegetated channel or depression explicitly designed to detain and promote filtration of stormwater runoff into an underlying fabricated soil matrix.

Source: CNMI BECQ and GEPA 2006.

As previously described, the permanent stormwater management system and associated BMPs would be designed so that the post-development peak discharge rate frequency would not exceed the pre-development peak discharge rate for the 25-year frequency storm event (CNMI BECQ and GEPA 2006). The BMPs would also be designed to meet water quality criteria, overland erosion and channel protection criteria, overbank flood control/receiving stream criteria, and recharge criteria.

Additional LID site features that USAF could deploy include rain gardens, vegetated filter strips, downspout disconnection, reduced impervious area, tree preservation or re-vegetation using native plants, soil amendments.

F2.2 Fuel Infrastructure Planning, Design, and Management Standards

To reduce the likelihood of spills during construction and operation of the pipeline infrastructure, as well as the impact of spills (e.g., or spill migration to nearshore waters) in the unlikely event that one should occur, all proposed fuels infrastructure on Tinian would be designed and constructed according to the applicable federal and CNMI requirements, including UFC 3-460-01 *Petroleum Fuel Facilities*. As stated in UFC 3-460-01, it is the firm policy of the DOD to design and construct fueling facilities in a manner that will prevent damage to the environment by accidental discharge of fuels, their vapors or residues

The fuel pipeline and all facilities would also be constructed in accordance with seismic and tropical requirements, including those for seismic and wind loads outlined in American Society of Civil Engineers Standard 7-10 *Minimum Design Loads for Buildings and Other Structures*, UFC 3-310-04 *Seismic Design for Buildings*, UFC 3-301-01 *Structural Engineering*, and UFC 3-440-05N *Tropical Engineering*. Prior to finalizing the design for and constructing the fuel pipeline, USAF would conduct a geotechnical investigation along the pipeline route to classify the subsurface composition and identify the presence of any faults. Results of the geotechnical investigation would be incorporated into the final pipeline design and would adhere to specifications in the American Society of Mechanical Engineers Standard B31.3 *Process Piping* and B31.4 *Transportation Systems for Liquids and Slurries*.

Specific standards include, but are not limited to, the following:

Standard 1: General Design and Construction. USAF would follow UFC 3-460-01 Design: Petroleum Fuel Facilities for material, design, fabrication, erection and inspection of the pipeline and support infrastructure.

Standard 2: Infrastructure Protection. USAF would plan and design all fuel infrastructure with the goal of protecting the fuels, storage, and transfer capability from enemy attack, terrorists, sabotage, fire, seismic activity, and other potential damaging influences.

Standard 3: Cathodic Protection. Cathodic protection would be provided for all carbon steel and stainless steel underground piping, in accordance with UFC 3-570-02N and 40 CFR § 280. The cathodic protection system would be isolated from the filter/separator discharge header and the hydrant pump house bulk receipt system by isolation flanges, which would keep the impressed current isolated to the underground portion of the transfer pipeline.

Standard 4: Industry Requirements. Piping design, materials, fabrication, assembly, erection, inspection, and pressure tests would be in accordance with ANSI/ASME B31.3 *Process Piping*.

Standard 5: Roadways. Underground piping which passes under public roadways or railroad tracks would be designed in accordance with 3-460-01 *Petroleum Fuel Facilities* and American Petroleum Institute (API) Recommended Practice (RP) 1102.

Standard 6: Venting. The pipeline would be equipped with high point vents and low point drains. The high point vents would be used to remove noncondensing gas from the pipeline. The low point drains would be used to drain water or particulate matter from the pipe and can also be used to fully drain the pipe if required. The high point vents and low point drains would be installed in pits. The pits would be equipped with traffic rated covers and lockable to prevent vandalism and theft.

Standard 7: Pig Launcher: The transfer pipeline would be equipped with a permanently installed pig launcher at the booster pump house and a permanently installed pig receiver at the bulk storage pump house. The transfer pipeline would be designed to be piggable to allow for cleaning and testing of the line between the booster pump house and the hydrant pump house.

Standard 8: Valves. The transfer pipeline would be equipped with an isolation valve pit midway between the booster pump house and the bulk storage pump house. The isolation valve pit would be equipped with a double block and bleed valve that would be used during pressure testing and can be closed in the event of an emergency upstream or downstream of the valve. The transfer pipeline would also be equipped with a double block and bleed valve after it transitions aboveground at the bulk storage pump house. The double block and bleed valve at the booster pump house and the double block and bleed valve at the bulk storage pump house can be used to fully isolation the underground section of the transfer pipeline and would be used when annual and five year pressure testing of the pipeline is required.

Standard 9: Personnel Training. USAF will annually train all personnel handling POL in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; and general facility operations.

Standard 10: Equipment Testing. USAF will maintain all petroleum equipment in good functioning order, including regular testing and checking for any failure. This greatly adds to the effectiveness of spill prevention control and countermeasures.

Standard 11: On-site Personnel. USAF would provide a full-time onsite person or persons to inspect and maintain all POL infrastructures, in accordance with USAF requirements. These personnel would be trained to provide USAF with spill planning, preparedness and response capability, in accordance with the SPCC and FRP required by 40 CFR Part 112 and AFI 32-7044. This capability could thereby potentially upgrade island-wide capability for spill response through cooperative spill response agreements that could be developed, if determined applicable.

F3. Construction Actions and Standards

During construction, USAF would implement measures described in **Sections F3.1 through F3.5** as dictated by existing regulations and industry standards for stormwater management, erosion control, and POL handling that would reduce potential environmental impacts. Strategies would include reducing the potential for an increase in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, and a release of petroleum products during construction. During construction of the pipeline infrastructure and roadways, USAF would manage stormwater runoff in accordance with a U.S. Environmental Protection Agency (USEPA) NPDES Construction General Permit and would perform the following activities:

- implement erosion and sediment controls
- stabilize soils
- implement pollution prevention measures
- provide and maintain buffers around surface waters
- prohibit certain discharges
- utilize surface outlets for discharges from basins and impoundments.

F3.1 Stormwater Pollution Prevention Plan

USAF would develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction that would adhere to USEPA Guidelines. The SWPPP would be completed prior to submitting the Notice of Intent for permit coverage. The SWPPP will describe the following:

- responsible parties
- site evaluation, assessment, and planning
- documentation of compliance with other federal requirements
- erosion and sediment controls
- permanent construction BMPs
- pollution prevention standards
- inspection and corrective actions
- training requirements
- certification and notification requirements
- operation and maintenance of permanent stormwater controls.

Site-Specific Measures. USAF would design all construction site stormwater management measures to accommodate (safely convey without creating erosive conditions) the 10-year frequency storm. The 10-year frequency storm represents a large event that will generally produce significant runoff and yet has a relatively high chance of occurring in any given year (i.e., 10 percent) (CNMI BECQ and GEPA 2006).

USAF would design all temporary sediment trapping devices to retain runoff from a minimum of the 10-year storm. The 10-year storm represents a frequent event that generates runoff and potential sediment load (CNMI BECQ and GEPA 2006). USDA NRCS has calculated a 10-year, 1-hour rainfall event to be 2.92 inches for Saipan (USDA NRCS 2008). The USAF would

review published rainfall intensity duration frequencies for CNMI and reconsider the appropriate 10-year storm estimate for stormwater management measures during construction, before finalization of the SWPPP.

For maximum efficacy, USAF site-specific stormwater management measures during construction would include some, or all, of the following to manage stormwater runoff from the 10-year frequency storm:

- **Stabilized construction entrances.** Stabilized construction entrances are temporary crushed rock/coral pads located at all points where vehicles enter or leave a construction site. The purpose of a stabilized entrance is to reduce the tracking of sediment/mud from the site onto paved roads and parking lots.
- **Silt fencing.** A temporary barrier of geotextile fabric, silt fencing is installed across a slope, around stockpiles, or along a perimeter. The purpose of a silt fence is to intercept sediment-laden runoff from small drainage areas of disturbed soil, slow runoff velocity, and allow sediment to settle out. Alternatives to silt fencing could include the following.
 - o earth berms: linear barrier of compacted soil used to block or divert runoff.
 - o compost socks: mesh tubes (also called filter socks or tubes) filled by blower with organic or wood mulch. They can be used around site perimeters, as conveyance checks, and as inlet protection.
 - o silt dikes: reusable, triangular, foam product covered in geotextile used along perimeters, curbs, and as check dams.
- **Berms and swales.** Berms and swales, depending on their location, can be used to divert “clean” runoff around disturbed areas, or to move “dirty” runoff to sediment traps. Berms (also called earth berms or diversion dikes) are mounds of compacted soil placed at the top or base of slopes, along the site perimeter, or across exposed areas. Swales are temporary channels used to convey runoff to a sediment trapping device.
- **Check dams.** Small check dams constructed of rock/coral, bagged sand, compost tubes, or other durable materials are placed across an open drainage channel to reduce erosive runoff flows and allow sediment to settle out.
- **Channels.** Vegetated or lined channels are used to safely convey flows from stabilized areas or outlets without damage from erosion. Waterways are typically stabilized with grass, erosion control matting, rock rip rap, gabions, or concrete depending on slope, soil, and runoff velocity.
- **Basins and traps.** Large basins and small traps are temporary ponding structures used to collect runoff and allow sediment to settle out before runoff leaves site. Basins and traps are formed by an embankment and/or excavation.
- **Stabilization.** Covering an area of bare ground with vegetation, topsoil, mulch, or erosion control blankets for temporary or permanent erosion prevention is critical. Temporary stabilization is often needed because grading operations can last several months and extend into or through the rainy season. Final stabilization will be required for project close out. Vegetative cover can be established through a combination of

seeding techniques, topsoil amendments, and mulching to conserve moisture and control weeds.

- **Erosion control blankets.** Temporary erosion control blankets (also called matting) are used to hold seed and soil in place, particularly on steep slopes. There are many types of products available made of biodegradable or synthetic materials.
- **Inlet protection.** Various inlet protection devices can be used as temporary structures to keep silt, sediment, and construction debris from entering storm drains through open inlets. Devices should trap sediment while allowing water to slowly flow over or through materials.
- **Outlet protection.** Rock should be placed around and below an outlet to stabilize the outlet, reduce the depth and velocity of discharge waters, and prevent downstream erosion. Outlet protection applies to culverts, outfalls from basins, and other conduits.
- **Level spreaders.** Level spreaders are temporary (or permanent) devices that take concentrated flow from a pipe, berm, or swale and release it evenly over a wider area to prevent erosion and promote infiltration. This is particularly useful where sheet flow discharges through vegetated buffers are possible.

F3.2 Stormwater Monitoring

All stormwater management structures and practices would be inspected and maintained during all stages of the construction process in accordance with the SWPPP and CNMI regulations to ensure proper function. Inspections would be conducted by on-site USAF or contractor personnel. At a minimum, those inspections would occur following major rainfall events to ensure that stormwater control structures are functioning as designed and remain effective.

USAF would implement an adaptive management approach that would be based on information obtained during regular monitoring and inspection of construction stormwater management controls. USAF would identify any structures that are damaged or are not functioning in accordance with applicable standards and repair them. All construction stormwater management procedures will ensure maximum protection of the marine environment. These procedures will be detailed in a SWPPP, and will comply with all applicable USEPA NPDES Construction General Permit requirements. USAF has programmed for costs associated with stormwater monitoring and repair, if needed, to ensure timely completion of these inspections and repairs as a part of an adaptive management process. The USAF Engineering Technical Letter 14-1 *Construction and Operation and Maintenance Guidance for Storm Water Systems* provides inspection checklists and schedules for each type of stormwater management control that would be followed for inspections and maintenance.

F3.3 Erosion and Sediment Control Standards

USAF would follow standards for erosion and sediment control during construction of both Proposed Actions recommended by CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations*, most recently published in 2017, and the *2006 CNMI and Guam Stormwater Management Manual* (CNMI BECQ and GEPA 2006), including the following:

- **Standard 1:** Minimize unnecessary clearing and grading from all construction sites. Clearing and grading shall only be performed within areas needed to build the project, including structures, utilities, roads, recreational amenities, post-construction stormwater management facilities, and related infrastructure. Clearing should only be scheduled during the dry season if possible. Mass clearing during the wet season should be avoided.
- **Standard 2:** Whenever practicable and feasible, construction shall be phased to limit disturbance to only one area of active construction at a time. Future phases shall not be disturbed until construction of prior phases is complete and the land area is stabilized.
- **Standard 3:** Disturbed areas shall be stabilized as soon as feasibly possible after construction is completed within a designated construction area, and in no case longer than 14 days after completion of active construction.
- **Standard 4:** Steep slopes shall be protected from erosion by limiting clearing of these areas in the first place or, where grading is unavoidable, by providing special techniques to prevent upland runoff from flowing down a steep slope and through immediate stabilization to prevent gullyng. A steep slope is defined as any slope over 20 percent (5:1) in grade over a length of 50 feet.
- **Standard 5:** Perimeter sediment controls shall be applied to retain or filter concentrated runoff from disturbed areas to trap or retain sediment before it leaves a construction site. Upland runoff should be diverted around excavations where possible.
- **Standard 6:** Sediment trapping and settling devices shall be employed to trap and/or retain suspended sediments and allow time for them to settle out in cases where perimeter sediment controls (e.g., silt fence) are deemed to be ineffective in trapping suspended sediments on-site.
- **Standard 7:** All construction site managers (or superintendents) shall provide documentation that they have received adequate training in the application and maintenance of erosion and sediment control practices.
- **Standard 8:** All construction site managers must participate in a pre-construction meeting with the applicable authority to review the provisions of the erosion and sediment control plan and make any field adjustment necessary to implement the intent of the plan to minimize erosion and maximize sediment retention on-site throughout the construction process.
- **Standard 9:** Construction should be scheduled to minimize soil exposure in the rainy season (1 July–30 November) and during periods of coral spawning. The 2014 CNMI Water Quality Standards note that to avoid coral spawning, a stoppage period starting around the June or July full moon (to be determined by the Bureau of Environmental and Coastal Quality), is required. The stoppage period, if determined to be applicable, shall be no less than twenty one calendar days (CNMI BECQ 2018). USAF will also contact CNMI BECQ to determine when soil exposing work should be halted during spring rainfall events to avoid adversely affecting soft corals that are spawning.

- **Standard 10** Erosion and sediment control practices shall be aggressively maintained throughout all phases of construction. All erosion and sediment control plans shall have an enforceable operation and maintenance agreement.

USAF would keep waste materials, stockpiles, and building supplies tied down or covered to protect from wind or stormwater. Additionally, in accordance with CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations* the USAF would minimize grading, filling, clearing of vegetation or other disturbance of the soil during inclement weather and for the resulting period of time when the site is in a saturated, muddy or unstable condition.

F3.4 Erosion and Sediment Control Plan

In compliance with CNMI Chapter 65-30 *Earthmoving and Erosion Control Regulations*, the USAF would develop an Erosion and Sediment Control Plan (ESCP) that would be implemented during construction. The plan would include the following, at a minimum:

- elevations and dimensions including quantity, and extent of proposed grading
- existing tree locations, size, species, and the proposed extent and manner of tree cutting and vegetation clearing

a description of equipment and methods to be employed.

F3.5 Water Quality Management

Parameter that provide an indication of water quality include concentration of dissolved oxygen; levels of Fecal Indicator Bacteria from human and animal wastes; concentrations of plant nutrients nitrogen and phosphorus; amount of particulate matter suspended in the water (turbidity); and amount of salt (salinity). In many bodies of water, the concentration of chlorophyll-a, a green pigment found in microscopic algae, is also filtered from water samples to give a measure of the microalgae living in the water column. Quantities of pesticides, herbicides, heavy metals and other contaminants may also be measured to determine water quality.

USAF is required to comply with CNMI water quality standards in compliance with a Clean Water Act, Section 401 Certification. **Table F-3** provides the CNMI BECQ-published water quality standards for the waters of CNMI, which are the minimum water quality criteria that the USAF would comply with for discharges into Tinian waters (CNMI BECQ 2018) during construction. Parameters can be added to or deleted from the list based upon knowledge of the onsite activities. For example, if weeds are to be controlled by a particular herbicide, it could be included on the list of parameters. USAF would also implement an adaptive management approach during construction based on information obtained during regular monitoring and inspection if CNMI water quality standards are not being met.

Table F-3. CNMI Water Quality Standards

Criteria	Level*
Enterococci	Shall not exceed a geometric mean of 35 per 100 milliliters (mL) based on samples taken in any 30 day interval. No single sample result shall exceed 130 130 Enterococci per 100 mL.
E. coli	Shall not exceed a geometric mean of 126 per 100 mL based on samples taken in any 30 day interval. The Statistical Threshold Value is 410 E. coli per 100 mL.
pH	Shall not deviate more than 0.5 units from a value of 8.1; no lower than 7.6 or higher than 8.6
Nitrate-Nitrogen	Concentration shall not exceed 0.20 milligrams per liter (mg/L)
Total Nitrogen	Concentration shall not exceed 0.40 mg/L
Orthophosphate	Concentration shall not exceed 0.025 mg/L
Total Phosphorous	Concentration shall not exceed 0.025 mg/L
Ammonia	Concentration shall not exceed 0.02 mg/L
Dissolved oxygen	Concentration shall not be less than 75 percent saturation. Where natural conditions cause lower dissolved oxygen levels, controllable water quality factors shall not cause further reductions.
Total suspended solids	Concentrations of suspended matter at any point shall not be increased from ambient conditions at any time, and should not exceed 5 mg/L except when due to natural conditions.
Salinity	No alterations of the marine environment shall occur that would alter the salinity of marine or estuarine waters more than 10 percent from ambient conditions or which would otherwise adversely affect the indigenous biota and sedimentary patterns, except when due to natural causes.
Temperature	Water temperature shall not vary by more than 1.0 °C from the ambient conditions.
Turbidity	Turbidity at any point, as measured by nephelometric turbidity units, shall not exceed 0.5 nephelometric turbidity units over ambient conditions.
Radioactive Materials	Discharge of radioactive materials at any level is prohibited.
Oil and Petroleum Products	The concentration of oil or petroleum products in waters shall not: (a) Be detectable as a visible film, sheen, or discoloration of the surface, or cause an objectionable odor. (b) Cause tainting of fish or other aquatic life, be injurious to the indigenous biota, or cause objectionable taste in drinking water. (c) Form an oil deposit on beaches or shoreline, or on the bottom of a body of water.

Source: CNMI BECQ 2018

Note: *The level given is the most stringent standard for the marine waters of Tinian. Less stringent standards are applicable for some criteria for discharges into the San Jose harbor or fresh waters.

F4. Infrastructure Operation Actions and Standards

Once construction is complete, USAF would implement measures in **Sections F4.1 through F4.5** for long-term stormwater control and management of fuels infrastructure that would ultimately reduce potential environmental impacts on biological resources, geology and soils, water resources, and hazardous materials and wastes. These strategies would reduce the potential post-construction for: long-term increases in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, construction and operation-related accidents, and a release of petroleum products.

F4.1 Stormwater Monitoring

USAF would conduct post-construction site visits to inspect all permanent stormwater infrastructure and assess stormwater management structures and validate if they have been constructed according to plans and specifications.

All existing and USAF-constructed stormwater management structures and practices would be systematically inspected and maintained. The USAF would revise the existing SWPPP or develop a new SWPPP for management of stormwater infrastructure once construction is complete. The SWPPP would guide the monitoring inspections, which would be conducted by on-site USAF or contractor personnel. At a minimum, those inspections would occur following major rainfall events to ensure that stormwater control structures are functioning as designed and remain effective.

USAF would also implement an adaptive management approach based on information obtained during regular monitoring and inspection of permanent stormwater management controls. USAF would identify any structures that are damaged or are not functioning in accordance with applicable standards and repair them. The objectives and required standards described above would serve as thresholds for determining whether the construction stormwater management system would need to be improved to avoid affecting the nearshore marine environment. USAF Engineering Technical Letter 14-1 provides inspection checklists and schedules for each type of stormwater management control that would be followed for inspections and maintenance (USAF 2014). The stormwater management system would be adaptively managed and revised or improved when necessary to ensure that all planned objectives and required standards are being met.

F4.2 Water Quality Management

Based on the design, implementation, and management of controls described above, USAF does not anticipate that stormwater runoff or POL would be discharged into the nearshore waters of Tinian during or after construction, or that the Proposed Actions would cause a measureable increase in the volume or discharge rate of fresh water into the marine environment. However, USAF would be committed to ensuring that any stormwater runoff or release from the project sites post-construction are consistent with CNMI Water Quality Standards.

F4.3 Spill Prevention Control and Countermeasures

USAF would develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan (as required by Section 311(j)(1)(C) of the Clean Water Act as amended by the Oil Pollution Act of 1990) to control the potential for contamination from the unlikely event of a spill during construction of the Proposed Actions.

The SPCC Plan would be prepared, maintained, and implemented to prevent, control, counteract, and report of all spills. The SPCC Plan would provide measures to prevent, and to the maximum extent practicable, to remove a worst case discharge from the facility. The plan would be certified by an appropriately licensed or certified technical authority ensuring that the plan considers applicable industry standards for spill prevention and environmental protection, and that the plan is prepared in accordance with good engineering practice and is adequate for the facility. Specifically, the SPCC Plan would include:

- **Prevention Section.** The prevention section of the plan would contain information on the facility; charts of drainage patterns; designated water protection areas; maps showing locations of various infrastructure which store, handle, and transfer POL that could produce a spill; critical water resources; land uses; and possible migration pathways. Maps would also be included, as appropriate, to predict direction and rate of flow, as well as the total quantity of substances that might be spilled as a result of a major failure.
- **Arrangements for Emergency Services.** The plan would describe arrangements with local police departments, fire departments, hospitals, contractors, and emergency response teams to coordinate emergency services. The plan would include a list of all emergency equipment, such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment, at each site where this equipment is required; an evacuation plan and a designated meeting place.
- **Spill Control Section.** The control section of the plan would identify resources for cleaning up spills, and directions on how to provide assistance to other agencies when requested. This section of the plan would contain a prioritized list of various critical water and natural resources that would be protected in the event of a spill. The plan would identify other resources addressed in prearranged agreements that are available to cleanup or reclaim a large spill, if such spill exceeds the response capability of the facility.

F4.4 Facility Response Plan

USAF would also develop a Facility Response Plan, per the Oil Pollution Act of 1990 which amended the Clean Water Act, which would address an accidental "catastrophic" spill. The Facility Response Plan would include the resources of all industrial activities and the U.S. Coast Guard to direct how to handle an incident of the scale beyond any single individual facility's capability to respond.

F4.5 Operation, Inspection, and Monitoring of Fuel Systems

For fuel infrastructure operation and maintenance, USAF and their contractors would follow UFC 3-460-03 *Operation and Maintenance: Maintenance of Petroleum Facilities*. USAF and its contractors would also comply with USAF Technical Order 37-1-1 *General Operations and Inspection of Installed Fuel Storage and Dispensing Systems*; AFI 23-201 *Fuels Management*; AFI 32-1067 *Water and Fuels Systems*; and AFI 32-7044 *Storage Tank Environmental Compliance* for the operation of the fuel pipeline and support facilities. USAF would develop a memorandum of understanding with U.S. Coast Guard and Environmental Protection Agency to define the “point of demarcation” to facilitate compliance with applicable sections of 40 CFR § 112 *Oil Pollution Prevention*; 33 CFR § 154 *Facilities Transferring Oil or Hazardous Materials in Bulk*; and 33 CFR § 156 *Oil and Hazardous Material Transfer Operations*.

The safe, efficient, and economical operation of petroleum dispensing systems, and associated infrastructure depends largely on an effective and proactive recurring maintenance program. USAF would follow UFC 3-460-03, which establishes the required frequency intervals for the recurring maintenance. Operation and maintenance of the pipeline would be managed by a Pipeline Integrity Management (PIM) Plan to assist with and guide pipeline integrity maintenance. PIM Plans improve the integrity management of piping systems and help prevent leaks or pipeline failures. The plans are developed based on the principles of *API Standard 570 Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems* and federal and local regulations.

Additional standards and regulations that would be observed for operation, inspection, and monitoring of the fuel pipeline and infrastructure include the following:

Standard 1: Pressure Testing. An automatic pipe pressure testing system would be installed at the booster pump house. The system would be attached to the bulk receipt line and the transfer pipeline. The system would be used to conduct periodic integrity tests of the pipelines and ensure the pipelines are in good working order. Hydrostatic testing would be conducted in accordance with ANSI/ASME B31.3 and UFC 3-460-03.

Standard 2: Valves and Piping. USAF would periodically inspect, in accordance with the PIM Plan all valves, piping, and appurtenances associated with fuels infrastructure in accordance with API 570 which is the recognized industry standard.

Standard 3: Pipeline Safety Management Systems (SMS): USAF would follow API Recommended Practice (RP) 1173, which provides guidance in developing or maintaining a pipeline safety management system. Elements of the management system include: leadership and management commitment; stakeholder engagement; risk management; operational controls; incident investigation, evaluation, and lessons learned; safety assurance; management review and continuous improvement; emergency preparedness and response; competence, awareness, and training; and documentation and recordkeeping.

Standard 4: Leak Detection. USAF would follow API RP 1175 and implement a “Leak Detection Program Management,” that would be consistent with API 1130 *Computational Pipeline Monitoring*. API RP 1175 is an industry consensus document that provides a risk-

based approach to managing a leak detection program, including developing a leak detection culture and strategy, selecting the appropriate leak detection system, and monitoring leak detection program performance. This RP also identifies Control Center procedures, training, and the roles and responsibilities of Control Center personnel, as well as identifying proper testing of equipment and alarms.

USAF would operate a permanently installed static leak detection system that is listed by the National Work Group On Leak Detection Evaluations and would be U.S. Environmental Protection Agency third-party-certified. The pipeline leak detection system would comply with API Recommended Practice 1130, Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. The permanent system would be a self-contained automated static leak detection system located at the pump house and connected to both the receipt pipeline and the hydrant loop. This system would include electrical control equipment, pumps and instrumentation that would only be used or tested during leak detection testing. The leak detection system would perform a temperature-compensated pressure/volume leak test at regularly scheduled intervals when the pipeline is not operating. This would allow tightness tests to be performed during static periods between fuel receipts, as well as prior to each fuel receipt to verify the integrity of the pipeline at operating pressures prior to fuel transfer.

F5. Additional Rules and Regulations

In addition to the compliance actions and industry standards outlined in **Sections F1 through F4**, USAF would follow all applicable federal, DOD, USAF, and CNMI rules and regulations. Additional rules and regulations that have been identified for potential applicability to the Proposed Actions are listed below. However, this is not a comprehensive list of all regulations that may be applicable to the Proposed Actions.

Federal Regulations

- 33 CFR Part 154 Facilities Transferring Oil or Hazardous Material in Bulk
- 33 CFR Part 156 Oil and Hazardous Material Transfer Operations
- 40 CFR Part 60 Standards of Performance for New Stationary Sources
- 40 CFR Part 112 Oil Pollution Prevention
- 40 CFR Part 122 EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (NPDES)
- 40 CFR Part 280 Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)
- 40 CFR Part 281 Approval of State Underground Storage Tank Programs
- Safety Administration Transportation of Hazardous Liquids by Pipeline.

DOD Specifications

- UFGS 01 33 23.33 Aviation Fuel System Submittal Requirements
- UFGS 33 52 43.28 Filter Separator, Aviation Fueling System
- UFGS 32 13 15.20 Concrete Pavement for Containment Dikes
- UFGS 33 52 43 Aviation Fuel Distribution (Non-Hydrant)
- UFGS 33 08 53 Aviation Fuel Distribution System Start-Up
- UFGS 33 52 80 Liquid Fuels Pipeline Coating Systems
- UFGS 33 08 55 Commissioning of Fuel Facility Systems
- UFGS 33 52 90.00 20 Welding for POL Service Piping
- UFGS 33 09 53 Aviation Fuel Pump Control and Annunciation System
- UFGS 33 52 10 Service Piping, Fuel Systems
- UFGS 33 56 63 Fuel Impermeable Liner System

- UFGS 33 52 43.11 Aviation Fuel Mechanical Equipment
- UFGS 33 57 00 Bulk Fuel Receiving / Dispensing Equipment
- UFGS 33 52 43.12 Aviation Fuel Pantograph
- UFGS 33 58 00 Leak Detection for Fueling Systems
- UFGS 33 52 43.13 Aviation Fuel Piping
- UFGS 33 59 00 Tightness of Existing Underground Fuel Systems
- UFGS 33 52 43.14 Aviation Fuel Control Valves
- UFGS 33 52 43.23 Aviation Fuel Pumps

Air Force Guidance

- AFH 32-1084 Facility Requirements
- AFI 32-1054 Corrosion Control
- AFI 91-203 Air Force Consolidated Occupational Safety Instruction
- AFM 88-9 Electrical Design – Lightning and Static Electricity Protection
- AF ETL 11-1 Civil Engineer Industrial Control System Information Assurance Compliance
- AFTO 37-1-1 General Operation and Inspection of Installed Fuel Storage and Dispensing Systems
- AFTO 42B1-1 Quality Control of Fuels and Lubricants

F6. References

- | | |
|-------------------------------|--|
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and GEPA
2006 | CNMI BECQ and Guam Environmental Protection Agency. 2006. CNMI and Guam Stormwater Management Manual. October 2006. |
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APPENDIX G

Draft SEIS Public Review Period Materials



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time on the specified comment date. Protests may be considered, but intervention is necessary to become a party to the proceeding.

eFiling is encouraged. More detailed information relating to filing requirements, interventions, protests, service, and qualifying facilities filings can be found at: <http://www.ferc.gov/docs-filing/efiling/filing-req.pdf>. For other information, call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Dated: May 13, 2019.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

[FR Doc. 2019-10237 Filed 5-16-19; 8:45 am]

BILLING CODE 6717-01-P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19-1821-000]

Speedway Solar NC, LLC; Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization

This is a supplemental notice in the above-referenced proceeding of Speedway Solar NC, LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is June 3, 2019.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at <http://www.ferc.gov>. To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically should submit an original and 5 copies of the intervention or protest to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

The filings in the above-referenced proceeding are accessible in the Commission's eLibrary system by clicking on the appropriate link in the above list. They are also available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an eSubscription link on the website that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Dated: May 13, 2019.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

[FR Doc. 2019-10241 Filed 5-16-19; 8:45 am]

BILLING CODE 6717-01-P

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-9044-8]

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 Filed 05/06/2019 Through 05/10/2019

Pursuant to 40 CFR 1506.9.

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://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search>.

EIS No. 20190096, Final, DOE, TX, ADOPTION—Rio Grande LNG Project, *Contact:* Brian Lavoie 202-586-2459

The Department of Energy (DOE) has adopted the Federal Energy Regulatory Commission's Final EIS No. 20190079, filed 4/26/2019 with the EPA. DOE was a cooperating agency on this project. Therefore, recirculation of the document is not necessary under Section 1506.3(c) of the CEQ regulations.

EIS No. 20190097, Draft Supplement, USAF, GU, Tinian Divert

Infrastructure Improvements, Commonwealth of the Northern Mariana Islands, *Comment Period Ends:* 07/01/2019, *Contact:* Julianne Turko 210-925-3777.

EIS No. 20190098, Draft, BLM, MT, Missoula Draft Resource Management Plan and Environmental Impact Statement, *Comment Period Ends:* 08/15/2019, *Contact:* Maggie Ward 406-329-3914.

EIS No. 20190099, Draft, BLM, MT, Draft Lewistown Resource Management Plan, *Comment Period Ends:* 08/15/2019, *Contact:* Dan Brunkhorst 406-538-1900.

EIS No. 20190100, Final, USFS, NV, Mt. Rose Ski Tahoe Atoma Area Expansion, *Review Period Ends:* 06/17/2019, *Contact:* Marnie Bonesteel 775-352-1240.

EIS No. 20190101, Draft, BLM, NV, Mackey Optimization Project, *Comment Period Ends:* 07/01/2019, *Contact:* Jeanette Black, EIS Project Manager 775-623-1500.

EIS No. 20190102, Draft, BLM, NV, Hycroft Mine Phase II Expansion Project, *Comment Period Ends:* 07/01/2019, *Contact:* Dr. Mark Hall 775-623-1500.

EIS No. 20190103, Final, BLM, ID, Caldwell Canyon Mine and Reclamation Plan, *Review Period Ends:* 06/17/2019, *Contact:* Bill Volk 208-236-7503.

EIS No. 20190104, Draft, FTA, NJ, NJ Transitgrid Traction Power System, *Comment Period Ends:* 07/19/2019, *Contact:* Daniel Moser 212-668-2326.

EIS No. 20190105, Draft Supplement, BLM, MT, Miles City Field Office Draft Supplemental EIS and RMP Amendment, *Comment Period Ends:* 08/15/2019, *Contact:* Irma Nansel 406-233-2800.

EIS No. 20190106, Draft Supplement, BLM, WY, Buffalo Field Office Draft Supplemental EIS and RMP Amendment, *Comment Period Ends:* 08/15/2019, *Contact:* Tom Bills 307-684-1100.

EIS No. 20190107, Draft, NMFS, REG, Draft Regulatory Amendment to Modify Pelagic Longline Bluefin Tuna Area-Based and Weak Hook Management Measures, *Comment Period Ends:* 07/31/2019, *Contact:* Jennifer Cudney 727-824-5399.

Amended Notice

EIS No. 20190018, Draft, USACE, AK, Pebble Mine, *Comment Period Ends:* 07/01/2019, *Contact:* Shane McCoy 907-753-2715.

Revision to FR Notice Published 03/01/2019; Extending the Comment Period from 05/31/2019 to 07/01/2019.

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**NOTICE OF AVAILABILITY: DRAFT SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT AND NOTICE OF PUBLIC HEARING**
UNITED STATES AIR FORCE



The U.S. Air Force invites you to review the Draft Supplemental Environmental Impact Statement and attend the Public Hearing for the proposed Tinian Divert Infrastructure Improvements.

TINIAN DIVERT BACKGROUND. In September 2016, the U.S. Air Force (Air Force) completed the Final Environmental Impact Statement (EIS) for Divert Activities and Exercises (2016 Divert EIS). The 2016 Divert EIS evaluated the proposal to construct facilities and infrastructure at the Saipan and/or Tinian airports to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The Record of Decision (ROD) was signed on December 7, 2016 and announced the Air Force decision to select the Modified Tinian Alternative (Final EIS, Section 2.7) North Option (Final EIS, Section 2.5.2), as a future Divert location. After the ROD was signed, the Air Force conducted further evaluation of fuel transfer methods and associated infrastructure on Tinian, including the feasibility of different alternatives that were not considered in the 2016 Divert EIS.

PROPOSED ACTIONS AND ALTERNATIVES CONSIDERED. Pursuant to the National Environmental Policy Act, the Air Force has prepared a Draft Supplemental Environmental Impact Statement (SEIS) for public review that analyzes the potential environmental consequences associated with the proposal to construct a fuel pipeline from the Tinian seaport to Tinian International Airport, to include associated infrastructure at the Tinian seaport. The proposed pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport and the need for fuel tanker trucks to transport fuel from the seaport to the airport, both analyzed in the 2016 Divert EIS. The Air Force is considering two alternatives for the pipeline route, a West route and an East route. The Air Force has identified the East route as the Preferred Alternative for the pipeline. The Draft SEIS also analyzes the Air Force proposal to improve certain existing roads between the Tinian seaport and airport that would be used to support Divert activities.

OBTAIN AND REVIEW THE DRAFT SEIS. The Draft SEIS is available for download at www.PACAFDivertMarianasEIS.com and may also be viewed at the following document repositories:

Saipan: Saipan Mayor's Office, Joeten-Kiyu Public Library

Tinian: Tinian Mayor's Office, Tinian Public Library

PUBLIC HEARING – ALL ARE WELCOME. The Air Force requests comments from local and federal agencies, political stakeholders, and interested members of the public. The Air Force is holding a public hearing to provide the public with the opportunity to learn more about the proposal and provide input. The public hearing venue will open at 5 p.m. and begin with an "open house" style format and poster stations. At approximately 5:30 p.m., the Air Force will give a brief presentation about the proposal. Formal public testimony will begin at approximately 6 p.m. The hearing venue will close at 8 p.m. All members of the public are invited and encouraged to attend. Written and verbal comments will be accepted at the hearing; your input is valuable and assists the Air Force in making more informed decisions. A Chamorro/Carolinian interpreter will be available at the hearing to assist with translation of meeting materials and written comments. Hearing information is provided below:

Date	Time	Location
June 6, 2019	5 p.m. to 8 p.m.	Tinian Elementary Cafeteria

PUBLIC COMMENT. Comments on the Draft SEIS can be submitted in English electronically at www.PACAFDivertMarianasEIS.com; verbally or in writing at the public hearing; or via postal mail at the address below. For further information, please contact:

Ms. Julianne Turko, AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236-9853

The Air Force also welcomes comments under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800) regarding the identification of or effects on historic properties. If you have comments or would like to become a consulting party in the Section 106 process, please visit the project website or contact Ms. Julianne Turko, AFCEC/CZN at the address above.

To ensure the Air Force has sufficient time to consider public input in the Draft SEIS and the Section 106 process, please submit comments by July 1, 2019.

www.PACAFDivertMarianasEIS.com

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Tinian Divert Infrastructure Improvements Draft SEIS Review Period Distribution List

General or VIP	Title	Organization	City	State
VIP	Commander	36th Wing, Andersen AFB, Guam	APO	AP
VIP	Program Analyst	Advisory Council on Historic Preservation	Washington	D.C.
VIP	Legal Counsel	Bureau of Environmental and Coastal Quality	Saipan	MP
VIP	Nonpoint Source and Marine Monitoring Program Manager	Bureau of Environmental and Coastal Quality	Saipan	MP
VIP	Governor	CNMI	Saipan	MP
VIP	Lt. Governor	CNMI	Saipan	MP
VIP	Administrator	CNMI Bureau of Environmental and Coastal Quality	Saipan	MP
VIP	Director	CNMI Bureau of Environmental and Coastal Quality; Division of Coastal Resources Management	Saipan	MP
VIP	Director	CNMI Bureau of Environmental and Coastal Quality; Division of Environmental Quality	Saipan	MP
VIP	Congressman Sablan's Office	CNMI Congressional Delegate	Saipan	MP
VIP	Historic Preservation Officer	CNMI Department of Community and Cultural Affairs	Saipan	MP
VIP	HPO Archaeologist	CNMI Department of Community and Cultural Affairs	Saipan	MP
VIP	Secretary	CNMI Department of Public Lands	Saipan	MP
VIP	Secretary	CNMI Department of Public Works	Gualo Rai, Saipan	MP
VIP	Vice Speaker	CNMI House of Representatives	Saipan	MP
VIP	Speaker	CNMI House of Representatives	Saipan	MP
VIP	Floor Leader	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 6	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 1	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 5	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 1	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 1	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 4	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 1	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 2	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 4	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 1	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 3	CNMI House of Representatives	Saipan	MP
VIP	Representative, District 5	CNMI House of Representatives	Saipan	MP
VIP		CNMI Humanities Council	Saipan	MP
VIP	CNMI Military Liaison	CNMI Office of the Governor	Saipan	MP

HQ PACAF | Final SEIS for Tinian Divert Infrastructure Improvements
APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

VIP	Legal Counsel	CNMI Office of the Governor	Saipan	MP
VIP	Press Secretary	CNMI Public Information and Protocol Office	Saipan	MP
VIP	President	CNMI Senate	Saipan	MP
VIP	Vice President	CNMI Senate	Saipan	MP
VIP	Floor Leader	CNMI Senate	Saipan	MP
VIP	Senator	CNMI Senate	Saipan	MP
VIP	Senator	CNMI Senate	Saipan	MP
VIP	Senator	CNMI Senate	Saipan	MP
VIP	Senator	CNMI Senate	Saipan	MP
VIP	Senator	CNMI Senate	Saipan	MP
VIP	Legislative Secretary	CNMI Senate	Saipan	MP
VIP	Tinian Ports Manager	Commonwealth Ports Authority	Tinian	MP
VIP	Executive Director	Commonwealth Ports Authority	Saipan	MP
VIP	Member	Commonwealth Ports Authority	Saipan	MP
VIP	Member	Commonwealth Ports Authority	Saipan	MP
VIP	Member	Commonwealth Ports Authority	Saipan	MP
VIP	Member	Commonwealth Ports Authority	Saipan	MP
VIP	Secretary	Commonwealth Ports Authority	Saipan	MP
VIP	Vice Chairman	Commonwealth Ports Authority	Saipan	MP
VIP	Chairman of the Board	Commonwealth Ports Authority	Saipan	MP
VIP	Director	Commonwealth Utilities Corporation	CK, Saipan	MP
VIP	Secretary	Department Community & Cultural Affairs	Saipan	MP
VIP	Secretary	Department of Lands and Natural Resources	Saipan	MP
VIP	Director	Department of Lands and Natural Resources, Division of Fish and Wildlife	Saipan	MP
VIP	Acting Director	Department of Lands and Natural Resources, Division of Parks and Recreation	Saipan	MP
VIP	Commissioner	Department of Public Safety, Office of the Commissioner	Saipan	MP
VIP	Director	Department of Public Safety, Tinian Fire Division	Saipan	MP
VIP	Administrative office	Department of Public Works	Rota	MP
VIP	Division Manager	Federal Aviation Administration	Los Angeles	CA
VIP	Air Traffic Manager	Federal Aviation Administration	Barrigada	GU
VIP	Environmental Protection Specialist	Federal Aviation Administration	Lawndale	CA
VIP	Environmental Protection Specialist	Federal Aviation Administration	Renton	WA
VIP	Lead Program Manager	Federal Aviation Administration	Honolulu	HI
VIP	Manager	Federal Aviation Administration	Honolulu	HI
VIP		Historic Preservation Review Board	Saipan	MP
VIP		Historic Preservation Review Board		
VIP		Historic Preservation Review Board		
VIP		Historic Preservation Review Board		
VIP		Historic Preservation Review Board		
VIP	Chairman	Historic Preservation Review Board	Saipan	MP
VIP		Historic Preservation Review Board		
VIP	CTR USARMY IMCOM PACIFIC	Historic Preservation Review Board		
VIP	Political-Military Affairs Policy Advisor Defense Coordinating Officer Representative	Joint Region Marianas	FPO AP	Guam

HQ PACAF | Final SEIS for Tinian Divert Infrastructure Improvements
APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

VIP	President	Saipan Chamber of Commerce	Saipan	MP
VIP	Resident Department Head	Tinian Department of Labor	Tinian	MP
VIP	President	Tinian Chamber of Commerce	Tinian	MP
VIP	Resident Department Head	Tinian Department of Finance	Tinian	MP
VIP	Resident Department Head	Tinian Department of Public Works	Tinian	MP
VIP	Tinian Military Liaison	Tinian Mayor's Office	Tinian	MP
VIP	Congresswoman, Guam	US House of Representatives	Hagatna	GU
VIP	Congressman, Northern Mariana Islands	US House of Representatives	Saipan	MP
VIP	Sector Commander	USCG; U.S. Sector Guam	FPO AP	GU
General	Chairman and Chief Executive Officer	Alter City Group	Saipan	MP
General		Alternative Zero Coalition	Saipan	MP
General	Chairman	House Armed Services Committee (HASC)	Washington	DC
General	Ranking Member	House Armed Services Committee (HASC)	Washington	DC
General	Commander, Joint Region Marianas	Joint Region Marianas	FPO AP	GU
General	Managing Director	Marianas Visitors Authority	Saipan	MP
General	ATTN: DPRI Environmental	Marine Corps Forces Pacific	Camp Smith	HI
General	Mayor	Municipality of Saipan	Saipan	MP
General	Mayor	Municipality of Tinian and Aguiguan	Tinian	MP
General	Supervisory Historian	National Park Service	San Francisco	CA
General	Cultural and Natural Resources Program Manager	National Park Service		
General	Pacific West Regional Director	National Park Service	San Francisco	CA
General	Cultural Resources Program Manager	National Park Service	Hagatna	Guam
General	Superintendent	National Park Service	Hagatna	Guam
General	Director, Environmental Readiness	NAVFAC	Pearl Harbor	HI
General		NMI Congressional Office (Kilili)	Tinian	MP
General	Assistant Regional Administrator for Protected Resources	NOAA	Honolulu	HI
General	CNMI Field Office	NOAA	Saipan	MP
General	Assistant Regional Administrator for Habitat	NOAA	Honolulu	HI
General	Coral Reef Ecologist	NOAA	Mangilao	GU
General	Counsel to the Assistant Secretary	U.S. Department of Interior	Washington	DC
General	Regional Environmental Officer	U.S. Department of Interior	San Francisco	CA
General	Regulatory Branch Chief	USACE	Fort Shafter	HI
General	Guam Field Office Project Manager	USACE	FPO	AP
General	Wildlife Services State Director	USDA	Barrigada	GU
General	Research Ecologist	USDA	Hilo	HI
General	Assistant Director for Field Operations, West Area	USDA	Barrigada	GU
General	Director	USDA	Honolulu	HI
General	District Conservationist	USDA	Saipan	MP
General		USDA WS		
General	Pacific Islands Office Manager	USEPA	San Francisco	CA
General	CNMI Program Manager	USEPA	San Francisco	CA
General	Field Supervisor	USFWS	Honolulu	HI

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**DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES**

26 April 2019

**MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, PUBLIC GROUPS,
GOVERNMENT AGENCIES, AND OTHERS**

FROM: HQ PACAF/A5F
25 E Street, Suite B-200
JBPHH, HI 96853-5420

SUBJECT: Tinian Divert Infrastructure Improvements Draft Supplemental Environmental Impact Statement (SEIS)

1. We are pleased to provide you with a compact disc copy of the Draft Supplemental Environmental Impact Statement (SEIS) (Attachment 1) for Tinian Divert Infrastructure Improvements. This document is provided in accordance with the National Environmental Policy Act. Document repositories are requested to have this document remain available throughout the 45-day public comment period, which ends on 1 July 2019. This document is also available online at www.PACAFDivertMarianasEIS.com.
2. Notification of the availability of the Draft SEIS is scheduled to appear in the Federal Register. The Draft SEIS analyzes the potential environmental consequences associated with the U.S. Air Force proposal to construct a fuel pipeline from the Tinian seaport to the Tinian International Airport, to include associated infrastructure at the Tinian seaport. The proposed pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport and the need for fuel tanker trucks to transport fuel from the seaport to the airport, both analyzed in the 2016 Divert EIS. The U.S. Air Force is considering two alternatives for the pipeline route, an East Route and a West Route. The U.S. Air Force has identified the East Route as the Preferred Alternative for the pipeline. The Draft SEIS also analyzes the U.S. Air Force proposal to improve certain existing roads between the Tinian seaport and the Tinian International Airport that would be used to support Divert activities. Additional information about the Proposed Actions and Alternatives is provided in the attached information sheet (Attachment 2) and is also available on the project website at www.PACAFDivertMarianasEIS.com.
3. As listed below, the U.S. Air Force will hold a public hearing on the Draft SEIS on 6 June 2019. The public hearing venue will open at 5 p.m. and begin with an open house style format with poster stations. At approximately 5:30 p.m., the U.S. Air Force will give a brief presentation about the proposal. Formal public testimony will begin at approximately 6 p.m. The hearing venue will close at 8 p.m. The purpose of the hearing is to receive input on the Proposed Actions and Alternatives and the Draft SEIS analysis. A Chamorro and Carolinian interpreter will be available at the hearing and can assist with translating meeting materials and written comments. The attached flyer (Attachment 3) provides details about the public hearing and can be reproduced and distributed.

What	Date	Time	Location
Tinian Divert Infrastructure Improvements Draft SEIS Public Hearing	6 June 2019	5 p.m. to 8 p.m.	Tinian Elementary School Cafeteria

4. Public, agency, and stakeholder comments provided at the hearing and written comments received via postal mail and the project website will be considered in the preparation of the Final SEIS. The U.S. Air Force also welcomes comments under Section 106 of the National Historic Preservation Act (36 CFR 800) regarding the identification of, or effects on, historic properties. To ensure we have sufficient time to consider your input on the Draft SEIS and Section 106 process, please submit comments by 1 July 2019.

5. If you have comments or questions regarding this project, or would like to become a consulting party in the Section 106 process, please submit your inputs, in English, through the project website or to Ms. Julianne Turko at AFCEC/CZN; Attn: Tinian Divert SEIS; 2261 Hughes Ave, Suite 155; JBSA-Lackland, TX 78236-9853.


MICHAEL E. GIMBRONE, Colonel, USAF
Chief, Force Posture Division

3 Attachments:

1. Compact Disc: Draft Supplemental Environmental Impact Statement (SEIS) for the Tinian Divert Infrastructure Improvements
2. Information Sheet: Draft SEIS for the Tinian Divert Infrastructure Improvements
3. Public Hearing Flyer: Draft SEIS for the Tinian Divert Infrastructure Improvements



**DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES**

26 April 2019

**MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, PUBLIC GROUPS,
GOVERNMENT AGENCIES, AND OTHERS**

FROM: HQ PACAF/A5F
25 E Street, Suite B-200
JBPHH, HI 96853-5420

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1. We are pleased to provide you with a compact disc copy of the Draft Supplemental Environmental Impact Statement (SEIS) (Attachment 1) for Tinian Divert Infrastructure Improvements, and a printed copy of the Executive Summary (Attachment 2) of the Draft SEIS. This document is provided in accordance with the National Environmental Policy Act. Document repositories are requested to have this document remain available throughout the 45-day public comment period, which ends on 1 July 2019. This document is also available online at www.PACAFDivertMarianasEIS.com.
2. Notification of the availability of the Draft SEIS is scheduled to appear in the Federal Register. The Draft SEIS analyzes the potential environmental consequences associated with the U.S. Air Force proposal to construct a fuel pipeline from the Tinian seaport to the Tinian International Airport, to include associated infrastructure at the Tinian seaport. The proposed pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport and the need for fuel tanker trucks to transport fuel from the seaport to the airport, both analyzed in the 2016 Divert EIS. The U.S. Air Force is considering two alternatives for the pipeline route, an East Route and a West Route. The U.S. Air Force has identified the East Route as the Preferred Alternative for the pipeline. The Draft SEIS also analyzes the U.S. Air Force proposal to improve certain existing roads between the Tinian seaport and the Tinian International Airport that would be used to support Divert activities. Additional information about the Proposed Actions and Alternatives is provided in the attached information sheet (Attachment 3) and is also available on the project website at www.PACAFDivertMarianasEIS.com.
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5. If you have comments or questions regarding this project, or would like to become a consulting party in the Section 106 process, please submit your inputs, in English, through the project website or to Ms. Julianne Turko at AFCEC/CZN; Attn: Tinian Divert SEIS; 2261 Hughes Ave, Suite 155; JBASA-Lackland, TX 78236-9853.


MICHAEL E. GIMBRONE, Colonel, USAF
Chief, Force Posture Division

4 Attachments:

1. Compact Disc: Draft Supplemental Environmental Impact Statement (SEIS) for the Tinian Divert Infrastructure Improvements
2. Executive Summary: Draft SEIS for the Tinian Divert Infrastructure Improvements
3. Information Sheet: Draft SEIS for the Tinian Divert Infrastructure Improvements
4. Public Hearing Flyer: Draft SEIS for the Tinian Divert Infrastructure Improvements



Tinian Divert Infrastructure Improvements Supplemental Environmental Impact Statement



Commonwealth of the Northern Mariana Islands

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS) PUBLIC REVIEW PERIOD

INTRODUCTION

The National Environmental Policy Act (NEPA) was enacted to address concerns about federal actions and their effects on the environment. An Environmental Impact Statement (EIS) is the most detailed analysis prescribed by regulations implementing NEPA.

A Supplemental Environmental Impact Statement (SEIS) is prepared after an EIS when:

- o substantial changes are made to a proposed action, or
- o there are significant new circumstances, or information relevant to environmental concerns, or
- o the purposes of NEPA will be furthered by completion of the SEIS.

The U.S. Air Force has published a Notice of Availability, pursuant to NEPA, for the Draft SEIS for Tinian Divert Infrastructure Improvements. The Proposed Actions include the construction of a fuel pipeline and associated support facilities, and improvements to certain existing roadways on the island of Tinian in the Commonwealth of the Northern Mariana Islands (CNMI).

U.S. AIR FORCE TINIAN DIVERT BACKGROUND

In September 2016, the U.S. Air Force completed the Final EIS for Divert Activities and Exercises. The 2016 Divert EIS evaluated the proposal to construct facilities and infrastructure at the Saipan and/or Tinian airports to support cargo, tanker, and similar aircraft and associated support personnel for divert operations, periodic exercises, and humanitarian assistance and disaster relief. The Record of Decision (ROD) was signed December 7, 2016, which announced the U.S. Air Force decision to select the Modified Tinian Alternative North Option, as a future Divert location (see Figure 1).

After the ROD, the U.S. Air Force conducted further evaluation of fuel transfer methods and associated infrastructure, and of the existing surface roadway networks, on Tinian. In April 2018, the U.S. Air Force announced their intent to develop an SEIS for a fuel pipeline and associated infrastructure on Tinian, and to improve certain existing Tinian roadways to support Divert activities.

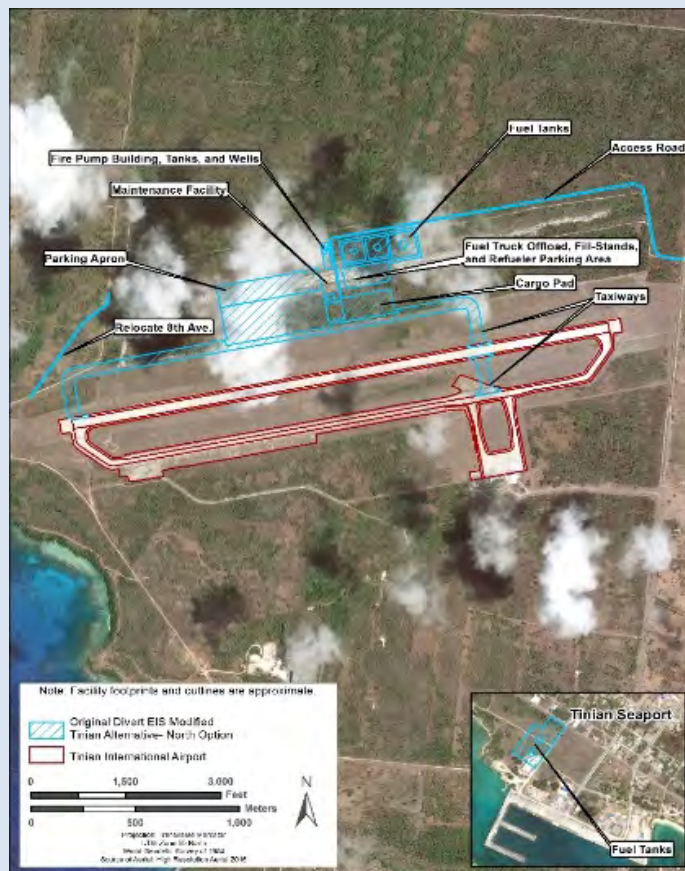


Figure 1: Original EIS Modified Tinian Alternative – North Option

WHAT DOES THE DRAFT SEIS ANALYZE?

The Draft SEIS analyzes the potential environmental consequences from implementing the Proposed Actions and alternatives to the actions. USAF proposes the following two actions:

FIRST PROPOSED ACTION: FUEL PIPELINE AND SUPPORT INFRASTRUCTURE

- o The pipeline would be constructed underground within a 20 foot utility easement. The U.S. Air Force is considering two routes from the seaport to the airport for the pipeline; *the West route* and *the East route*. The U.S. Air Force has identified the East route as the Preferred Alternative for the pipeline route.
- o To support pipeline operations, a booster pump house, boom storage building, and associated infrastructure would be constructed at the Tinian seaport in place of the two seaport fuel storage tanks proposed in the 2016 Divert EIS. Figure 2 provides the location of the proposed seaport support infrastructure.
- o The proposed pipeline would eliminate the need for bulk fuel storage tanks at the Tinian seaport and the need for fuel tanker trucks to transport fuel from the seaport to the airport, both analyzed in the 2016 Divert EIS.

SECOND PROPOSED ACTION: ROADWAY IMPROVEMENTS

- o Roadway improvements are proposed on Divert-related transportation routes that were analyzed in the 2016 Divert EIS, and would include, where necessary, removing and replacing the existing deteriorated asphalt cap of the roadway.

Figure 3 provides an overview of all proposed infrastructure improvements and alternatives. The exact location of either pipeline route and the size of the support infrastructure could shift, within the scope and constraints of the environmental effects analysis presented in the Draft SEIS.



Figure 2: Tinian Divert Proposed Seaport Support Infrastructure



Figure 3: Tinian Divert Infrastructure Improvements Proposed Actions and Alternatives

Figure 4 shows the location at the seaport proposed for the pipeline support infrastructure. Figure 5 shows a portion of TR24, one of the roadways proposed for improvements.



Figure 4: Seaport Support Infrastructure Location



Figure 5: A Portion of TR24, One of the Roadways Proposed for Improvements

ENVIRONMENTAL RESOURCES

The U.S. Air Force understands the potential for the Tinian Divert Infrastructure Improvements to affect environmental resources and the human environment. The Draft SEIS analyzes the potential environmental consequences associated with:

- ✓ Construction and operation of either pipeline route alternative and support facilities,
- ✓ Construction of the road improvements (use of the roadways was analyzed in the 2016 Divert EIS),
- ✓ Implementation of the No Action Alternative for both Proposed Actions.

The environmental resource areas reviewed in the Draft SEIS include:

NATURAL RESOURCES

-  o Biological (terrestrial and marine) resources, including threatened and endangered species
-  o Geology and soils
-  o Water quality (surface water and stormwater)
-  o Groundwater

CULTURAL RESOURCES

-  o Archaeological resources (prehistoric and historic)
-  o Historic architectural resources
-  o Traditional resources

SOCIAL RESOURCES

-  o Land use
-  o Socioeconomics
-  o Health and safety
-  o Environmental Justice and other sensitive receptors

INFRASTRUCTURE

-  o Infrastructure and utilities
-  o Transportation
-  o Hazardous materials and wastes

OTHER ENVIRONMENTAL TOPICS

-  o Noise
-  o Air quality
-  o Cumulative impacts

REVIEWING THE DRAFT SEIS

The Draft SEIS is available for download on the project website at: **www.PACAFDivertMarianasEIS.com** and can also be reviewed at one of the following document repositories:

ISLAND	LOCATION
Saipan	Saipan Mayor's Office
	Joeten-Kiyu Public Library
Tinian	Tinian Mayor's Office
	Tinian Public Library

Please take this opportunity to:

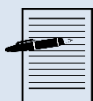
- Learn more about the proposal
- Identify community-specific issues
- Make sure you are included on our mailing list
- Submit your comments on the Draft SEIS

PROVIDE YOUR COMMENTS

Comments, suggestions, and relevant information are welcomed on the U.S. Air Force's Tinian Divert Infrastructure Improvements Draft SEIS. Please submit comments in English using one of the following methods:



Verbal comment at the public hearing.



Written comment at the public hearing. A Chamorro/Carolinian interpreter is available at the public hearing to assist with translation of written comments into English.



Visiting the project website at:
www.PACAFDivertMarianasEIS.com



Contacting Ms. Julianne Turko at the address below:
Ms. Julianne Turko, AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236-9853

The U.S. Air Force also welcomes comments under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800) regarding the identification of or effects on historic properties, and requests to become a consulting party.

TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS SEIS TIMELINE



 Opportunities for Public Review

www.PACAFDivertMarianasEIS.com

To ensure the U.S. Air Force has sufficient time to consider public input, please submit all comments by July 1, 2019!

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APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
A1	Federal Agency	Janet	Whitlock	DOI OEPC	Cultural Resources	The DOI strongly urges the USAF to coordinate with the other branches of the United States military involved in these undertakings to develop a single comprehensive Interpretive Plan for the island of Tinian.	Section 4.3 and Appendix C of the Supplemental Environmental Impact Statement (SEIS) were revised to provide information regarding the Amendment to the Programmatic Agreement for the expanded Divert Undertaking. As described in the Amendment, the USAF Interpretive Plan and resulting interpretive product are to be developed to mitigate effects from the Divert and expanded Divert Undertakings. The Amendment contains specific requirements regarding the scope and timing of the Interpretive Plan. As described in Section 1.5.1 of the SEIS, Joint Region Marianas (JRM), as commanded by the U.S. Navy, is a cooperating agency on the SEIS and was also a cooperating agency on the 2016 Divert Environmental Impact Statement (EIS) (Final EIS, Section 1.7.1). As a cooperating agency, Pacific Air Forces (PACAF) coordinated with JRM throughout the SEIS development process. Section 1.5.1 of the SEIS has been revised to clarify JRM's role as a cooperating agency stems from their responsibility as the executive agent for Department of Defense (DOD) in the proposed project location. Additionally, as indicated in Appendix C of the SEIS and executed Amendment to the Programmatic Agreement, JRM was a consulting party in the Section 106 process for the Divert Undertaking and expanded Undertaking. As a consulting party, JRM will have opportunities to review and provide input on the draft Interpretive Plan.
A2	Federal Agency	Janet	Whitlock	DOI OEPC	Cultural Resources	Similarly, the USAF and other branches of the United States military must consider coordination of the curation, interpretation, display, and storage of cultural artifacts collected as a result of these undertakings. The DOI understands the challenges in coordinating across the military service branches on projects that are separately funded; nevertheless, we believe this is the most efficient approach that will lead to the best preservation and interpretation outcomes for the historic properties affected by these undertakings.	Requirements for curation and inadvertent discovery were outlined in the <i>Programmatic Agreement among the Pacific Air Forces, Directorate of the Strategy, Plans, and Programs, the Commonwealth of the Northern Mariana Islands State Historic Preservation Office, and the Advisory Council on Historic Preservation Regarding the Proposed Construction and Operation of Divert Activities and Exercises within the Commonwealth of the Northern Mariana Islands</i> as presented in the 2016 Divert EIS Appendix D. As described in Section 1.5.1 of the SEIS, JRM, as commanded by the U.S. Navy, is a cooperating agency on the SEIS and was also a cooperating agency on the 2016 Divert EIS (Final EIS, Section 1.7.1). As a cooperating agency, PACAF coordinated with JRM throughout the SEIS development process. Section 1.5.1 of the SEIS was revised to clarify JRM's role as a cooperating agency stems from their responsibility as the executive agent for DOD in the proposed project location.
A3	Federal Agency	Janet	Whitlock	DOI OEPC	Cultural Resources	The PA amendment for the Divert SEIS should elaborate on how the USAF plans to meet the requirements of that stipulation, either alone or in concert with other United States military branches, without removing them from the CNMI. If they are to be removed, the USAF should provide information on where they will be sent, and how/when the United States military would return them to the CNMI while meeting federal requirements.	Section 4.4 of the SEIS was revised to describe the completed consultation with the Commonwealth of the Northern Mariana Islands (CNMI) Historic Preservation Office under Section 106 of the National Historic Preservation Act. Consultation resulted in signature of a Programmatic Agreement Amendment, incorporated into Appendix B of the SEIS, that outlines the rights and responsibilities of the U.S. Air Force and the consulting parties with respect to this undertaking. The Programmatic Agreement includes stipulations regarding inadvertent discovery.
B1	Federal Agency	Connell	Dunning	EPA	Water; drinking	[We recommend the Air Force...] commit to additional mitigation to account for the increased water use associated with the additional project components and up to 100 additional construction workers. Specifically, we suggest consideration of Department of Defense support for drinking water system upgrades and repairs, which will lessen the cumulative impacts of the project on the drinking water supply.	Section 4.9 of the SEIS was revised to clarify water usage from the municipal system versus water usage from the U.S. Air Force (USAF) wells. As described in Section 4.9 of the SEIS, impacts from USAF water usage are not anticipated to have significant impacts on the civilian infrastructure and additional mitigations are not required.
B2	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	We recommend clarifying the applicable pipeline regulations and standards, and installing advanced leak detection for the protection of groundwater and ocean resources.	Section 2.2 and Appendix F of the SEIS were revised to clarify pipeline regulations and standards that USAF would comply with. Section 2.2 and Appendix F were also revised to describe that USAF would develop a memorandum of understanding with U.S. Coast Guard and Environmental Protection Agency to define the "point of demarcation" to facilitate compliance with applicable sections of 40 Code of Federal Regulations (CFR) § 112 Oil Pollution Prevention; 33 CFR § 154 Facilities Transferring Oil or Hazardous Materials in Bulk; and 33 CFR § 156 Oil and Hazardous Material Transfer Operations. Section 2.2 and Appendix F, Section F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, and compliance with American Petroleum Institute (API) 1130 Computational Pipeline Monitoring. Appendix F, Section F4.5 also indicates USAF would follow API Recommended Practice (RP) 1175 for leak detection and implement "Leak Detection Program Management." Potential impacts on groundwater and ocean resources are presented in Sections 4.8 and 4.2 of the SEIS, respectively.
B3	Federal Agency	Connell	Dunning	EPA	Preferred Alternative	We recommend discussion of the rationale for selecting the East Pipeline Route as the Air Force's preferred alternative, noting that the West Pipeline Route achieves the purpose and need with fewer environmental impacts.	Section 2.5 of the SEIS was revised to clarify that the East route was selected as the Preferred Alternative because the West Route is partially encumbered by a long term land lease by a private entity.

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APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
B4	Federal Agency	Connell	Dunning	EPA	Water; drinking	According to the Draft Supplemental Environmental Impact Statement (DSEIS), there would be additional construction-phase water use associated with the new pipeline, road improvements, and the addition of up to 100 construction workers. Total water use is estimated at 42 percent of the assumed Tinian water availability from the existing CUC system for construction, and 62 percent when used for a one-day static testing. These additional impacts warrant consideration of additional mitigation measures. Recommendations: Provide an update on the progress of implementing the above-identified mitigation commitments from the 2016 Divert ROD. Indicate whether a mechanism for formalizing the coordination with CPA, CUC, and BECQ has been developed.	Section 4.9.2 and 4.9.3 of the SEIS were revised in response to the comment to provide additional information regarding the proposed well permitting and design.
B5	Federal Agency	Connell	Dunning	EPA	Water; drinking	Consider repairs to the new municipal water tank damaged in Typhoon Yutu as an additional mitigation measure.	Section 3.9 of the SEIS was revised to clarify that there was no damage to the integrity of the water tank and that repair of the tank roof is being managed by CNMI.
B6	Federal Agency	Connell	Dunning	EPA	Water; drinking	We are aware that the DoD's Office of Economic Adjustment is considering support for civilian drinking water infrastructure on Tinian to mitigate the combined water utility impacts from Divert and the CNMI Joint Military Training (CJMT) project. We understand that convening of the Economic Adjustment Committee has been postponed since the CJMT NEPA process is temporarily paused. Since the Divert project is moving ahead and will also impact the CUC system, DoD's Office of Economic Adjustment could provide support for civilian drinking water on Tinian during Divert project planning. Recommendations: EPA recommends that DoD provide support for the civilian drinking water infrastructure on Tinian during Divert project planning. This would prevent water loss in the system and lessen cumulative impacts assessed under both Divert and CJMT. Discuss this option in the Final Supplemental Environmental Impact Statement (FSEIS) and include possible timelines for implementation if feasible.	Section 4.9 of the SEIS was revised to clarify water usage from the municipal system versus water usage from the USAF wells. As described in Section 4.9 of the SEIS, USAF water usage is not anticipated to have significant impacts on the civilian infrastructure and additional mitigations are not required.
B7	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	The DSEIS states that the U.S. Department of Transportation's Pipelines and Hazardous Materials Safety Administration (PHMSA) issues pipeline safety regulations that address construction, operation, and maintenance, and that they inspect pipeline operators and enforce pipeline safety laws and regulations, (p. 3-29) without qualifying that they do not do this in the Pacific Islands.	Section 3.6.1 of the SEIS was revised to remove all reference to the Pipeline and Hazardous Materials Safety Administration (PHMSA) since it does not conduct inspection and enforcement of pipeline safety laws and regulations in CNMI.
B8	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	The DSEIS states that the proposed fuel pipeline would be designed and constructed "in accordance with all appropriate federal, CNMI, Department of Defense (DOD), and USAF regulations" (p. 2-3), again citing to PHMSA regulations which do not apply, and elsewhere stating that all proposed fuels infrastructure would be constructed according to the most stringent applicable federal and CNMI requirements (p. 4-46) without identifying these requirements. The DSEIS also does not include any reference to the U.S. Coast Guard (USCG) requirements for marine terminals. The USCG will have jurisdiction over the marine terminal at the seaport for fuel transfers from barges or ships bringing fuel to Tinian and transferring it into the new pipeline. Recommendations: Clearly describe what DOT requirements are applicable in the project area. We recommend clearly stating which standards and regulations the project will adopt. Address USCG requirements for the seaport operations and how the project will meet those requirements.	Section 2.2 and Appendix F of the SEIS were revised to clarify which standards and regulations USAF and their contractors would comply with. Specifically, revisions were made to describe that USAF would develop a memorandum of understanding with U.S. Coast Guard and Environmental Protection Agency to define the "point of demarcation" to facilitate compliance with applicable sections of 40 CFR § 112 Oil Pollution Prevention; 33 CFR § 154 Facilities Transferring Oil or Hazardous Materials in Bulk; 33 CFR § 156 Oil and Hazardous Material Transfer Operations.
B9	Federal Agency	Connell	Dunning	EPA	Water; General	Include a discussion of how a potential spill could impact nearshore waters affecting fisheries, subsistence fishing, and recreation.	The analysis as presented in Section 4.2.2 of the SEIS is based on regulatory consultation with National Marine Fisheries Service (NMFS) for Essential Fish Habitat and endangered marine species, the Marine Biological Assessment (SEIS Appendix D), and Essential Fish Habitat assessment (SEIS Appendix D), and NMFS agreed with both the impact assessment approach, effects determinations, and conclusions. Therefore, no change was made to the SEIS.
B10	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	Address rapid detection of issues, such as a worst-case discharge that could occur from a complete tank failure, the loss of pressure in a pipeline that could result in a discharge of fuel, the size of leak that can be detected by the proposed system, the time that would be required for detection and shutoff of the pipeline, and the size of a spill that could occur during that time.	As stated in Section 2.2 of the SEIS, per Unified Facilities Criteria (UFC) 3-460-01, Section 2-13.1, it is the firm policy of the DOD to design and construct fueling facilities in a manner that will prevent damage to the environment by accidental discharge of fuels, their vapors, or residues. Section 2.6 of the SEIS describes how measures that are routine or standard compliance actions dictated by federal, DOD, USAF, or CNMI regulations are built into the design, construction, and operation of the proposed infrastructure for USAF fuel facilities (and roadways) and are provided in Appendix F. Appendix F provides USAF's commitment to all Clean Water Act regulations and all detail available at this time for these design, construction and operation requirements, such as cathodic protection, leak detection, pressure testing, maintenance and monitoring, and spill prevention control and countermeasure. <i>Response continued in following row...</i>

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APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
B10 <i>continued</i>	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	see comment in B10 (response is continued from previous row)	<i>continued from previous row...</i> Section 2.2 and Appendix F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, including: the pipeline leak detection system would be listed by the National Work Group On Leak Detection Evaluations, would be U.S. Environmental Protection Agency third-party-certified, would comply with API Recommended Practice 1130 Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. Appendix F4.5 includes details regarding use of block and bleed valves that can be closed in event of an emergency upstream or downstream. More specific design and operational information for the pipeline, such as total potential volume of a fuel spill, cannot be calculated until design is complete for the pipeline after the Record of Decision (ROD) is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and that these design standards and requirements provide an adequate baseline for determining impacts under NEPA.
B11	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	EPA continues to recommend robust pipeline integrity requirements consistent with PHMSA requirements for High Consequence Areas. Please indicate in the FSEIS whether these requirements will be voluntarily adopted.	Section 2.2 and Appendix F of the SEIS were revised to clarify that USAF would follow UFC 3-460-01 and UFC 3-460-03 for fuel pipeline design, construction, operation, and maintenance, among other federal, DOD, and CNMI regulations.
B12	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	We recommend a commitment to strive for pipeline shutdown within 10 minutes of discovering any safety-related alarm for which a leak cannot be definitively ruled-out as a cause.	Section 2.2 and Appendix F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, including: the pipeline leak detection system would be listed by the National Work Group On Leak Detection Evaluations, would be U.S. Environmental Protection Agency third-party-certified, would comply with API Recommended Practice 1130 Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. Appendix F4.5 includes details regarding use of block and bleed valves that can be closed in event of an emergency upstream or downstream. More specific design and operational information for the pipeline, such as total time required for pipeline shutdown, cannot be calculated until design is complete for the pipeline after the ROD is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and that these design standards and requirements provide an adequate baseline for determining impacts under NEPA.
B13	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	We recommend advanced leak detection technologies, such as electronic and/or multiple leak detection systems; integrated, autonomous sensor/detector systems for near real-time automated detection, identification, and notification of threats and leaks; and installing Emergency Flow Restricting Devices.	As stated in Section 2.2 of the SEIS, per UFC 3-460-01, Section 2-13.1, it is the firm policy of the DOD to design and construct fueling facilities in a manner that will prevent damage to the environment by accidental discharge of fuels, their vapors, or residues. Section 2.2 and Appendix F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, including: the pipeline leak detection system would be listed by the National Work Group On Leak Detection Evaluations, would be U.S. Environmental Protection Agency third-party-certified, would comply with API Recommended Practice 1130 Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. Appendix F4.5 includes details regarding use of block and bleed valves that can be closed in event of an emergency upstream or downstream. More specific design and operational information for the pipeline, such as specific components of the leak detection system, will not be available until design is complete for the pipeline after the ROD is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation; and that these design standards and requirements provide an adequate baseline for determining impacts under NEPA.
B14	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	In the FSEIS, briefly describe strategies for emergency preparedness and response and measures to communicate risks and emergencies to the public. Identify procedures for rapid notification; pre-positioned response assets including equipment that can address a release of fuel; and spill drills and exercises that include strategies and equipment deployment to address potential fuel contamination in the environment caused by a release.	As stated in Appendix F, Section F4.3 and F4.4 of the SEIS, USAF will develop Spill Prevention Control and Countermeasures (SPCC) Plan and Facility Response Plan as required by Federal law. The SPCC Plan would address provisions for Spill Prevention, Emergency Action including coordination plans with local emergency services, and a Spill Control section. The Facility Response Plan would address an accidental "catastrophic" spill. The Facility Response Plan would include the resources of all industrial activities and the U.S. Coast Guard to direct how to handle an incident of the scale beyond any single individual facility's capability to respond. This plans will be developed in coordination with CNMI agencies prior to implementation of the Proposed Action. More specific design and operational information for the pipeline and fuels infrastructure cannot be finalized until design is complete for the pipeline after the ROD is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and that these design standards and requirements provide an adequate baseline for determining impacts under NEPA.

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Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
B15	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	Address how potential adverse impacts from spills may be mitigated by effective containment and cleanup operations, and how such operations would be affected by meteorological conditions (typhoons, etc.) that are predicted to occur throughout the life of the project in this area.	The Proposed Action construction and operations are being designed with the CNMI environmental conditions in mind. A summary of design standards to be followed is located in Appendix F of the SEIS and are summarized in Section 2.2. Section 2.2. of the SEIS was revised to clarify that the fuel pipeline and all facilities would also be constructed in accordance with seismic and tropical requirements, including those for seismic and wind loads outlined in American Society of Civil Engineers Standard 7-10 Minimum Design Loads for Buildings and Other Structures; UFC 3-310-04 Seismic Design for Buildings; UFC 3-301-01 Structural Engineering; and UFC 3-440-05N Tropical Engineering. Additionally, Section 2.2 and Appendix F of the SEIS were revised to clarify USAF would develop a memorandum of understanding with U.S. Coast Guard and Environmental Protection Agency to define the "point of demarcation" to facilitate compliance with applicable sections of 40 CFR § 112 Oil Pollution Prevention; 33 CFR § 154 Facilities Transferring Oil or Hazardous Materials in Bulk; 33 CFR § 156 Oil and Hazardous Material Transfer Operations. Appendix F, Section F4.4 of the SEIS also states USAF will develop a Facility Response Plan, per the Oil Pollution Act of 1990, which amended the Clean Water Act, which would address an accidental "catastrophic" spill. The Facility Response Plan would include the resources of all industrial activities and the U.S. Coast Guard to direct how to handle an incident of the scale beyond any single individual facility's capability to respond. This plan will be developed in coordination with CNMI agencies prior to implementation of the Proposed Action.
B16	Federal Agency	Connell	Dunning	EPA	Pipeline Design/ Integrity	Describe commissioning and long-term operations and maintenance procedures in the FSEIS. Identify how these procedures compare with PHMSA requirements for High Consequence Areas. Address any operational or safety concerns associated with intermittent operations. Commit to more frequent inspections for the protection of water resources.	Appendix F, Section F4.5 of the SEIS provides information regarding USAF's commitment to follow Technical Order 37-1-1, General Operations and Inspection of Installed Fuel Storage and Dispensing Systems and UFC 3-460-03, Operation and Maintenance: Maintenance of Petroleum Facilities, which establishes the required frequency intervals for recurring maintenance, and also outlines standards for fuels infrastructure operation, maintenance, inspection, and monitoring. Section 2.2 and Appendix F of the SEIS were revised to clarify that USAF would follow UFC 3-460-03 for pipeline operation and maintenance, and to also clarify that USAF would install a permanent leak detection system that would allow tightness tests to be performed during static periods between fuel receipt. Impacts on water resources are addressed in Section 4.8 of the SEIS.
B17	Federal Agency	Connell	Dunning	EPA	Preferred Alternative	The DSEIS identifies the East Pipeline Route as the Air Force's Preferred Alternative (p. 2-19), but does not include rationale for choosing this route. The East pipeline route is 0.86 miles longer than the West route, would disturb an additional 8 acres of land, would use an additional 4,000 gallons of water per day during construction for dust suppression, and would almost completely occur within an area with a shallow water table, which could increase the risk of impacts to the groundwater lens if a spill or leak were to occur (p. 4-48). The East pipeline route would also generate an additional 344,256 square feet of debris during construction; an estimate of 172 additional tons over a period of 3 years (p. 4-56). Recommendation: Since the West Pipeline Route would meet the agency's purpose and need with fewer resource impacts, we recommend that the FSEIS identify why the East Route is preferred. If feasible when considering all resource impacts, consider selection of the West Pipeline Route alternative.	Section 2.5 of the SEIS was revised to clarify that the East route was selected as the Preferred Alternative because the West Route is partially encumbered by a long term land lease by a private entity.
B18	Federal Agency	Connell	Dunning	EPA	Solid Waste	Update the FSEIS to clarify statements that waste cannot be disposed of at the Tinian dump and should be collected and transported to a permitted landfill.	Sections 4.9.2 and 4.9.3 of the SEIS were revised to clarify the fate of solid waste generated from the Proposed Actions, per the comment.
B19	Federal Agency	Connell	Dunning	EPA	Hazardous Materials and Waste	The DSEIS states that various hazardous and nonhazardous materials including transformers were collected after Typhoon Yutu and were accumulated at a storage area at the seaport; however, "it is unknown whether these materials will be transferred to a disposal facility or will be permanently stored at this location" (p. 3-54). We note that all of this waste has been transported off-island for proper disposal. Please update this information in the FSEIS.	Section 3.11.2 of the SEIS was revised with the information provided in the comment regarding transformer removal.
B20	Federal Agency	Connell	Dunning	EPA	Water; General	The DSEIS states that "in October 2018, Typhoon Yutu damaged the supply well and distribution system. A new municipal water well was installed near the former well during the typhoon relief efforts; however, the exact location of the new well is unknown" (p. 3-42). EPA inspected the municipal well and tanks; the municipal well was not destroyed. However, the main water tank was damaged, and the roof of the tank has not been replaced as of this writing. Please update this information in the FSEIS.	Section 3.9.2 of the SEIS was revised with information provided in the comment regarding the condition of the Tinian water distribution system.

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Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
C1	CNMI Political	Gil	Birnbrich	Office of the Governor	Purpose and Need	It is unclear how the determination that an underground fuel line will be less costly and less environmentally impactful was made, and if costs of maintenance for the life of the project, emergency preparedness training, and emergency response to potential system failures have been assessed in this analysis	The following additional details from Strata 2017 were added to Section 1.3.2 of the SEIS to substantiate the relative security of pipeline fuel transport verses truck: "According to a recent study, in terms of barrels spilled per year, transporting oil and gas by truck is the least secure method of transportation. The study showed that trucks spilled more oil and gas than both rail and pipeline, averaging around 326 barrels per million tons moved every mile (Strata 2017). When it comes to human health and safety, the same study stated that pipeline is actually the safest method of transporting oil and gas. Oil and gas transportation by pipeline resulted in 1.7 fatalities to operators, personnel, and the general public per year in the United States. Rail transportation resulted in 2.4 fatalities and transportation by truck killed 10.2 people per year (Strata 2017)."
C2	CNMI Political	Gil	Birnbrich	Office of the Governor	Purpose and Need	Clarification of how installing a nearly five-mile underground pipeline became the preferred alternative, and rigorous, data-backed discussion regarding why above ground lines or truck transport are not considered practical alternatives would seem appropriate to include in the updated EIS report.	As described in Section 2.2.1 of the SEIS, an aboveground pipeline would be more susceptible to breaches, vandalism, and sabotage from increased exposure to external factors, such as weather and vehicle and foot traffic. Therefore, only alternatives for placement of an underground pipeline were developed. The following additional details from Strata 2017 were added to Section 1.3.2 of the SEIS to substantiate the relative security of pipeline fuel transport verses truck: "According to a recent study, in terms of barrels spilled per year, transporting oil and gas by truck is the least secure method of transportation. The study showed that trucks spilled more oil and gas than both rail and pipeline, averaging around 326 barrels per million tons moved every mile (Strata 2017). When it comes to human health and safety, the same study stated that pipeline is actually the safest method of transporting oil and gas. Oil and gas transportation by pipeline resulted in 1.7 fatalities to operators, personnel, and the general public per year in the United States. Rail transportation resulted in 2.4 fatalities and transportation by truck killed 10.2 people per year (Strata 2017)."
C3	CNMI Political	Gil	Birnbrich	Office of the Governor	Pipeline Design/Integrity	Appendix F in fact appears to list many potentially applicable federal and CNMI standards that relate to "compliance actions and industry standards" but does not include discussion of what actual monitoring measures are being proposed.[...]None of these statements appear to address the uniquely sensitive groundwater sources on Tinian, which should be afforded the best practicable protection solutions due to their status as a sole source aquifer. The Final SEIS should include a sufficiently detailed description of proposed mitigation measures in order to support review and comment.	Section 2.6 of the SEIS describes that measures that are routine or standard compliance actions dictated by federal, DOD, USAF, or CNMI regulations are built into the design, construction, and operation of the proposed infrastructure for USAF fuel facilities (and roadways) as part of the Proposed Action, and are provided in Appendix F. Appendix F of the SEIS presents these industry standard practices to prevent spills, or to respond to spills in the unlikely event that they occur. By implementing the requirements presented in Section F, the potential for spills due to pipeline failures or other contingencies will be greatly reduced. Section 2.2 and Appendix F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, including: the pipeline leak detection system would be listed by the National Work Group On Leak Detection Evaluations, would be U.S. Environmental Protection Agency third-party-certified, would comply with API Recommended Practice 1130 Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. USAF took into consideration Tinian's aquifer when proposing the permanently installed leak detection system versus a portable system. More specific design and operational information for the pipeline will not be available until design is complete for the pipeline after the ROD is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and that these design standards and requirements provide an adequate level of detail for analysis under NEPA. Anticipated impacts on groundwater are presented in Section 3.8.
C4	CNMI Political	Gil	Birnbrich	Office of the Governor	Pipeline Design/Integrity	How would below-ground construction prevent breaches to the proposed fuel line? How will detection of leaks or maintenance needs be assured for the life of this project?	Section ES4.1 of the Executive Summary and Section 2.2.1 of the SEIS were revised to provide the clarification requested in the comment regarding how underground installation of the pipeline would help prevent breaches. Appendix F, Section F4.5 was revised to provide additional information regarding leak detection and maintenance of the pipeline.
C5	CNMI Political	Gil	Birnbrich	Office of the Governor	Proposed Action and Alternatives	How often will the proposed 9.24 million gallons of jet fuel be transferred from the transport ship through the pipeline to the two bulk storage tanks at the Tinian Airport?	As described in Section 2.2 of the SEIS, once the pipeline is installed, jet fuel would be delivered to and offloaded at the Tinian seaport per the existing fuel supply chain and fuel receipt protocols, as described in the 2016 Divert EIS (Final EIS, Section 2.5.2) and consistent with the No Action Alternative. Fuel deliveries and operation of the pipeline would be managed by USAF until Defense Logistics Agency capitalization of the pipeline. Section 2.2 of the SEIS was revised to provide additional information regarding existing fuel delivery protocols that would be utilized to fill the fuel tanks.
C6	CNMI Political	Gil	Birnbrich	Office of the Governor	Socioeconomics	Where will the 75 construction workers proposed to support the 2 to 3-year pipeline construction project be housed? Have additional impacts of either filling available hotel capacity or establishing temporary worker housing, including additional solid waste and wastewater management needs been considered in terms of direct, indirect, and cumulative impacts of this proposal? Where will the solid waste and wastewater from these workers be disposed of? Are there opportunities to extend benefits of waste management services to the people of Tinian to further offset the impacts of this and seemingly related build-up activities including ramped-up training occurring throughout the Marianas including on Tinian, Rota, Saipan, and FDM?	Section 4.4.2 and 4.4.3 of the SEIS were revised to provide additional information regarding construction and maintenance worker housing for the pipeline and roadway improvements, respectively. Sections 4.9.2 and 4.9.3 of the SEIS were revised to clarify the fate of solid waste and wastewater generated from the Proposed Actions.

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C7	CNMI Political	Gil	Birnbrich	Office of the Governor	Roadway Improvements	What alternate materials for road surfacing and maintenance have been considered to support the purpose of ensuring road infrastructure is sufficient to meet USAF's purpose while avoiding additional impacts to Tinian's limited supply of aggregate materials? Could recycled materials such as crushed glass and used tires be considered to replace aggregate and serve as a potential demonstration project to support CNMI's efforts to investigate possible alternatives to traditional road construction to reduce resource demand of this and future proposals.	The SEIS only considers traditional road construction methods in accordance with UFC requirements. Section 2.3 of the SEIS was revised to include reference to UFC requirements for road design and pavements.
C8	CNMI Political	Gil	Birnbrich	Office of the Governor	Solid Waste	How will increased solid waste, hazardous waste, and waste water associated with this development and the continued increase of military training activities and presence on Tinian be managed? What alternatives have been considered? Please provide all supporting feasibility assessments to further support the identification of a mutually beneficial solution to this resource Management challenge.	Sections 4.9 and 4.11 of the SEIS provide potential impacts on infrastructure including solid waste and wastewater, and hazardous materials and waste, respectively. Section 4.9.2 and 4.9.3 of the SEIS were revised to provide additional information on wastewater management and disposal for the Proposed Actions.
C9	CNMI Political	Gil	Birnbrich	Office of the Governor	Public Meetings	USAF noted that a scripted presentation would be given at the June 6 public meeting, and it was requested that this presentation and script be shared to further support community understanding and engagement in this process; however, as of the submission of this letter, that presentation has yet to be shared, providing yet another example of a need for increased information sharing and transparency throughout this process.	Appendix G of the SEIS was developed to include the presentation given at the June 6, 2019 public hearing on Tinian and all public testimony at the hearing.
C10	CNMI Political	Gil	Birnbrich	Office of the Governor	Public Meetings	It was further urged that future meetings be held on Saipan as well as Tinian, and that a less formal conversational process be established and used instead of the highly structured "threeminute recorded comment" approach to further encourage effective community participation.	As described in Section 1.5 of the SEIS, USAF follows the process set forth in 40 CFR Part 1500-1508 and 32 CFR Part 989 for all agency, stakeholder, and public involvement in the SEIS development process. Appendix G of the SEIS was developed to include materials which advertised the hearing and indicated the first 30 minutes of the hearing were an "open house" style meeting. Appendix G also includes the hearing script, which indicates that a public hearing for EIS-level projects is required by the USAF National Environmental Policy Act (NEPA) implementing regulations, and the format for the hearing is dictated by those regulations. As described in Section 1.5 of the SEIS, a less formal conversational style meeting was also held on Tinian at the beginning of the SEIS process. That meeting, termed "scoping," was held May 17, 2018 at the Tinian Elementary School.
D1	CNMI Political	Jude	Hofschneider	CNMI Senator	Water; Waste	What about the sewage generated during the construction phase, and how are they going to be treated?	Section 4.9.2 and 4.9.3 of the SEIS were revised in response to the comment to provide additional information on proposed wastewater treatment for the Proposed Actions.
D2	CNMI Political	Jude	Hofschneider	CNMI Senator	Cultural Resources	in any event, as far as the excavation, assume that you come across ancient remains; I suggest, if instead of having it sent elsewhere, to consider constructing or erecting a mausoleum somewhere in Tinian as a preferred site with an agreement with the municipality so that we can keep the remains here on our island.	Section 4.4 of the SEIS was revised to describe the completed consultation with the CNMI Historic Preservation Office under Section 106 of the National Historic Preservation Act. Consultation resulted in signature of a Programmatic Agreement Amendment, incorporated into Appendix B of the SEIS, that outlines the rights and responsibilities of the USAF and the consulting parties with respect to this undertaking. The Programmatic Agreement includes stipulations regarding inadvertent discovery.
D3	CNMI Political	Jude	Hofschneider	CNMI Senator	Solid waste	do want to raise this issue of the solid waste to be generated during the construction time. During and post, how are they going to be addressed? I am sure you guys are aware of the situation in that particular infrastructure. CNMI and Tinian had developed an environmental impact assessment report that said Tinian spent almost a million dollars for a joint -- on the solid waste/sewage treatment facility here in Tinian. And we will be sharing those information to you so that could help you guys determine the best possible use.	USAF contacted the commentor for the referenced report and received the 2019 CNMI Comprehensive Land Use Plan Update (Land Use Plan Update) in return. Section 3.10 of the SEIS was reviewed and updated based on information in the provided Land Use Plan Update. Section 4.9 provides an analysis of impacts on solid waste and wastewater from both Proposed Actions included in the SEIS, and no change was made to these sections, as specific information pertaining to this infrastructure was not included in the Land Use Plan Update.
F1	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	ES 2.2 Purpose and Need for Supplemental EIS; ES 2 Lines 37-39 - "The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in the 2016 Divert EIS" • There is no further explanation as to why the pipeline would be considered safer. • Please provide further information on how the pipeline is more efficient.	The following additional details from Strata 2017 were added to Section 1.3.2 of the SEIS to substantiate the relative security of pipeline fuel transport verses truck: "According to a recent study, in terms of barrels spilled per year, transporting oil and gas by truck is the least secure method of transportation. The study showed that trucks spilled more oil and gas than both rail and pipeline, averaging around 326 barrels per million tons moved every mile (Strata 2017). When it comes to human health and safety, the same study stated that pipeline is actually the safest method of transporting oil and gas. Oil and gas transportation by pipeline resulted in 1.7 fatalities to operators, personnel, and the general public per year in the United States. Rail transportation resulted in 2.4 fatalities and transportation by truck killed 10.2 people per year (Strata 2017)."

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F2	CNMI Agency	Eli	Cabrera	BECQ	Water; storm	F2.1 Stormwater Management • Given climate change and the increase in frequency, intensity of storms and the amount of precipitation experienced in the last five (5) years (Typhoon Soudelor (August 2015) and Super Typhoon Yutu (October 2018)) designing for a 25-year, 24-hour storm event is insufficient to keep up with the pace of climate associated conditions. • Although Volume I of the CNMI and Guam Storm Water Management Manual provides designers with stormwater performance standards for the islands, and describes how to size and design BMPs to comply with those standards, this document was written in 2006, over a decade ago. Given that conditions have changed substantially since that time, USAF should forethink design plans for future events that could meet a 50 or even 100-year storm and preferably lasting a longer period of time than just 24Hrs.	Appendix F, Section F2.1 of the SEIS also provides an estimate from U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) for a 25-year 24-hour rainfall event. This section of the SEIS was revised in consideration of the comment to state "The USAF would review published rainfall intensity duration frequencies for CNMI and reconsider the appropriate 25-year storm estimate for permanent infrastructure design, before final engineering decisions are made in the [Stormwater Pollution Prevention Plan] SWPPP."
F3	CNMI Agency	Eli	Cabrera	BECQ	Water; storm	F-8 "Site-Specific Measures. • The seaport resides on coastal waters, a floodplain, and should require preventative management measures to protect the pipeline and infrastructure from flooding, storm surge, and other storm related events. • Relying on management measures to accommodate only a 10-year storm seems shortsighted given that climate change is already increasing frequency and intensity of storms in the region. We have experienced two (2) direct hit super typhoons within a three (3) year span. Obviously, the stated 10% chance in any given year is insufficient to withstand similar climactic conditions.	Appendix F, Section F3.1 of the SEIS provides an estimate from USDA NRCS for a 10-year 1-hour rainfall event. This section of the SEIS was revised in consideration of the comment to state "The USAF would review published rainfall intensity duration frequencies for CNMI and reconsider the appropriate 10-year storm estimate for stormwater management measures during construction, before finalization of the SWPPP."
F4	CNMI Agency	Eli	Cabrera	BECQ	Water; General	F3.5 - Water Quality Management • The 2018 CNMI Water Quality Standards calls for the use of the Fecal Indicator Bacteria (FIB) Enterococci and/or Escherichia Coli. • Fecal Coliform were found to be less closely associated with incidences of water born illnesses than Enterococci in EPA epidemiological studies. Therefore, the 2014 US EPA Recreational Water Quality Criteria were adopted by the CNMI in their Water Quality Standards and should be used as the preferred FIB by USAF.	Appendix F, Section F3.5 of the SEIS was revised with information provided in the comment regarding Fecal Indicator Bacteria.
F5	CNMI Agency	Eli	Cabrera	BECQ	Water; General	Table F-3. 2014 CNMI Water Quality Standards • The CNMI Water Quality Standards were revised and promulgated in 2018. Please reflect this latest version in text.	Appendix F, Section F3 of the SEIS was revised as requested in the comment to reflect the 2018 CNMI Water Quality Standards.
F6	CNMI Agency	Eli	Cabrera	BECQ	Pipeline Design/ Integrity	ES 4 Lines 29-31 - • There is no mention of seismic activity or how this would be addressed in the pipeline construction design plans. The Mariana Islands are a seismically active region and seismic activity should be considered in the SEIS.	Sections ES4.1 and 2.2 of the SEIS were revised to provide information regarding USAF's plans for pipeline construction to accommodate potential ground movements, and to conduct geotechnical investigations to identify the presence of any faults. Results of the geotechnical investigation would be incorporated into the final pipeline design and would adhere to specifications in the American Society of Mechanical Engineers Standard B31.3 Process Piping and B31.4 Transportation Systems for Liquids and Slurries.
F7	CNMI Agency	Eli	Cabrera	BECQ	Proposed Action and Alternatives	ES-5 Lines 1-2 - "A total area of 8.23 acres could be disturbed for development of all seaport support infrastructure" • This seems counter to the previous claim that, "The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in the 2016 Divert EIS". • USAF would now be moving a potential water quality hazard closer to the near shore environment than keeping the previously proposed bulk storage tanks and other infrastructure north of the airfield, farther away from surface water.	Section ES-4 of the Executive Summary of the SEIS was revised to clarify that the proposed seaport support infrastructure would be constructed in the same location at the Tinian seaport as the location proposed in the 2016 Divert EIS for the two 50,000-barrel fuel storage tanks (Final EIS, Section 2.5.2). The proposed fuel pipeline would eliminate the need for these bulk fuel storage tanks at the seaport proposed in the 2016 Divert EIS.
F8	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	ES 4.1.2 - Pipeline and Support Infrastructure No Action Alternative; ES-6 Lines 37-39 - "The No Action Alternative would increase fuel resupply time and increase the risk of environmental impacts from potential fuel spills from trucks during loading, driving, and offloading". • This statement is unsubstantiated. How is constructing a pipeline decreasing the risk of environmental impacts from spills from pipeline failures, e.g ., typhoons, cracks from seismic activity, sabotage, terrorism, etc.? • There are already existing fuel storage tanks at the sea port to provide Mobil gasoline for vehicles. These would already be considered targets to sabotage or terrorist attacks. • Adding a booster pump house next to the shoreline creates a another "target" for sabotage or terrorist attacks, in addition to the bulk storage tanks that will be needed north of the airfield. This is just adding another potential source of environmental contamination at each end of the pipe. • Please explain how moving trucks are harder to target/attack/sabotage than immobile infrastructure.	Section ES2.2 of the Executive Summary and Section 1.3.2 of the SEIS were revised to provide a reference regarding safety and security of fuel pipelines versus truck transport. The SEIS does not claim fuel tracks are harder to target or sabotage than immobile infrastructure. Furthermore, as described in Section 2.2.1 of the SEIS, the proposed seaport support infrastructure would be constructed in the same location at the Tinian seaport as the location proposed in the 2016 Divert EIS for the two 50,000-barrel fuel storage tanks (Final EIS, Section 2.5.2). The proposed fuel pipeline would eliminate the need for these bulk fuel storage tanks at the seaport proposed in the 2016 Divert EIS.

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F9	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	ES 7. - Summary of Environmental Impacts and Mitigation Measures; ES-11 - Table ES-1. "Biological Resources under No Action Alternative column states, "Marine Biological Resources. While impacts on marine species could be expected because potential fuel spills from trucks are more common than from pipelines". • Claim unsubstantiated. No study findings or statistics provided to support statement.	Table ES 7 was revised to provide a reference for this claim as requested in the comment.
F10	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	ES-13 - Tables ES-1 and ES-2. "Water under No Action Alternative column states, "Increased impacts under the No Action Alternative in comparison to the Proposed Action due to increased potential for spills and larger area of impervious surfaces. Storm water runoff volumes could be increased under this scenario. " • Claim unsubstantiated. No study findings or statistics provided to support statement that more spills would occur. • Line 17-20 on page ES6 states, "Based on review of the 2016 Divert EIS and consideration of technical and siting factors, USAF determined that the proposed support infrastructure should be sited in the location originally proposed for the bulk fuel storage facilities at the seaport and no other site alternatives were identified or considered." Doesn't this mean that the same amount of impervious surface would be created from construction of infrastructure whether the east, or west actions, or if no alternative is chosen? • Table ES-3 also indicates that the same amount of impervious surface would result from any one of the selected alternatives. See below ES-19- Tables ES-3. "Water under Impact Description column states, " , construction and increases in impervious surfaces required for the Proposed Actions and alternatives ... " • This statement does not indicate that the proposed actions would result in less impervious surface than the no action alternative.	The following additional details from Strata 2017 were added to Section 1.3.2 of the SEIS to substantiate the relative security of pipeline fuel transport verses truck: "According to a recent study, in terms of barrels spilled per year, transporting oil and gas by truck is the least secure method of transportation. The study showed that trucks spilled more oil and gas than both rail and pipeline, averaging around 326 barrels per million tons moved every mile (Strata 2017). When it comes to human health and safety, the same study stated that pipeline is actually the safest method of transporting oil and gas. Oil and gas transportation by pipeline resulted in 1.7 fatalities to operators, personnel, and the general public per year in the United States. Rail transportation resulted in 2.4 fatalities and transportation by truck killed 10.2 people per year (Strata 2017)." Regarding the impervious surface of the Proposed Actions in the SEIS verses the No Action Alternative (or what was analyzed in the original 2016 Divert EIS), Section 2.2 states in the last paragraph, "The combined impervious surface footprint of the support infrastructure proposed in this SEIS (4,550 square feet) would be approximately half the size of the fuel storage tanks and support structures (7,534 square feet) proposed in the 2016 Divert EIS at the same location." Therefore, no change was made to the SEIS for the part of the comment asking about the differences in the area to be disturbed verses impervious.
F11	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	1.3.2 - Purpose and Need for SEIS; 1-4 Lines 19-22 - "USAF sought to determine, through these consultations, if there was a more efficient alternative for fuel delivery to the airport than transporting via fuel tank trucks, and if the existing transportation network could support the anticipated Divert vehicles, as were studied in the 2016 Divert EIS (Final EIS, Section 2.5.2)." • The stated primary purpose for the proposed pipeline is efficiency. Therefore, the statement made in the executive summary under heading ES 2 Lines 37-39, "The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in the 2016 Divert EIS," is mischaracterizing the purpose of the pipeline.	Section 1.3.2 of the SEIS was revised to provide clarity to the purpose and need for the pipeline.
F12	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	the SEIS should clearly explain what safety and security concerns USAF did not foresee while compiling the original EIS, and clearly substantiate them in the current SEIS. • Safety and security are mentioned as an afterthought on Lines 27-28.	The following additional details from Strata 2017 were added to Section 1.3.2 of the SEIS to substantiate the relative security of pipeline fuel transport verses truck: "According to a recent study, in terms of barrels spilled per year, transporting oil and gas by truck is the least secure method of transportation. The study showed that trucks spilled more oil and gas than both rail and pipeline, averaging around 326 barrels per million tons moved every mile (Strata 2017). When it comes to human health and safety, the same study stated that pipeline is actually the safest method of transporting oil and gas. Oil and gas transportation by pipeline resulted in 1.7 fatalities to operators, personnel, and the general public per year in the United States. Rail transportation resulted in 2.4 fatalities and transportation by truck killed 10.2 people per year (Strata 2017)."
F13	CNMI Agency	Eli	Cabrera	BECQ	Pipeline Design/ Integrity	2-3; lines 22-23 No mention of seismic activity being considered in the construction design plans. Given the frequency of tremors and earth quakes in the region, this is of great concern • USGS study entitled "Seismic Hazard Assessment for Guam and the Northern Mariana Islands (https://pubs.usgs.gov/of/2012/1015/report/OF12-1015.pdf) states that, "The Pacific plate subducts west-northwestward beneath Guam at 6. 3 cm/yr and the back-arc Mariana trough opens at 4. 7 cm/yr full rate (Sella and others, 2002)."	Sections ES4.1 and 2.2 of the SEIS were revised to provide information regarding USAF's plans for pipeline construction to accommodate potential ground movements, and to conduct geotechnical investigations to identify the presence of any faults. Results of the geotechnical investigation would be incorporated into the final pipeline design and would adhere to specifications in the American Society of Mechanical Engineers Standard B31.3 Process Piping and B31.4 Transportation Systems for Liquids and Slurries.
F14	CNMI Agency	Eli	Cabrera	BECQ	Solid Waste	Lines 14-19 - "Low point drains would be installed in pits lined with fiberglass to prevent infiltration to the subsurface soils or groundwater and would allow access below ground surface. Drained material would be removed from the pits via a vacuum truck, or similar process". • Where would drained material removed from the pits be disposed?	Section 4.11 of the SEIS was revised to clarify that material removed from low point drains would be disposed of in accordance with federal and CNMI laws, including the Resource Conservation and Recovery Act (RCRA).

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F15	CNMI Agency	Eli	Cabrera	BECQ	Water; Waste	2-5 Lines 10-11 - A septic system and leaching field is proposed for the seaport. • Given the failure of the Tinian Dynasty's leaching field leading to an increase in Water Quality Violations, USAF should consider other wastewater collection and treatment measures, as the shoreline in this area has fresh water seeps.	As described in Section 3.9.2 of the SEIS, it is standard procedure to utilize septic systems and leach fields in CNMI, and all residents and businesses on Tinian, including Tinian International Airport, use septic systems and leach fields for wastewater treatment. Sections 4.9.2 and 4.9.3 of the SEIS were revised in response to the comment to provide additional information on proposed wastewater treatment for the Proposed Actions and clarify that the proposed septic system and leach field at the seaport would be permitted through the CNMI Bureau of Environmental and Coastal Quality (BECQ) and would be managed in accordance to CNMI regulations.
F16	CNMI Agency	Eli	Cabrera	BECQ	Preferred Alternative	2.2.1 Pipeline and Support Infrastructure Selection of Alternatives 2-8 Lines 12-14 "Additionally, to maximize efficiency in pipeline construction and fuel transfer, USAF focused consideration of pipeline routes on those that would travel as direct as possible from the Tinian seaport to the airport, with minimal deviation." • Then why is the East route alternative (4.94 miles) preferred by USAF over the West route (4.08 miles)?	Section 2.5 of the SEIS was revised to clarify that the East route was selected as the Preferred Alternative because the West Route is partially encumbered by a long term land lease by a private entity.
F17	CNMI Agency	Eli	Cabrera	BECQ	Pipeline Design/ Integrity	there is no discussion about the proximity of the two preferred alternatives to the nearshore environment. Spills occurring closer to the coastal floodplain (West Route) have a significantly greater chance of cataclysmic water quality, cultural, and economic impacts both from an environmental and subsistence fisheries standpoint.	A majority of the West and East routes follow the same corridor, as shown in Section 2.2 of the SEIS. For the sections in the middle of the proposed routes that diverge, the difference in potential impacts is minute because the USAF intends to design, maintain, and operate a pipeline such that spills are completely avoided, as indicated in Section 2.2 of the SEIS. In addition, the analysis as presented in Section 4.2.2 of the SEIS is based on regulatory consultation with NMFS for Essential Fish Habitat and endangered marine species, the Marine Biological Assessment (SEIS Appendix D), and Essential Fish Habitat assessment (SEIS Appendix D), and NMFS agreed with both the impact assessment approach, effects determinations, and conclusions. Section 4.8 of the SEIS provides an analysis on water quality, Section 4.3 of the SEIS provides an analysis on cultural resources, Section 4.4 provides an analysis on socioeconomics, and Section 4.10 provides an analysis on land use and recreation. Therefore, no change was made to the SEIS.
F18	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	2-14 Lines 4-7 - "The No Action Alternative would increase fuel resupply time and increase for the risk of environmental impacts from potential fuel spills from trucks during loading, driving, and offloading." • Unsubstantiated. The SEIS does not provide any studies to support this assumption. How does the volume of fuel that may spill from loading, driving or offloading from trucks compare to those volumes experienced by parties responsible for containing spills from numerous other broken or compromised fuel pipelines? • This is a recurring statement with no supportive documentation.	Section ES2.2 of the Executive Summary and Section 1.3.2 of the SEIS were revised as requested in the comment to provide a reference regarding safety and security of fuel pipelines versus truck transport.
F19	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	2-21 Table 2.6.1 - No Action Alternative column "Marine Biological Resources. While impacts on marine species could be expected because potential fuel spills from trucks are more common than from pipelines (Strata 2017), impacts are anticipated to be negligible." • This is the first mention of "Strata 2017". If this is a study being used to substantiate the claim made in 2-14, lines 4-7, please provide the complete reference where it can be found and include it well before appearing here on page 2-21.	The citation "Strata 2017" is properly cited throughout the SEIS, and the full reference and location where it can be found is included in the Section 6.0 of the SEIS. Section ES2.2 of the Executive Summary and Section 1.3.2 of the SEIS were revised to also include reference to Strata 2017.
F20	CNMI Agency	Eli	Cabrera	BECQ	Pipeline Design/ Integrity	lacking is any discussion of potential pipeline fissures or cracks as a result of seismic activity.	Sections ES4.1 and 2.2 of the SEIS were revised to provide information regarding USAF's plans for pipeline construction to accommodate potential ground movements, and to conduct geotechnical investigations to identify the presence of any faults. Results of the geotechnical investigation would be incorporated into the final pipeline design and would adhere to specifications in the American Society of Mechanical Engineers Standard B31.3 Process Piping and B31.4 Transportation Systems for Liquids and Slurries.
F21	CNMI Agency	Eli	Cabrera	BECQ	Water; general	3.8 Water; 3-36 Lines 19-22. • Clarification, Section 305(b) of the CWA requires a report on the conditions of the waters of each state and territory, it is not a list. • In addition, the Integrated Report is not only compiled by the CNMI, all states and territories include their list of impaired waters (required by Section 303(d) of the CWA) within their 305(b) in an integrated report. • Please refer to the more recent 2018 CNMI Integrated report available for download from the DEQ website under the Water Quality Surveillance & Non-point Source branch/reports (http://www.deq.gov.mp/sec.asp?sec1D=71).	Section 3.8 of the SEIS was revised with information provided in the comment regarding the CNMI Integrated Report.

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
F22	CNMI Agency	Eli	Cabrera	BECQ	Water; general	3-38 Lines 25-29 -> Please refer to the 2018 CNMI 305(b) and 303(d) Integrated report (hence forward referred to as the IR) for the most recent evaluation of CNMI waters. In 2018, the Makpo watershed was subdivided into Segment 9 Class AA waters including Kammer, Taga, and Tachogana beaches, and Segment 9H that only includes the Class A waters of San Jose Harbor. • The 2018 CNMI IR assigned Makpo's Class AA waters the following conditions, "Makpo's coastal waters do not support the Propagation of Aquatic Life DU. To date, there has been no data collected on fish tissue and/or biota contamination in Makpo's coastal waters to assess the Fish and Shellfish Consumption DU. However, there have been notable improvements to Enterococci levels in Makpo's coastal waters. All BEACH sites were well within the CNMI WQS this reporting cycle. This is thought to be associated with the closure of Tinian Dynasty, which was a suspected source from fresh water seeps carrying wastewater from the hotel's IWOS and other nearby onsite systems. However, exceedances of the WQS for pH resulted in Makpo's coastal waters being added to the 303(d) listed as impaired for pH. Therefore, they do not support the Recreational OU. <i>Comment continued in next row</i>	Section 3.8 of the SEIS was revised with information provided in the comment regarding the Makpo watershed.
F22 <i>continued</i>	CNMI Agency	Eli	Cabrera	BECQ	Water; general	<i>Comment continued from previous row</i> • Makpo's Class A waters were assessed and the 2018 CNMI IR states that, "Tinian's San Jose Harbor is located in the Makpo Harbor Sub-watershed (Segment 9H), and is Tinian's only designated Class A waters. Since last reporting cycle, there have been far fewer tourists visiting Tinian. However, permits are now in place for a new development next to the harbor. If the plans are implemented, they will include construction of a small commercial building with retail office space, and restaurants. A ferry terminal has also been considered for providing additional means for residents to travel to and from Saipan". • The IR goes on to state, "However, there have been improvements. The Harbor's water quality levels were well within the CNMI WQS for Enterococci this reporting cycle, resulting in Makpo Harbor being removed from the 303(d) list as impaired for Enterococci, and now attains the Recreation DU." • TMDLs were established in 2017 for Saipan's coastal waters impaired by bacteria, which can be downloaded from the DEQ website: (http://www.deq.gov.mp/resources/files/branches/WQS/Saipan_FINAL_TMDL_Report_2017-10-19.pdf).	<i>Response provided in previous row.</i>
F23	CNMI Agency	Eli	Cabrera	BECQ	Wetlands/ Floodplains	3-40; line 11-12 The 2018 CNMI IR reports another assessment of Tinian's smaller wetlands, specifically in the Puntan/Diapolamanibot Watershed. The IR states, 'This reporting cycle wetland delineations and assessments were conducted on a few locations on Tinian to field test the 2016 CNMI Wetland RAM. During the field test, the smaller wetlands in the Puntan/Diapolamanibot watershed, named the Bateha I and II Complex were explored, but not fully delineated or assessed by BECQ. However, a survey conducted for the US military states that these complexes are shallow depressional areas thought to be the result of anthropogenic activities (March 2015, Survey Report of Potential Wetland Sites on Tinian in Support of the CJMT EISIOEIS) . The survey cites the USFWS National Wetland Inventory that determined these areas to be palustrine, emergent, wetlands. The survey also states that the Bateha I and II Complexes have "suitable hydrology, wetland vegetation, and hydric soils ... " Therefore, Bateha I (7.1 acres) and Bateha II (5.8 acres) are isolated wetlands and support the Propagation of Aquatic Life DU.	Section 3.8.2 of the SEIS was revised to incorporate information provided in the comment regarding wetlands within the Puntan/Diapolamanibot watershed.
F24	CNMI Agency	Eli	Cabrera	BECQ	Bio Resources (Marine)	4. Environmental Consequences; 4-13, 4.2.2.2 - Pipeline and Support Infrastructure, 4.2.2.2.1 - West and East Routes; • The SEIS does not assess potential impacts from the pipeline and support construction within the West and East Routes separately. Given that the West Route is nearer to the shore, the potential impacts of sedimentation, stormwater runoff, and potential spills on coastal water quality (and fish habitat) is significantly higher than the East Route. Therefore, the two routes should be assessed separately.	A majority of the West and East routes follow the same corridor, as shown in Section 2.2 of the SEIS. For the sections in the middle of the proposed routes that diverge, the difference in potential impacts is minute because the USAF intends to design, maintain, and operate a pipeline such that spills are completely avoided, as indicated in Section 2.2 of the SEIS. In addition, the analysis as presented in Section 4.2.2 of the SEIS is based on regulatory consultation with NMFS for Essential Fish Habitat and endangered marine species, the Marine Biological Assessment (SEIS Appendix D), and Essential Fish Habitat assessment (SEIS Appendix D), and NMFS agreed with both the impact assessment approach, effects determinations, and conclusions. Therefore, no change was made to the SEIS.

HQ PACAF | Final SEIS for Tinian Divert Infrastructure Improvements

APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
F25	CNMI Agency	Eli	Cabrera	BECQ	Purpose and Need	4.2.2.2.2 - No Action Alternative Lines 24-25 "Greater impacts on marine species from potential fuel spills would be expected because spills and leaks from trucks are more common than from pipelines (Strata 2017)." • This suggests that the number of spills or leaks from trucks is more important than the volume of a potential spill. The volume of one spill from a pipeline would be expected to be far higher than the cumulative volume from truck spills. • What would be the estimated volume spilled if the pipeline failed? What if the storage tanks in the No Action Alternative fail?	Section ES2.2 of the Executive Summary and Section 1.3.2 of the SEIS were revised to provide a reference regarding safety and security of fuel pipelines versus truck transport. Section 2.2 of the SEIS provides required jet fuel volumes to support Divert activities and exercises, which would not change from that described in the 2016 Divert EIS and would be required under either the Proposed Action or No Action Alternative. Section 2.2 and Appendix F4.5 of the SEIS were revised to clarify that the leak detection system would detect a leak of 0.004 percent of the pipeline volume within one hour. More specific information regarding total volume of a potential spill is not available, and will be calculated during the 100% design process for the pipeline, to be completed after ROD. As noted in Section 2.2 of the SEIS, the final detailed design for the fuel pipeline would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and are outlined in Appendix F; it is compliance with these design standards and requirements that provide an adequate baseline for determining impacts under NEPA in the SEIS.
F26	CNMI Agency	Eli	Cabrera	BECQ	Water; waste	The SIES proposed pipeline for the East and West Route and for the Roadway Improvements does not indicate the gallons per day of wastewater generated during construction of the pipeline. For projects located within a class I aquifer recharge area with an average daily flow greater than 5,000 gallons per day, the applicant must install and operate an OWTS meeting the siting, design, operations, and financial requirements of this chapter. • Options to address wastewater included; utilizing the permitted leaching field controlled by JRM, lease or rent the processing system from the closed Tinian Dynasty, or develop a new system. BECQ request more information on the permitted leaching field controlled by JRM for it has no records for JRM. Furthermore, the Tinian Dynasty Wastewater Treatment System OWTS Permit expired in May 2015. Prior to utilizing the Wastewater Treatment System, the permit must be renewed and a BECQ inspection of the system must be conducted prior.	Sections 3.9 and 4.9 of the SEIS were revised in response to the comment to provide additional information on the former military leach field, commitments to permitting for any new wastewater treatment systems, and to provide additional information on proposed wastewater treatment for the Proposed Actions.
F27	CNMI Agency	Eli	Cabrera	BECQ	Coastal Zone	Please note that a substantial change in the scope of the Divert action would merit federal consistency review, which is handled by the BECQ Division of Coastal Resources Management.	As described in Section 4.10.2 of the SEIS, USAF submitted a Coastal Zone Management Act Consistency Determination with a copy of the Draft SEIS for review to the BECQ Division of Coastal Resources Management (DCRM) for the Proposed Actions. Section 4.10.2 and Appendix G of the SEIS were revised to include the consistency determination letter sent to BECQ DCRM and the conditional concurrence letter received from BECQ DCRM.
H1	CNMI Agency	Richard	Salas	DCRM	Pipeline Design/ Integrity	Will there be personnel monitoring the storage facilities when activities are less frequent? - Will USAF provide personnel to conduct general maintenance on the facilities?	Section 2.2 of the SEIS was revised to clarify the number of support personnel for the operation and maintenance of the pipeline. Appendix F, Section F4.5 provides information regarding USAF's commitment to follow Technical Order 37-1-1, General Operations and Inspection of Installed Fuel Storage and Dispensing Systems and UFC 3-460-03, Operation and Maintenance: Maintenance of Petroleum Facilities, which establishes the required frequency intervals for recurring maintenance.
H2	CNMI Agency	Richard	Salas	DCRM	Proposed Action and Alternatives	How can USAF ensure that infrastructure upgrades are resilient to typhoon forces?	Sections ES4.1, 2.2, and Appendix F of the SEIS were revised to clarify that the fuel pipeline and all facilities would also be constructed in accordance with seismic and tropical requirements, including those for seismic and wind loads outlined in American Society of Civil Engineers Standard 7-10 Minimum Design Loads for Buildings and Other Structures; UFC 3-310-04 Seismic Design for Buildings; UFC 3-301-3 Structural Engineering; and UFC 3-440-05N Tropical Engineering.
I1	CNMI Agency	Anthony	Benavente	DLNR	Pipeline Design/ Integrity	Our primary concern is the lack of detail regarding how Tinian's sole source of fresh water will be protected and how the pipeline will be tested to prevent and contain leaks. Simply stating you are "implement compliance actions and industry standards for ... "or following regulations and standards is not sufficient detail to evaluate the SEIS. How will you detect leaks in an underground system? What are the industry standards for "erosion and sediment control, storm water management, and spill prevention and control"? What are PIM Plans? This information is not readily available for review.	Appendix F of the SEIS provides the information requested in the comment regarding compliance actions and industry standards that would be implemented, including the Pipeline Integrated Management (PIM) Plan, pipeline testing, leak detection, erosion and sediment control, stormwater management, and spill prevention and control measures. Section 2.2 and Appendix F4.5 of the SEIS were revised to provide additional information on the leak detection system that USAF would install, including: the pipeline leak detection system would be listed by the National Work Group On Leak Detection Evaluations, would be U.S. Environmental Protection Agency third-party-certified, would comply with API Recommended Practice 1130 Computational Pipeline Monitoring, and be able to detect a leak of 0.004 percent of the pipeline volume within one hour. USAF took into consideration Tinian's aquifer when proposing the permanently installed leak detection system versus a portable system. More specific design and operational information for the pipeline will not be available until design is complete for the pipeline after the ROD is signed. Section 2.2 of the SEIS was revised to recognize that exact information for the fuel pipeline design, construction, operation, and maintenance is unavailable to present in this SEIS; but that USAF would comply with applicable regulations and industry standards that direct pipeline design, construction, maintenance, and operation and that these design standards and requirements provide an adequate baseline for determining impacts under NEPA.

HQ PACAF | Final SEIS for Tinian Divert Infrastructure Improvements

APPENDIX G: DRAFT SEIS PUBLIC REVIEW PERIOD MATERIALS

Comment ID	Contact Type	First Name	Last Name	Org	Comment Category	Comment	Response
I2	CNMI Agency	Anthony	Benavente	DLNR	Pipeline Design/ Integrity	We are concerned about the statement that "The East route is longer than the West route and would almost completely occur within an area with a shallow water table. This could increase the risk of impacts to the groundwater lens if a spill or leak were to occur." (4.8.2.2) How can you mitigate for this? Is there a way to contain leaks with an impervious surface to ensure it cannot reach the water table?	Section 4.8.2.2. of the SEIS was revised to direct the reader to Appendix F for additional information. Appendix F, Section F2.2 of the SEIS provides fuel infrastructure planning, design, and management standards that would be implemented to reduce the likelihood of spills during construction and operation of the pipeline infrastructure, as well as the impact of spills (e.g., or spill migration to nearshore waters) in the unlikely event that one should occur. Appendix F, Section F.4 provides infrastructure operation actions and standards that would be implemented for long-term management of the fuels infrastructure to prevent, control, counteract, and report all spills.
I3	CNMI Agency	Anthony	Benavente	DLNR	Mitigation Measures	Second, the SEIS lacks mitigation for the increased land use and recreation by contracted and USAF personnel. The increase in personnel on the island could have significant impact. We have the following suggestions: • Environmental educational component should be provided to all contractors to promote respect for their temporary home. Thus you should create and implement a program that promotes cultural and natural resource best practices, educates and informs visiting personnel about the laws and regulations as well as wildlife. (For example for sea turtles: no driving on the beaches, reduce plastic use and pollution, reduce light and sound on beaches after dark, and no poaching). This education program should be required at the time of arrival as well as on an annual basis.	Section 4.10 of the SEIS addresses impacts on recreation from the Proposed Actions and was revised to acknowledge the potential for increased use of recreational resources during construction by USAF personnel and contractors. Sections 2.2 and 2.3 of the SEIS were also revised to clarify that all USAF personnel and their contractors would be subject to all applicable CNMI, DOD, and federal regulations while on or off-duty. Potential impacts on biological resources and cultural resources, are presented in Sections 4.2 and 4.3 of the SEIS, respectively, and are not anticipated to be significant. As described in Section 4.2.1 of the SEIS, USAF is committed to implementing the measures agreed upon by U.S. Fish and Wildlife Service (USFWS) and USAF in the 2013 Biological Opinion for Divert Activities and Exercises and the 2015 Amendment to Biological Opinion for Development of Divert Capabilities and Conducting Divert Activities and Exercises. As described in Section 4.2.2 of the SEIS, USAF is committed to implementing measures presented in the Marine Biological Assessment and Essential Habitat Assessment, for which they received concurrence from NMFS. As described in Section 4.3, USAF is committed to implementing all stipulations outlined by the Amendment to the Programmatic Agreement Regarding the Proposed Construction and Operation of Divert Activities and Exercises within the Commonwealth of the Northern Mariana Islands, which was executed by USAF, CNMI Historic Preservation Officer, and other consulting parties.
I4	CNMI Agency	Anthony	Benavente	DLNR	Solid Waste	To help offset the amount of trash left around the island, we recommend bi-annual island-wide clean-ups with mandatory participation from all contractors and USAF personnel.	Sections 2.2 and 2.3 of the SEIS were revised to clarify that all USAF personnel and their contractors would be subject to all applicable CNMI, DOD, and federal regulations while on or off-duty. USAF has not identified "island-wide trash clean-up" as part of the Proposed Actions presented in Section 2.1 of the SEIS, nor would it be a necessary mitigation for the impacts summarized in Section 2.6 of the SEIS.
I5	CNMI Agency	Anthony	Benavente	DLNR	Water; ground	This project requires a substantial amount of water (including the new wells). How will this affect the water table?	Sections 4.9.2, 4.9.3, and 4.9.4 of the SEIS provide information regarding the current production capabilities (gallons per day) of the Tinian aquifer and estimates of use under each of, and both combined, Proposed Actions. Sections 4.9.2 and 4.9.3 were revised to provide additional information regarding water use from the Tinian municipal system versus the USAF's proposed wells.
J1	Public	John	Attao	Public	Socioeconomics	there's a lack of housing here, how are you -- how are you going to be housing these workers?	Section 4.4.2 and 4.4.3 of the SEIS were revised to provide additional information regarding construction and maintenance worker housing for the pipeline and roadway improvements, respectively.
K1	Public	Joseph	Connolly	Public	Pipeline Design/ Integrity	I have one question about the PIM, the pipeline integrated management. And that is about water table contamination from pipeline leaks possibly due to earthquakes. We do have them here. And in reading another piece of information, not this, it seemed to have been washed over or kind of dismissed as not a major concern that we wouldn't need to worry about that. I'm real worried about it if there's fuel in there and there's some kind of a leak.	Sections ES4.1 and 2.2 of the SEIS were revised to provide information regarding USAF's plans for pipeline construction to accommodate potential ground movements, and to conduct geotechnical investigations to identify the presence of any faults. Results of the geotechnical investigation would be incorporated into the final pipeline design and would adhere to specifications in the American Society of Mechanical Engineers Standard B31.3 Process Piping and B31.4 Transportation Systems for Liquids and Slurries.

Table G-1: Commenters on the Tinian Divert Infrastructure Improvements Draft SEIS

Commenter ID	Contact Type	First Name	Last Name	Organization	Comment Starts on Pg. #
A	Federal Agency	Janet	Whitlock	Department of Interior, Office of Environmental Compliance	G-37
B	Federal Agency	Connell	Dunning	Environmental Protection Agency	G-39
C	CNMI Political	Gil	Birnbrich	Office of the Governor	G-45
D	CNMI Political	Jude	Hofschneider	CNMI Senator	G-82 and G-87
E	CNMI Political	Edwin	Aldan	Mayor of Tinian	G-80
F	CNMI Agency	Eli	Cabrera	Bureau of Environmental and Coastal Quality	G-99
G	CNMI Agency	Antonio	Borja	Commonwealth Ports Authority	G-89
H	CNMI Agency	Richard	Salas	Division of Coastal Resources Management	G-104
I	CNMI Agency	Anthony	Benavente	Department of Land and Natural Resources	G-112
J	Public	John	Attao	Private Citizen	G-91
K	Public	Joseph Pepe	Batbon Connolly	Private Citizen	G-85 and G-89
L	Public	Joseph Pepe	Batbon Connolly	Private Citizen	G-114
M	Public	Frederick	Dela Cruz	Private Citizen	G-90
N	Public	Deborah	Fleming	Private Citizen	G-93

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
333 Bush Street, Suite 515
San Francisco, California, 94104

In Reply Refer To:
19/0214

Filed electronically

June 20, 2019

Julianne Turko
AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JB SA Lackland, TX 78236-9853

Re: ER19/0214 – Draft Supplemental Environmental Impact Statement (SDEIS) for
Tinian Divert Infrastructure Improvements Commonwealth of the Northern
Mariana Islands United States Air Force

Dear Ms. Turko:

The United States Department of the Interior (DOI), through the United States National Park Service (NPS), has reviewed the *Draft Supplemental Environmental Impact Statement for Tinian Divert Infrastructure Improvements, Commonwealth of the Northern Mariana Islands, United States Air Force*, dated May 2019 and offers the following comments for use in the development of the final SEIS for this project.

The NPS is an invited signatory on the 2016 Divert Programmatic Agreement (PA) and appreciates recent efforts of the U.S. Air Force (USAF) to engage the signatories, invited signatories, and consulting parties in developing an amendment to the 2016 PA regarding implementation of the Divert Infrastructure Improvements. Certain mitigation measures and stipulations proposed for the Divert PA have also been discussed in relation to the Mariana Islands Training and Testing (MITT) PA. These include development of an Interpretive Plan to develop various products such as a brochure, wayside exhibits, digital media, etc., and storage of historical and cultural artifacts in a repository meeting federal requirements promulgated in 36 CFR 79. It is likely that similar mitigation measures and stipulations will be discussed again as consultation begins soon for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training (CJMT) undertaking proposed by the United States military.

The DOI strongly urges the USAF to coordinate with the other branches of the United States military involved in these undertakings to develop a single comprehensive Interpretive Plan for the island of Tinian. Similarly, the USAF and other branches of the United States military must consider coordination of the curation, interpretation, display, and storage of cultural artifacts collected as a result of these undertakings. The DOI understands the challenges

—————A1
—————A2

in coordinating across the military service branches on projects that are separately funded; nevertheless, we believe this is the most efficient approach that will lead to the best preservation and interpretation outcomes for the historic properties affected by these undertakings.

The 2016 Divert PA recognized the CNMI lacks a facility that meets the standards set forth in 36 CFR 79, and that is still true today. The PA amendment for the Divert SEIS should elaborate on how the USAF plans to meet the requirements of that stipulation, either alone or in concert with other United States military branches, without removing them from the CNMI. If they are to be removed, the USAF should provide information on where they will be sent, and how/when the United States military would return them to the CNMI while meeting federal requirements.

—A3

If you have questions regarding these comments, please contact Melia Lane-Kamahele at (808) 541-2693 x729 or at melia_lane-kamahele@nps.gov. For any further questions, please contact me at (415) 420-0524 or at janet_whitlock@ios.doi.gov.

Sincerely,



Janet L. Whitlock
Regional Environmental Officer

Cc: B. Alberti, NPS
M. Lane-Kamahele, NPS
D. Louter, NPS
H. Blanco, OIA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 28, 2019

Ms. Julianne Turko
United States Air Force
Civil Engineer Center, National Environmental Policy Act Division
(AFCEC/CZN)
2261 Hughes Ave, Suite 155
Joint Base San Antonio (JBSA)
Lackland, TX 78236-9853

Subject: Draft Supplemental Environmental Impact Statement (DSEIS) for Tinian Divert Infrastructure Improvements (formerly Divert Activities and Exercises), Commonwealth of the Northern Mariana Islands (CEQ #20190097)

Dear Ms. Turko:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

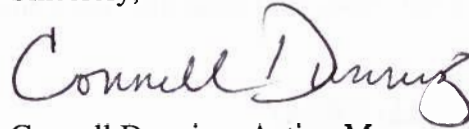
The U.S. Air Force is supplementing the 2016 Final Environmental Impact Statement for Divert Activities and Exercises to further evaluate fuel transfer methods and associated infrastructure associated with the project's proposed improvements to Tinian International Airport. This DSEIS analyzes proposed construction of a fuel pipeline from the Tinian seaport to Tinian International Airport, and improvements to existing roads between the seaport and airport to support Divert activities.

EPA's previous EIS comments regarded impacts to the drinking water utility on Tinian. We appreciate the commitments in the 2016 Record of Decision to mitigate some of these impacts. We recommend the Air Force provide an update on the progress of the 2016 ROD measures, and commit to additional mitigation to account for the increased water use associated with the additional project components and up to 100 additional construction workers. Specifically, we suggest consideration of Department of Defense support for drinking water system upgrades and repairs, which will lessen the cumulative impacts of the project on the drinking water supply. We recommend clarifying the applicable pipeline regulations and standards, and installing advanced leak detection for the protection of groundwater and ocean resources. We recommend discussion of the rationale for selecting the East Pipeline Route as the Air Force's preferred alternative, noting that the West Pipeline Route achieves the purpose and need with fewer environmental impacts. These recommendations are further described in the enclosed detailed comments. — B1 — B2 — B3

Effective October 22, 2018, EPA no longer includes ratings in our comment letters. Information about this change and EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>.

EPA appreciates the opportunity to review this DSEIS. When the FSEIS is released for public review, please send one copy to the address above (mail code: TIP-2). If you have any questions, please contact me at (415) 947-4161, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

A handwritten signature in dark ink, reading "Connell Dunning". The signature is fluid and cursive, with the first name "Connell" and last name "Dunning" clearly legible.

Connell Dunning, Acting Manager
Environmental Review Branch

Enclosure: EPA's Detailed Comments

cc via email: Gary Kuwabara, Office of Economic Adjustment, Department of Defense
Timothy Robert, Office of Economic Adjustment, Department of Defense
Captain Chris Chase, U.S. Coast Guard Sector Guam
Larry Maurin, CNMI Bureau of Environmental Quality and Coastal Quality
Kathy Yuknavage, CNMI Bureau of Environmental Quality and Coastal Quality
William Gilmore, Commonwealth Utilities Corporation
Larry Manacop, Commonwealth Utilities Corporation
Chris Tenorio, Commonwealth Ports Authority

EPA's DETAILED COMMENTS ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
FOR TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS, CNMI, JUNE 28, 2019

Water Supply/Impacts to the Water Utility

EPA's comments on the 2016 Final Environmental Impact Statement (FEIS) identified concerns with the predicted impacts to the drinking water utility. The FEIS predicted that construction-phase water use could deplete the Tinian water supply and the Commonwealth Utilities Corporation (CUC) would be unable to provide sufficient water for the project implementation phase without an extensive system upgrade. The FEIS and subsequent 2016 Record of Decision (ROD) included measures to mitigate impacts to the CUC potable water system, including installation of two 350-foot deep water wells to meet project water requirements. The Air Force committed to coordinate with Commonwealth Ports Authority (CPA), CUC, and the Bureau of Environmental and Coastal Quality (BECQ) on well installation and operation, as well as development of pumping rates, regular monitoring, and reporting measures to help ensure that water supply is not exceeded. If necessary, water well installation and construction of water storage tanks would be prioritized during construction to offset any shortage of water supply.

According to the Draft Supplemental Environmental Impact Statement (DSEIS), there would be additional construction-phase water use associated with the new pipeline, road improvements, and the addition of up to 100 construction workers. Total water use is estimated at 42 percent of the assumed Tinian water availability from the existing CUC system for construction, and 62 percent when used for a one-day static testing. These additional impacts warrant consideration of additional mitigation measures. — B4

Recommendations: Provide an update on the progress of implementing the above-identified mitigation commitments from the 2016 Divert ROD. Indicate whether a mechanism for formalizing the coordination with CPA, CUC, and BECQ has been developed. Consider repairs to the new municipal water tank damaged in Typhoon Yutu as an additional mitigation measure. — B5

As the DSEIS acknowledges (p. 4-53), an estimated 80 percent of the Tinian water supply is lost from the distribution system. We are aware that the DoD's Office of Economic Adjustment is considering support for civilian drinking water infrastructure on Tinian to mitigate the combined water utility impacts from Divert and the CNMI Joint Military Training (CJMT) project. We understand that convening of the Economic Adjustment Committee has been postponed since the CJMT NEPA process is temporarily paused. Since the Divert project is moving ahead and will also impact the CUC system, DoD's Office of Economic Adjustment could provide support for civilian drinking water on Tinian during Divert project planning. — B6

Recommendations: EPA recommends that DoD provide support for the civilian drinking water infrastructure on Tinian during Divert project planning. This would prevent water loss in the system and lessen cumulative impacts assessed under both Divert and CJMT. Discuss this option in the Final Supplemental Environmental Impact Statement (FSEIS) and include possible timelines for implementation if feasible.

Pipeline Regulation, Integrity Management, and Spill Prevention/Response

Applicable Regulations

In our scoping comments, we noted that pipeline safety laws do not apply in the CNMI and that the Department of Transportation (DOT) does not regulate or inspect petroleum pipelines in the Pacific islands. However, the DSEIS states that the U.S. Department of Transportation's Pipelines and Hazardous Materials Safety Administration (PHMSA) issues pipeline safety regulations that address construction, operation, and maintenance, and that they inspect pipeline operators and enforce pipeline safety laws and regulations, (p. 3-29) without qualifying that they do not do this in the Pacific Islands. In addition, the DSEIS states that the proposed fuel pipeline would be designed and constructed "in accordance with all appropriate federal, CNMI, Department of Defense (DOD), and USAF regulations" (p. 2-3), again citing to PHMSA regulations which do not apply, and elsewhere stating that all proposed fuels infrastructure would be constructed according to the most stringent applicable federal and CNMI requirements (p. 4-46) without identifying these requirements. The DSEIS also does not include any reference to the U.S. Coast Guard (USCG) requirements for marine terminals. The USCG will have jurisdiction over the marine terminal at the seaport for fuel transfers from barges or ships bringing fuel to Tinian and transferring it into the new pipeline.

Recommendations: Clearly describe what DOT requirements are applicable in the project area. We recommend clearly stating which standards and regulations the project will adopt. Address USCG requirements for the seaport operations and how the project will meet those requirements.

Integrity Management and Leak Detection

We noted in our May 2018 DSEIS scoping comments that because the aquifer provided the sole drinking water source on the island, and because the recreational fishing offshore serves a local population with environmental justice concerns, additional integrity management requirements are appropriate, specifically those consistent with the PHMSA requirements for High Consequence Areas (HCAs).¹ Appendix F states that Air Force would follow an industry consensus document that provides a risk-based approach to managing a leak detection program but does not specify the specific leak detection components the Air Force would implement. The DSEIS notes that the general direction of groundwater flow (west towards the ocean) would send accidental spills during construction and operation away from the public water well, rendering groundwater impacts minor (p. 4-46). Such spills could contaminate nearshore waters; however, the DSEIS states only that a fuel spill would be unlikely and measures would be implemented to avoid or minimize these impacts on marine resources. The DSEIS references the Spill Prevention, Control and Countermeasure (SPCC) Plan that would be developed (p. 4-13, App. p. F-15), but the avoidance and minimization measures should be disclosed in the DSEIS.

Recommendations: Include a discussion of how a potential spill could impact nearshore waters affecting fisheries, subsistence fishing, and recreation. Address rapid detection of issues, such as a worst-case discharge that could occur from a complete tank failure, the loss of pressure in a

¹ Pipeline safety regulations use the concept of "High Consequence Areas" (HCAs) to identify specific locales and areas where a release could have the most significant adverse consequences. Identification of HCAs for hazardous liquid pipelines focus on populated areas, drinking water sources, and unusually sensitive ecological resources. Drinking water sources include those where a secondary source of water supply is not available.

pipeline that could result in a discharge of fuel, the size of leak that can be detected by the proposed system, the time that would be required for detection and shutoff of the pipeline, and the size of a spill that could occur during that time.

EPA continues to recommend robust pipeline integrity requirements consistent with PHMSA requirements for High Consequence Areas. Please indicate in the FSEIS whether these requirements will be voluntarily adopted. We recommend advanced leak detection technologies, such as electronic and/or multiple leak detection systems; integrated, autonomous sensor/detector systems for near real-time automated detection, identification, and notification of threats and leaks; and installing Emergency Flow Restricting Devices. We recommend a commitment to strive for pipeline shutdown within 10 minutes of discovering any safety-related alarm for which a leak cannot be definitively ruled-out as a cause, and a commitment to inspection of the pipeline after extreme weather, natural disasters, and other similar events to ensure it is still capable of being safely operated after these events. Include training for these features and procedures.

— B11
— B13
— B12

Emergency Preparedness and Response and Risk Communication

The pending SPCC Plan and Facility Response Plan referenced in Appendix F will contain important information regarding spill control including actions to address an accidental "catastrophic" spill. We note that these plans are not readily accessible to the public and disclosing some information regarding spill response in the EIS could provide important information about planning and resources available to address such an event, especially considering the recent experience of Typhoon Yutu.

Recommendations: In the FSEIS, briefly describe strategies for emergency preparedness and response and measures to communicate risks and emergencies to the public. Identify procedures for rapid notification; pre-positioned response assets including equipment that can address a release of fuel; and spill drills and exercises that include strategies and equipment deployment to address potential fuel contamination in the environment caused by a release. Address how potential adverse impacts from spills may be mitigated by effective containment and cleanup operations, and how such operations would be affected by meteorological conditions (typhoons, etc.) that are predicted to occur throughout the life of the project in this area.

— B14
— B15

Operations and Maintenance

In our May 2018 scoping comments, we suggested the DSEIS describe commissioning and long-term operations and maintenance procedures, including pressure testing and pigging, that will be performed to ensure pipeline integrity and protection of critical groundwater resources. Appendix F states that "USAF would follow UFC 3-460-03, which establishes the required frequency intervals for the recurring maintenance" but does not indicate this frequency. Since Divert training would operate for 2-months out of the year, it is also critical to understand potential operational or safety concerns associated with intermittent operations.

Recommendations: Describe commissioning and long-term operations and maintenance procedures in the FSEIS. Identify how these procedures compare with PHMSA requirements for High Consequence Areas. Address any operational or safety concerns associated with intermittent operations. Commit to more frequent inspections for the protection of water resources.

— B16

Preferred Pipeline Route Alternative

The DSEIS identifies the East Pipeline Route as the Air Force's Preferred Alternative (p. 2-19), but does not include rationale for choosing this route. The East pipeline route is 0.86 miles longer than the West route, would disturb an additional 8 acres of land, would use an additional 4,000 gallons of water per day during construction for dust suppression, and would almost completely occur within an area with a shallow water table, which could increase the risk of impacts to the groundwater lens if a spill or leak were to occur (p. 4-48). The East pipeline route would also generate an additional 344,256 square feet of debris during construction; an estimate of 172 additional tons over a period of 3 years (p. 4-56). — B17

Recommendation: Since the West Pipeline Route would meet the agency's purpose and need with fewer resource impacts, we recommend that the FSEIS identify why the East Route is preferred. If feasible when considering all resource impacts, consider selection of the West Pipeline Route alternative.

Solid Waste

The DSEIS states that construction debris that is not recycled or managed as green waste would have to be disposed of in the Tinian Landfill or collected and transported off-island (p. 4-55, 4-59). The Tinian dump is unpermitted and cannot accept waste from the Air Force. Any waste that is not recycled or composted must be disposed of at a State permitted sanitary landfill. The closest such landfill is the CNMI Bureau of Environmental and Coastal Quality permitted Saipan Landfill.

Recommendation: Update the FSEIS to clarify statements that waste cannot be disposed of at the Tinian dump and should be collected and transported to a permitted landfill. — B18

Miscellaneous Comments and Corrections

- The DSEIS states that various hazardous and nonhazardous materials including transformers were collected after Typhoon Yutu and were accumulated at a storage area at the seaport; however, "it is unknown whether these materials will be transferred to a disposal facility or will be permanently stored at this location" (p. 3-54). We note that all of this waste has been transported off-island for proper disposal. Please update this information in the FSEIS. — B19
- The DSEIS states that "in October 2018, Typhoon Yutu damaged the supply well and distribution system. A new municipal water well was installed near the former well during the typhoon relief efforts; however, the exact location of the new well is unknown" (p. 3-42). EPA inspected the municipal well and tanks; the municipal well was not destroyed. However, the main water tank was damaged, and the roof of the tank has not been replaced as of this writing. Please update this information in the FSEIS. — B20



RALPH DLG. TORRES
Governor

ARNOLD I. PALACIOS
Lieutenant Governor

COMMONWEALTH of the NORTHERN MARIANA ISLANDS
OFFICE OF THE GOVERNOR

July 1, 2019

Ms. Julianne Turko
AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236-9853

Dear Ms. Turko,

The Office of the Governor for the Commonwealth of the Northern Mariana Islands (CNMI) presents the following comments on the 2019 Draft Supplemental Environmental Impact Statement (DEIS) for the U.S. Air Force (USAF) Tinian Divert Infrastructure Improvements proposal (Divert). Given the fact that the CNMI is still recovering from the landfall of Super Typhoon Yutu, the limited review period for this proposal is administratively challenging. As such, this review is focused primarily on procedural points and substantive questions including the scope, duration, and underlying assumptions upon which discussion of effects to the CNMI's resources have been premised. We hope these comments will also help improve the discussion of impacts, significant effects, and appropriate mitigation measures of this action.

Proposed Need and Impact Mitigation Measures

The motivation for this supplemental DEIS is to comply with requirements of the National Environmental Policy Act (NEPA) to review, assess, and mitigate impacts from proposed major federal actions such as this proposal to develop an aviation fuel pipeline on Tinian to support Divert activities at the Tinian airfield. As noted in the summary information provided, in September 2016, the USAF completed the Final EIS for Divert Activities and Exercises. The Record of Decision (ROD) was signed December 7, 2016, which announced the USAF decision to select the Modified Tinian Alternative North Option as a future Divert location. After the ROD, the USAF conducted further evaluation of the fuel requirement and associated infrastructure, and of the existing surface roadway networks on Tinian. The USAF now proposes to construct a fuel pipeline to transport fuel from the seaport to the airport, rather than using fuel trucks for fuel transfer. In addition, the USAF also proposes to improve certain existing roads between the seaport and airport that would be used to support Divert-related projects.

When discussing the purpose and need for this supplemental DEIS, the executive summary states that the proposed underground fuel pipeline "would result in lower overall lifecycle costs for fuel transfer and eliminate the need for construction of fuel tanks at the seaport and the need to transfer fuel by tanker truck", concluding that the "pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient, and less costly method than was analyzed in

the 2016 Divert EIS” (DEIS, ES-2). It is unclear how the determination that an underground fuel line will be less costly and less environmentally impactful was made, and if costs of maintenance for the life of the project, emergency preparedness training, and emergency response to potential system failures have been assessed in this analysis, but clarification of how installing a nearly five-mile underground pipeline became the preferred alternative, and rigorous, data-backed discussion regarding why above ground lines or truck transport are not considered practical alternatives would seem appropriate to include in the updated EIS report. —C1 —C2

The executive summary goes on to state that “all fuel infrastructure would be designed and constructed in accordance with all appropriate federal, CNMI, Department of Defense, and USAF regulations for petroleum fuel pipelines and facilities” (DEIS ES-4). Maintenance is mentioned frequently in the body of the DEIS report, however, details regarding requirements are not summarized but simply listed in Section 2.2 and included in Appendix F. Appendix F in fact appears to list many potentially applicable federal and CNMI standards that relate to “compliance actions and industry standards” but does not include discussion of what actual monitoring measures are being proposed. As noted at our meeting with USAF representatives on June 6, 2019, this approach to presenting information makes review challenging. Section F2 states that “designs would reduce the potential for an increase in stormwater runoff, altered hydrologic conditions, altered water quality, decline in groundwater recharge, groundwater contamination, construction and operations-related accidents, and a release of petroleum products” and lists applicable “best management practices” without specifically detailing what designs or best practices would actually be implemented (DEIS, Appendix F). None of these statements appear to address the uniquely sensitive groundwater sources on Tinian, which should be afforded the best practicable protection solutions due to their status as a sole source aquifer. The Final SEIS should include a sufficiently detailed description of proposed mitigation measures in order to support review and comment. —C3 —C4

A discussion on potential impacts of a pipeline leak such as those reported at other DoD installations – for example the 27,000-gallon jet fuel leak at the Red Hill Bulk Fuel Storage Facility in Honolulu reported in 2014 or the 24 million gallon leak detected at the Kirtland Air Force Base detected in 1999 in New Mexico – and best practices that will be put in place to avoid, minimize, and mitigate risks of a catastrophic leak for the life of the project should be clearly outlined in the EIS report. At both Red Hill and Kirtland, leaks are alleged to have occurred for years before they were detected, therefore, it would seem to be reasonable and appropriate for the final EIS, instead of listing best practices and assuring intent to ensure regulatory compliance, to provide firm commitments regarding what USAF will do to ensure catastrophic environmental impacts to Tinian’s groundwater supply will be proactively managed for the life of the proposed project.

Questions Regarding Factual Statements, Data, and Proposed Action(s)

Upon review of the DEIS, the following questions regarding factual statements and details of the proposal action(s) were identified:

- How would below-ground construction prevent breaches to the proposed fuel line? How will detection of leaks or maintenance needs be assured for the life of this project? —C4

- In addition to the 8.23 acres that could be disturbed for development of seaport support infrastructure, what is the total additional acreage that will need to be leased to support the operations and maintenance of the proposed pipeline development? Has incorporation of additional infrastructure siting such as a wastewater management system, been discussed
- How often will the proposed 9.24 million gallons of jet fuel be transferred from the transport ship through the pipeline to the two bulk storage tanks at the Tinian Airport? —C5
- Transport of construction materials to the seaport was addressed in the 2016 Divert EIS and was not analyzed further in this SEIS because “transport of materials to support construction of the fuel pipeline would not exceed the amount of fuel truck traffic analyzed in the 2016 Divert EIS, or would be conducted by construction workers as part of their daily commute to the construction site” (ES-5). This statement overlooks the fact that nearly five miles of pipeline and additional construction equipment will need to be imported to support the proposed underground pipeline development. Where are there materials coming from? What best practices will be implemented to ensure invasive species such as the Brown Tree Snake and Rhino Beetle, introduced due to movement of military equipment on Guam, will not negatively impact Tinian’s ecosystems? Updated information should be included in this section in the updated EIS report.
- Where will the 75 construction workers proposed to support the 2 to 3-year pipeline construction project be housed? Have additional impacts of either filling available hotel capacity or establishing temporary worker housing, including additional solid waste and wastewater management needs been considered in terms of direct, indirect, and cumulative impacts of this proposal? Where will the solid waste and wastewater from these workers be disposed of? Are there opportunities to extend benefits of waste management services to the people of Tinian to further offset the impacts of this and seemingly related build-up activities including ramped-up training occurring throughout the Marianas including on Tinian, Rota, Saipan, and FDM? —C6
- What alternate materials for road surfacing and maintenance have been considered to support the purpose of ensuring road infrastructure is sufficient to meet USAF’s purpose while avoiding additional impacts to Tinian’s limited supply of aggregate materials? Could recycled materials such as crushed glass and used tires be considered to replace aggregate and serve as a potential demonstration project to support CNMI’s efforts to investigate possible alternatives to traditional road construction to reduce resource demand of this and future proposals. —C7
- What are pollutants of concern associated with jet fuel and the jet fuel processing that will occur to support Divert activities? Have less environmentally impactful alternatives such as aviation biofuels been considered as alternatives to use of hazardous jet fuel to support USAF training needs?
- Please provide details of the Pipeline Integrity Management Plan to demonstrate how maintenance of the proposed fuel line and associated facilities will be assured. Will this

plan be federally funded for the life of the facility operations? Will local workers be trained or off-island workers be retained to ensure plan implementation? What emergency response measures will be put into place to ensure Tinian's groundwater supply is protected from contamination from jet fuel pollutants? How long will USAF manage the monitoring of this pipeline? What is the expected lifetime of this fuel line and associated storage tanks? What type of support will be provided should the line leak and require repairs or need to be decommissioned at the end of its useful life?

- How will increased solid waste, hazardous waste, and waste water associated with this development and the continued increase of military training activities and presence on Tinian be managed? What alternatives have been considered? Please provide all supporting feasibility assessments to further support the identification of a mutually beneficial solution to this resource management challenge. — C8
- If earthmoving activities uncover unexploded ordinance (UXO) during construction, how will this be managed? If UXO is being proposed to be exploded on Tinian, what is the proposed detonation site and how will risk to the surrounding community be reduced?
- What is the financial cost and comparison of jobs created for periodic fuel delivery through tanker trucks compared to the fuel line proposed in this SEIS?

Procedural Concerns and Suggestions

As discussed briefly at the June 6, 2019 meeting, holding one public meeting after 5 p.m. on Tinian makes it challenging for stakeholders throughout the CNMI to engage in this NEPA process. Although USAF assured the CNMI representatives at that meeting that the Air Force will work closely with the CNMI to ensure concerns are addressed and mitigated, it is challenging to identify and collect all community concerns when many community members are not even aware of the action(s) being proposed. USAF noted that a scripted presentation would be given at the June 6 public meeting, and it was requested that this presentation and script be shared to further support community understanding and engagement in this process; however, as of the submission of this letter, that presentation has yet to be shared, providing yet another example of a need for increased information sharing and transparency throughout this process. — C9

It was further urged that future meetings be held on Saipan as well as Tinian, and that a less formal conversational process be established and used instead of the highly structured "three-minute recorded comment" approach to further encourage effective community participation. We are optimistic that as additional and more significant build-up activities are processed such processes will be established in collaboration with CNMI's Leadership through the Civil Military Liaison Office and their supporting agency partners. — C10

Conclusion

Overall, increased coordination as well as meaningful discussion of potential impacts and proposed mitigation measures especially as they relate to environmental and socio-economic impacts would be helpful in framing discussions regarding the significance of effects and possible

mitigation measures. In general, the CNMI is supportive of DoD activities that enable the military's preparedness needs while complementing our development objectives. We understand that achieving optimal outcomes will benefit the armed forces, the residents of the CNMI, and the people of the United States. To this end, we encourage continued consultations – ideally before final proposals are published for public comment through the NEPA process, as will be the next step in this review process. We invite you to share pre-final drafts with the CNMI for comments from our subject matter experts in advance of the release of final documents, and further encourage you to work with our Administration to establish a process of early consultation, review, and comment to improve outcomes for all potentially affected parties. Such a process would ensure a realistic range of alternatives were vetted cooperatively throughout the planning process, furthering goals of public participation under NEPA as well as ensuring the costs of supporting national security are fairly offset throughout this military build-up.

During the USAF visits to Saipan and Tinian, CNMI's resource management agency representatives were assured that the Department of Defense would listen and be responsive to concerns and work to ensure “win-win” solutions could be identified that support military needs that align with the Commonwealth's vision for growth now and in the future. The Administration appreciates this commitment. However, since the execution of the Covenant, and in subsequent Programmatic Agreements, numerous assurances have been made that have yet to come to fruition. If the leased lands of Tinian are to support nation-wide benefits of a new centralized Divert airfield in Micronesia, as well as continuing training needs that are beyond what were initially envisioned when this land lease was first executed, just compensation and appropriate mitigation measures should be provided to the people of Tinian and the CNMI. Promises of mitigation and impact offsets without implementation details, earmarked appropriations and execution deadlines are insufficient. Before additional build-up occurs on Tinian and throughout the Marianas, the DoD should make good on promises to establish medical support facilities and necessary infrastructure on Tinian that have been unfulfilled for over three decades before adding compounding risks of environmental contamination and increased public health and safety impacts with additional build-up activities. CNMI already provides a significant portion of our land and our population to support national security interests – we hope that USAF and the DoD at large will continue to work closely with the Commonwealth to ensure impacts of these activities are mitigated to the maximum extent practicable on a mutually agreeable and beneficial timeline.

Respectfully submitted,



Gilbert J. Birnbrich
Legal Counsel – Office of the Governor
Commonwealth of the Northern Mariana Islands

1 **SAN JOSE, TINIAN: THURSDAY, JUNE 6, 2019, 5:35 P.M.**

2
3 **TINIAN DIVERT INFRASTRUCTURE IMPROVEMENTS**
4 **SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**
5 **PUBLIC REVIEW PERIOD**

6
7
8 HEARING OFFICER JIMENEZ: The time is
9 5:35. And we will now start the hearing.
10 Thank you for attending this public hearing
11 tonight for the Tinian Divert Infrastructure
12 Improvements Draft Supplemental Environmental
13 Impact Statement which will be referred to as
14 Tinian Divert Draft SEIS or Draft SEIS. I'm
15 Lieutenant Colonel Christina Jimenez, and I'm
16 the hearing officer tonight. I'm an Air Force
17 judge and I will be your moderator this
18 evening.

19 As the moderator, my role in our
20 hearing tonight is to ensure that we have a
21 fair, orderly, and impartial hearing where you
22 have an opportunity to make comments on the
23 proposal. I don't work for anyone at Pacific
24 Air Forces or the Air Force Civil Engineer
25 Center or any of the Department of Defense

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1 organizations in the Marianas. I'm not
2 involved in any way with the development of
3 this Draft SEIS or the decisions we make
4 regarding the Tinian Divert Infrastructure
5 Improvements. And I don't act as legal adviser
6 to the Air Force representatives working on
7 this proposal.

8 The hearing is held in accordance with
9 the regulations of the National Environmental
10 Policy Act or NEPA and regulations published by
11 the Council on Environmental Quality and the
12 Air Force. They are holding one public hearing
13 on Tinian for the Draft SEIS. We are here
14 tonight to present information on the
15 environmental impacts of the proposed Tinian
16 Divert Infrastructure Improvements and to
17 receive your comments on the Draft SEIS.

18 Tonight's hearing is just one of
19 several opportunities for public comments. The
20 hearing is an opportunity for you to express
21 your views and give comments about the
22 alternatives studied in the Draft SEIS, the
23 adequacy of the environmental analysis
24 contained in the Draft SEIS, and any issue
25 related to the NEPA process.

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1 This hearing is not a debate or a vote
2 on the Draft SEIS and it is not a question and
3 answer session. Comments about other unrelated
4 issues won't assist in the decision-making
5 process. If you'd like to make a comment
6 during the hearing and have not filled out a
7 speaker card, if you please raise your hand and
8 someone will bring one for you. And as we --
9 oh, we have a couple of hands. We have cards.

10 MS. SMITH: (distributes comment cards)
11 Do you see a couple more hands?

12 HEARING OFFICER JIMENEZ: Any other
13 hands?

14 MS. SMITH: (continues to distribute
15 comment cards.)

16 HEARING OFFICER JIMENEZ: I would like
17 to begin this hearing by introducing the NEPA
18 team beginning with Team Leader Colonel Michael
19 Gimbrone with Headquarters Pacific Air Forces
20 who will present details of the proposed
21 actions and alternatives.

22 Next, is Julianne Turko, a NEPA project
23 manager at the Air Force Civil Engineer Center
24 who will discuss results of the NEPA process.
25 Representatives from the Air Force Installation

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1 and Mission Support Center led by Mark Peterson
2 are also present. They have provided detailed
3 information on the proposed infrastructure and
4 contribute to a thorough analysis of the
5 impacts in this Draft SEIS.

6 Representatives from HDR are here
7 supporting the Air Force as the contractor. We
8 also have Florence Kirby here to provide
9 Chamorro and Carolinian translations for the
10 hearing materials or your written comments.
11 Transcribing tonight's hearing is George
12 Castro. I would also like to recognize the
13 following individuals; any special people? No.

14 MS. SMITH: Yes.

15 HEARING OFFICER JIMENEZ: All of you,
16 of course. Thank you for attending. Colonel
17 Gimbrone will first present information on the
18 proposed actions and the alternatives and then
19 Ms. Turko will provide an overview of the NEPA
20 process and will summarize the potential
21 environmental impacts of the proposal.

22 After the presentations, which should
23 take about 20 minutes, we will begin our oral
24 comment period during which you can provide
25 input on the proposed actions, Draft SEIS

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1 analysis, and potential environmental impacts.
2 Your comments will become part of the official
3 record of the final SEIS. Please note that
4 informal discussions at our informational
5 displays will not become part of the SEIS
6 record.

7 So, if you have any items of concern
8 about the analysis in the Draft SEIS that you
9 would like to bring to the Air Force's
10 attention, please do so during the hearing or
11 in writing. If you'd like to provide written
12 comments rather than speak here tonight, or if
13 you'd like to do both, written comment sheets
14 are available at our comments table and you can
15 hand in your comments tonight at the table
16 after the hearing, or you can mail them in
17 later. You can also provide comments on the
18 project website at
19 www.pacafdivertmarianaseis.com. And if you
20 mail your comments please send them to the
21 address printed on the comment form.

22 We also ask that all comments be
23 provided in English. As I mentioned, we have
24 Ms. Florence Kirby here available at tonight's
25 hearing to assist with translating your

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1 Chamorro or Carolinian comments into comments
2 written in English. If you have not had a
3 chance to review the Draft SEIS, it is
4 available on the website or at the public
5 locations listed here both on Saipan and
6 Tinian.

7 The Air Force welcomes comments in
8 writing at any time during the environmental
9 impact analysis process. For your comments to
10 receive timely consideration in the final SEIS,
11 please submit them by July 1st, 2019. Your
12 comments will provide the Air Force decision-
13 maker with information to assist in making a
14 decision regarding the proposed infrastructure
15 improvements on Tinian.

16 Your comments during this process
17 provide the benefit of your knowledge of the
18 local area and your concerns about the
19 environmental impacts or analysis.

20 Are there any questions regarding the
21 procedures we will be following this evening?

22 ATTENDEES: (none so indicate)

23 HEARING OFFICER JIMENEZ: It doesn't
24 look like there is. So, we'll now move on to
25 the briefings. And during the briefings, our

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1 speakers will be reading from prepared scripts.
2 The briefings are written to make sure each
3 speaker covers all the pertinent information.
4 With that, I'll turn over the presentation to
5 Colonel Gimbrone.

6 COLONEL GIMBRONE: Good evening and
7 welcome. As you heard, I'm Colonel Michael
8 Gimbrone representing Headquarters, Pacific Air
9 Forces, also known as PACAF. I'm the chief of
10 the PACAF Force Posture Division within the
11 Strategy Plans and Programs Directorate.

12 One of my responsibilities is
13 developing long-term force posture plans within
14 the Indo-Pacific region. And it's in that role
15 that I'm here tonight. On behalf of the PACAF
16 Commander, General Charles Q. Brown, Jr.,
17 welcome to this evening's hearing.

18 As the team leader, I encourage you to
19 assist the Air Force in meeting its
20 requirements to comply with the NEPA process.
21 Your attendance tonight indicates your interest
22 in these proposed actions, and I hope your
23 comments will provide us with improvements or
24 areas where further analysis is needed. All
25 substantive comments will be objectively

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1 reviewed, analyzed, and addressed in the final
2 SEIS.

3 In September 2016, the Air Force
4 completed the final EIS for Divert Activities
5 and Exercises. The final EIS analyzed the Air
6 Force proposal to construct facilities and
7 infrastructure at the Saipan or Tinian
8 Airports, or both, as a future divert location.

9 This divert location would support
10 cargo, tanker, and similar aircraft, and
11 associated support personnel for divert
12 operations, periodic exercises, and
13 humanitarian assistance and disaster relief. A
14 Record of Decision was signed in December 2016
15 that announced the Air Force's decision to
16 select Tinian as a future Air Force divert
17 location.

18 The Record of Decision specified
19 construction on the north side of the Tinian
20 airport for divert infrastructure and also
21 included fuel storage tanks at the Tinian
22 seaport. Fuel tanker trucks were proposed to
23 transfer fuel from the seaport to fuel storage
24 tanks proposed on the north side of the
25 airport.

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1 After the Record of Decision was
2 signed, the Air Force further evaluated fuel
3 transfer methods and the surface transportation
4 network on Tinian. The Air Force sought to
5 determine if there was a more efficient
6 alternative for fuel delivery to the airport
7 than transporting via fuel tank trucks, and if
8 the existing transportation network could
9 support the anticipated Divert vehicles as were
10 studied in the 2016 Divert EIS.

11 The purpose of the first proposed
12 action addressed in the draft SEIS is to
13 provide fuel from the seaport to the airport
14 bulk storage tanks in a safer, more reliable,
15 secure, efficient, and less costly method than
16 was analyzed in the 2016 Divert EIS.

17 The purpose of the second proposed
18 action is to facilitate heavy vehicle traffic
19 that is anticipated under the overall Divert
20 project, while ensuring the roads continue to
21 provide adequate service to the local
22 community.

23 The Air Force is proposing two actions.
24 These two proposed actions are to construct a
25 fuel pipeline from the Tinian seaport to the

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1 north side of the Tinian International Airport,
2 to include constructing support infrastructure
3 and necessary utility connections at the
4 seaport. And to improve certain existing roads
5 between the seaport and airport that were
6 previously analyzed for Divert vehicles in the
7 2016 Divert EIS.

8 In the Draft SEIS, the Air Force
9 analyzed the environmental impacts of two
10 alternative routes for the fuel pipeline. The
11 east route and the west route. The Air Force
12 has identified the east route as the preferred
13 alternative for the fuel pipeline. The
14 infrastructure proposed at the seaport would be
15 the same regardless of the pipeline route
16 constructed.

17 One vehicle route from the seaport
18 north to Tinian Route 25 or TR 25, north along
19 TR 25 to its intersection with TR 24, and east
20 along TR 24 to its intersection with TR 21, was
21 identified for improvements.

22 Action alternatives for the roadway
23 improvements are not analyzed in the Draft SEIS
24 as no other roadways were identified that would
25 be used for divert vehicles, that were also in

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1 need of extensive improvement and
2 reconstruction.

3 The Air Force also considers a no-
4 action alternative for each proposed action in
5 the Draft SEIS. The no-action alternative is
6 required by NEPA regulations and was evaluated
7 to provide a baseline for decision-makers when
8 evaluating the impacts of the proposed actions.
9 The no-action alternatives analysis presents
10 the environmental impact of not implementing
11 the proposed actions. The following slides
12 provide more information on the proposed
13 actions and alternatives.

14 The proposed fuel pipeline would
15 eliminate both the need for bulk fuel storage
16 tanks at the Tinian seaport, and the need for
17 fuel tanker trucks to transport fuel from the
18 seaport to the airport as described in the 2016
19 Divert EIS.

20 The fuel pipeline would be installed
21 underground to a depth of approximately 3 feet
22 within a 20-foot utility easement. The east
23 route alternative would travel approximately
24 4.9 miles, and the west route alternative would
25 travel approximately 4.1 miles from the seaport

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1 to the airport. To support operation of the
2 fuel pipeline, a booster pump house and boom
3 storage building would be constructed near the
4 seaport.

5 These facilities would be collocated
6 with the construction laydown yard, biosecurity
7 area to inspect the materials arriving at the
8 seaport for invasive species, parking area,
9 sanitary sewer septic tank system with leach
10 field, water storage tanks, bio-infiltration
11 swales to collect stormwater runoff, and
12 utility lines and connections.

13 All fuels infrastructure would be
14 constructed, operated, and maintained in
15 compliance with applicable Federal, CNMI,
16 Department of Defense, and Air Force
17 regulations. Proposed roadway improvements
18 would take place as needed along the roadways
19 on the figure shown here.

20 The road improvements would include
21 replacement of the existing roadway surfaces
22 which would entail removing the existing
23 deteriorated asphalt cap, grading the road
24 subsurface down below the original asphalt cap,
25 laying the sub-base, and finishing the surface

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1 with a new asphalt cap. However, portions of
2 these roadways may require less extensive
3 repairs based on geotechnical analysis or
4 existing roadway condition.

5 We would like to emphasize that no
6 final decision has been made on the proposed
7 actions presented in the Draft SEIS. We look
8 forward to inputs provided from the public as
9 we proceed through the environmental impact
10 analysis process. Once the requirements of the
11 environmental impact analysis process are
12 complete, the Air Force will make its final
13 decision.

14 Thank you for your attention. I will
15 now turn the presentation over to Ms. Turko,
16 the Air Force representative for the Draft SEIS
17 to discuss the NEPA process and provide greater
18 detail on potential impacts as described in the
19 Draft SEIS.

20 MS. TURKO: Good evening, everyone.
21 I'm Julianne Turko, the Air Force
22 representative. As Colonel Gimbrone mentioned,
23 we will be discussing the environmental impacts
24 that he just -- on the proposed actions that he
25 just presented to you.

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1 This Draft SEIS has been prepared in
2 accordance with the requirements of NEPA and
3 its regulations. NEPA requires federal
4 agencies to analyze the potential environmental
5 impacts of the proposed actions, reasonable
6 alternatives, and a no-action alternative. And
7 this is required to be done before any action
8 is taken.

9 The goal of conducting an EIS, or in
10 this case an SEIS, is to support sound
11 decisions for the assessment of potential
12 environmental impacts and involve the public in
13 the process. The results of this analysis and
14 other relevant factors will be considered
15 before the Air Force makes any decision on this
16 proposal.

17 So, your input during the public
18 scoping period earlier in the NEPA process
19 helped inform this decision on this proposal.
20 And your input at this time during the public
21 comment period is very important too.

22 So, there are several key steps to the
23 environmental impact analysis process. And
24 currently, we're at the Draft SEIS review
25 stage. And it began with the federal register

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1 publication of the notice of availability for
2 the Draft SEIS on May 17, 2019.

3 At that time, copies of the Draft SEIS
4 were mailed to local document repositories,
5 CNMI, and federal representatives, and also
6 individuals who requested copies during the
7 SEIS scoping period or participated in the
8 original Divert EIS review process.

9 The review period required by NEPA is
10 45 days. Our date for completion of the public
11 review period is July 1st, 2019. And after the
12 public review period closes, we will look at
13 all comments received at this public hearing,
14 comments received through the mail, or
15 electronically, or also on our website. And
16 we'll consider them in preparing the final
17 SEIS.

18 Substantive comments will be responded
19 to in the final SEIS. The Air Force considers
20 substantive comments to be those that offer
21 information regarding the proposed action or
22 alternatives or those that offer information
23 relative to the assessment of the impacts, or
24 those that offer information about the NEPA
25 process. A yes or a no vote, or information

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1 not directly related to the Tinian Divert
2 Infrastructure Improvements NEPA process, are
3 not considered substantive, and so would not
4 require the Air Force to provide a response in
5 the final SEIS.

6 MR. CONNOLLY: Would you repeat that,
7 please? That last one.

8 MS. TURKO: Sure. I know it's a lot
9 and there's plenty of --

10 MR. CONNOLLY: No, just that last --
11 last bit about not relevant.

12 MS. TURKO: Okay. The yes or the no --

13 MR. CONNOLLY: The last --

14 MS. TURKO: -- vote --

15 MR. CONNOLLY: -- two sentences.

16 MS. TURKO: -- discussion? *A yes or a*
17 *no vote or information not directly related to*
18 *the Tinian Divert Infrastructure Improvements*
19 *NEPA process are not considered substantive and*
20 *would not require an Air Force response in the*
21 *final SEIS.*

22 MR. CONNOLLY: Thank you.

23 MS. TURKO: So, the final SEIS is
24 scheduled to be released in the winter of 2019.
25 And after the final SEIS notice of availability

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1 is published in the federal register, the Air
2 Force must observe a waiting period of at least
3 30 days before signing the Record of Decision
4 to document what actions the Air Force has
5 selected to implement.

6 The Draft SEIS presents information on
7 potential environmental impacts associated with
8 the proposed actions described earlier in this
9 presentation. The resource areas analyzed for
10 potential environmental impacts are grouped
11 into categories shown on the slide. And the
12 sub-categories represent the resource areas
13 evaluated for each proposed action on Tinian.

14 So, the next few slides, we're going to
15 describe the potential environmental impacts
16 from the proposed actions on Tinian. And for
17 the purposes of this presentation, the
18 potential environmental impacts have been
19 summarized in broad terms. So, if you'd like a
20 more detailed evaluation of those potential
21 impacts, please refer to Chapter 4 of the Draft
22 SEIS.

23 Okay. As a general overview, overall,
24 we look at the construction and operation of
25 the seaport infrastructure and the pipeline

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1 alternatives. And none of that is anticipated
2 to have significant impacts on the resources
3 analyzed in the Draft SEIS.

4 Construction of the roadway
5 improvements that we also looked at is also not
6 anticipated to have significant impacts.

7 Going to some of the specific areas now
8 and the noise levels would be expected to
9 increase from the construction equipment during
10 construction of the pipeline and seaport
11 support infrastructure. And also from the
12 roadway improvements.

13 However, the increases in noise will be
14 temporary, and would be focused along the
15 construction routes. The noise would dissipate
16 as construction at either proposed action
17 progresses north away from San Jose Village.

18 Now, looking at the terrestrial
19 biological resources impacts, the Air Force
20 conducted terrestrial biological resources
21 surveys for the proposed actions to identify
22 plants and animals in the proposed construction
23 areas. During that survey, biologists
24 identified only one species classified as
25 threatened or endangered under the Federal

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1 Endangered Species Act. And this was out of
2 eight possible -- eight species with the
3 potential to occur in the project areas.

4 Two *Fadang* plants, a type of plant that
5 is listed as threatened and endangered under
6 the Endangered Species Act were identified
7 within the landscaping of the historic NKK
8 administration building.

9 This is along TR 26 near the southern
10 end of both proposed pipeline routes. These
11 plants and the structures associated with the
12 site would be entirely avoided during
13 construction of the pipeline.

14 The Air Force has determined that both
15 proposed actions would have no effect on
16 threatened and endangered terrestrial species
17 and has provided this determination to the U.S.
18 Fish and Wildlife Service.

19 With our marine biological resources,
20 the Air Force has determined that minor impacts
21 could occur on nearshore threatened and
22 endangered marine species and essential fish
23 habitat. This might occur from potential
24 sedimentation, stormwater runoff, or accidental
25 environmental contamination during construction

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1 of the proposed actions, or operation of the
2 fuels infrastructure. However, the Air Force
3 has committed to complying with all applicable
4 Department of Defense, CNMI, and federal
5 regulations.

6 The Air Force would also implement
7 industry standards for stormwater management
8 and fuels infrastructure. Implementing these
9 measures would greatly reduce the potential for
10 any impact on marine resources.

11 The Air Force received concurrence from
12 the National Marine Fisheries Service for their
13 effects determination on threatened and
14 endangered marine species. The Air Force has
15 also completed consultation with the National
16 Marine Fisheries Service regarding essential
17 fish habitat.

18 So, on the cultural resources, the Air
19 Force conducted a cultural resources survey in
20 areas of potential ground disturbance for the
21 proposed actions. The cultural resources
22 survey confirmed the presence of known historic
23 properties and identified the presence of
24 previously unidentified properties.

25 Considered together with the original

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1 divert proposal, the Air Force has determined
2 under Section 106 of the National Historic
3 Preservation Act that the combined divert
4 proposed actions would have an adverse effect
5 on historic properties, particularly in the
6 West Field area.

7 The Air Force previously agreed to
8 measures to mitigate adverse effects from the
9 original divert proposed action. And we're
10 currently consulting with CNMI Historic
11 Preservation Officer and other consulting
12 parties to be able to determine additional
13 appropriate measures to mitigate the
14 supplementary effects.

15 The construction of the SEIS proposed
16 actions would require up to 75 additional
17 construction workers for the fuel pipeline and
18 support infrastructure and up to 25 additional
19 workers for the roadway improvements. Beyond
20 those -- and this is beyond those needed for
21 the original divert proposed action.

22 The Air Force assumes that the Tinian
23 construction workforce would support all divert
24 proposed actions but that additional
25 construction workers would also be needed from

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1 off island; and construction of both proposed
2 actions would increase employment, the purchase
3 of goods and services, local business sales,
4 and tax revenue on Tinian.

5 However, increases in the Tinian
6 population from off-island construction workers
7 could also have a moderate adverse impact on
8 public services as there could be an increased
9 demand on local health and medical, law
10 enforcement, and firefighting services. These
11 impacts would be temporary.

12 To minimize the impacts on local health
13 and medical services, the construction
14 contractor would be responsible for medical
15 care for construction personnel during peak
16 work periods. No other notable impacts are
17 anticipated for the implementation of the
18 proposed fuel pipeline or infrastructure, or
19 the roadway improvements.

20 So, this concludes my portion of the
21 presentation. Thanks for your time and
22 attention. And I'd like to turn it over back
23 to Lieutenant Colonel Jimenez.

24 HEARING OFFICER JIMENEZ: Does anyone
25 have any questions that need to be clarified

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1 regarding the information presented here this
2 evening before I move to the second part of the
3 meeting?

4 ATTENDEES: (none so indicate)

5 HEARING OFFICER JIMENEZ: It looks like
6 no. So, we'll now move into the public comment
7 portion of tonight's proceedings. For those
8 wishing to speak, here's the format. If you
9 can please fill out one of the speaker cards,
10 and again please raise your hand, you can get a
11 card. And if you did not get one, one of the
12 workers will -- they're moving already. We'll
13 get you a card. And if you want to speak, just
14 fill that out and the staff will give you the
15 card to do that.

16 When I call your name, you may approach
17 the microphone. And I'll figure out how to
18 turn it on. To help our court reporter, make
19 sure to make all of your comments verbal in
20 English, and begin your comments by stating
21 your name and any organization that you're
22 representing. And it will also help if you
23 spell out your last name. Please do not
24 provide any other personal information like
25 your home address or phone number.

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1 Again, your comments will be recorded
2 verbatim and they will become a part of the
3 transcript and a permanent record of this
4 hearing. It will be published in the Final
5 SEIS. Your name will be included along with
6 your comments. Personal home addresses and
7 phone numbers will not be public in the Final
8 SEIS.

9 The procedure gives three minutes to
10 each speaker. But you do not have to speak for
11 the full three minutes. We have a timekeeper
12 up here at the front that will help you keep
13 track of the time.

14 The timekeeper will show you a yellow
15 card when you have about 30 seconds remaining
16 on your time, and a red card when your time is
17 up. And at that time, I'll ask you to conclude
18 your comments, so we can call on the next
19 person. You don't need to yield any remaining
20 time to someone else. I'll just move on to the
21 next speaker when you've finished.

22 Also, in the interest of time, we ask
23 that you submit any individual electronic
24 presentations as a written comments. Tonight's
25 hearing is set to end at 8 p.m. If everyone

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1 who has signed up to speak has had a chance to
2 do so before that time, I'll ask if any
3 speaker would like another three minutes to
4 expand upon their comments. If you want to do
5 that, just let me know at that time and we'll
6 put another three minutes back on the clock for
7 you.

8 If you want to add something later to
9 your oral comments or if you would like to
10 rather not speak here at all tonight and just
11 submit written comments, there is no page limit
12 to those written comments. And the Air Force
13 gives equal weight to oral and written
14 comments. Both will become part of the
15 official record and are included in the Final
16 SEIS.

17 For anyone that would like to make
18 comments in Chamorro or Carolinian, again
19 please speak with Ms. Florence Kirby here at
20 the front who is available at tonight's hearing
21 to assist with translating your comments into
22 written English.

23 Just a few reminders, before we get
24 started. First, please limit your comments to
25 the Draft SEIS that is the subject of this

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1 public review and comment period.

2 Second, if you agree with the previous
3 speaker on something, you can certainly say
4 that but you don't need to use up all your time
5 repeating it since it's already on the record.

6 Finally, as I mentioned earlier, this
7 isn't a Q&A session. It's an opportunity for
8 you to put on the record your views and
9 concerns about the proposal that you want the
10 decision-makers to consider. Any questions
11 that you pose during your comments will become
12 part of the record and will be considered in
13 developing the final SEIS and making a decision
14 on the proposals.

15 After we complete the formal part of
16 the hearing, the Air Force representatives will
17 continue to be around and available for
18 discussion.

19 Anyone have any question about the
20 procedure for tonight's hearing?

21 MR. CONNOLLY: Yes. When does the
22 timing of the three minutes begin? I remember
23 one time here at another hearing, people barely
24 -- I had some signs that I put up and I had
25 been speaking for more than a minute and the

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1 guy said, "Your time is up. Your time is up."

2 HEARING OFFICER JIMENEZ: As soon as
3 you say your name.

4 MR. CONNOLLY: So, there was irregular
5 -- did I say my name?

6 HEARING OFFICER JIMENEZ: No, no. As
7 soon as you say your name, that's when we're
8 going to start your clock. So, if you want to
9 set something up, again we do --

10 MR. CONNOLLY: No, I don't. I don't.
11 I'm just asking when it began.

12 HEARING OFFICER JIMENEZ: Say your name
13 --

14 MR. CONNOLLY: Because it seemed that
15 there was irregular --

16 HEARING OFFICER JIMENEZ: -- the clock
17 starts.

18 MR. CONNOLLY: -- time for the various
19 presentations by citizens.

20 HEARING OFFICER JIMENEZ: Tonight, it
21 will be as soon as you say your name. Does
22 that work?

23 MR. CONNOLLY: Thank you.

24 HEARING OFFICER JIMENEZ: Three minutes
25 from then, my timekeeper up here will be

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1 tracking that. But again, if everybody speaks
2 and we still have more time, we can add another
3 three minutes if you'd like to.

4 MR. CONNOLLY: Thank you.

5 HEARING OFFICER JIMENEZ: Any other
6 questions? Sir.

7 MR. ALDAN: A card, please.

8 HEARING OFFICER JIMENEZ: Oh, yes.
9 Please.

10 MR. CONNOLLY: So, no questions will be
11 answered, they will be answered at a later date
12 if they are deemed relevant to the particular
13 EIS that's being done?

14 HEARING OFFICER JIMENEZ: So, if you
15 have questions, the Air Force representatives
16 will be around.

17 MR. CONNOLLY: Afterwards?

18 HEARING OFFICER JIMENEZ: And you can
19 ask those. If you just want to put a question
20 you have into the comments that you can say
21 that, no one's going to be answering that in --

22 MR. CONNOLLY: It's understood.

23 HEARING OFFICER JIMENEZ: -- this part
24 of the process. Any other question?

25 ATTENDEES: (none so indicate)

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1 HEARING OFFICER JIMENEZ: Okay. We're
2 going to take a few minutes to give you a
3 moment to fill out those cards.

4 SENATOR HOF SCHNEIDER: Ma'am?

5 HEARING OFFICER JIMENEZ: Yes, sir.

6 SENATOR HOF SCHNEIDER: I just -- just
7 out of clarification. I mean I heard Mr.
8 Gimbrone as well as yourself that you wanted us
9 to stay within the context of what you guys are
10 presenting tonight.

11 HEARING OFFICER JIMENEZ: Yes.

12 SENATOR HOF SCHNEIDER: That's correct?

13 HEARING OFFICER JIMENEZ: Yes.

14 SENATOR HOF SCHNEIDER: But I would like
15 to clarify one more time if there's anything
16 that's associated as a result of this
17 presentation, that can be taken in to
18 consideration for this evening's comment.

19 HEARING OFFICER JIMENEZ: So, the
20 limits are -- and I will let them speak, is
21 that aspect of it.

22 SENATOR HOF SCHNEIDER: Okay.

23 HEARING OFFICER JIMENEZ: If you wish
24 to comment on something you think it is, again,
25 if it is not part of that, it just won't be

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1 helpful to the decision-makers for this
2 process. Does that somewhat clear up the
3 issue?

4 SENATOR HOFSCHEIDER: Yeah --

5 HEARING OFFICER JIMENEZ: Or not at
6 all? (laughing)

7 SENATOR HOFSCHEIDER: I'm not
8 necessarily in agreement. But that's okay.

9 HEARING OFFICER JIMENEZ: Oh, I got
10 you.

11 SENATOR HOFSCHEIDER: Yeah.

12 HEARING OFFICER JIMENEZ: That makes
13 complete sense. That can also be a comment.

14 SENATOR HOFSCHEIDER: Yeah.

15 HEARING OFFICER JIMENEZ: But yes,
16 they're limited to this piece of that. Okay.
17 We're still going to take a few minutes.
18 Please make sure you turn in your cards to my
19 two lovely ladies that have been collecting and
20 handing out cards so we can grab them if you
21 wish to speak, so then I can try not to
22 mutilate your names when I have the cards.

23 (Break was taken from 6:10 p.m. to 6:15
24 p.m.)

25 MS. SMITH: (gathers comment cards from

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1 the attendees)

2 HEARING OFFICER JIMENEZ: Okay. I'm
3 going to go with the first rounds of cards that
4 I have right now. So, Mr. Edwin Aldan, please
5 step forward, I have the microphone for you.

6 MR. CONNOLLY: That's our mayor.

7 HEARING OFFICER JIMENEZ: And I
8 apologize, Mayor. I did not know you were here
9 in the audience.

10 MR. ALDAN: It's okay. Do I go to the
11 podium?

12 HEARING OFFICER JIMENEZ: You can
13 absolutely take the podium. Please.

14

15

16 **COMMENTS BY MAYOR EDWIN ALDAN**

17 MR. ALDAN: Thank you. Thank you
18 Colonel for coming down today and thank you for
19 the opportunity to comment on the Divert Draft
20 Supplemental Environmental Impact. As you know
21 the CNMI government, CPA, and the Air Force
22 recently signed the lease agreement to allow
23 the divert training and exercise activities
24 here on Tinian. The Supplemental EIS lays out
25 three alternatives, a no-action alternative, an

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1 alternative that goes -- cutting through this
2 same property; and the preferred alternative
3 which is a fuel pipeline that will allow CPA to
4 access the fuel pipeline so that international
5 commercial airlines will be able to fly
6 directly to Tinian.

7 From the leaders perspective, a
8 preferred alternative is our alternative which
9 is we believe that the program that we could
10 allow -- currently allow -- which is currently
11 revisable, allows for the -- (mic distortion) -
12 - to allow for the alternative of additional
13 safeguards and security measures where the
14 pipeline is being built so we are satisfied
15 that safety, environmental, and archeological
16 concerns will be addressed. I commend the Air
17 Force for their leadership and partnership
18 throughout this process.

19 While we are here today to comment on
20 Supplemental EIS, I would like to also take
21 this opportunity to request that we continue to
22 work together to collaborate to insure that
23 this project benefits our economy through
24 proven opportunities. Our underlying reasons
25 for supporting this project such as this is to

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1 provide direct benefits to our people and to
2 grow our economy. As you move forward with
3 this project, please keep in mind the forefront
4 of your thoughts.

5 Thank you for the opportunity to
6 comment, and thank you for your service to our
7 country. And thank you for your partnership.

8 HEARING OFFICER JIMENEZ: Mr. Jude
9 Hofschneider?

10 MR. CONNOLLY: Senator.

11 HEARING OFFICER JIMENEZ: Same time --
12 Senator. Everybody missed all my titles for
13 me.

14 SENATOR HOFSCHEIDER: It's okay.

15 HEARING OFFICER JIMENEZ: Please.

16 SENATOR HOFSCHEIDER: Thank you,
17 madam. Ms. Jimenez?

18 HEARING OFFICER JIMENEZ: Jimenez.

19

20

21 **COMMENTS BY SENATOR JUDE HOFSCHEIDER**

22 SENATOR HOFSCHEIDER: Jimenez. Thank
23 you. Colonel, thanks for -- thank you for
24 being here and thank you for bringing this
25 forum to the community. I am Jude

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1 Hofschneider, member of the senate. I'm
2 currently the chairman for the delegation of
3 Tinian. As was mentioned earlier by the mayor,
4 I would like to just narrow down my questions
5 and perhaps post some of the elements that I
6 represent, fully understanding the two items in
7 the SEIS.

8 But, I want to pose this question, in
9 the midst, estimated quantity of water that is
D1 10 demanded for the project? What about the
11 sewage generated during the construction phase,
12 and how are they going to be treated?

D2 13 And in any event, as far as the
14 excavation, assume that you come across ancient
15 remains; I suggest, if instead of having it
16 sent elsewhere, to consider constructing or
17 erecting a mausoleum somewhere in Tinian as a
18 preferred site with an agreement with the
19 municipality so that we can keep the remains
20 here on our island.

21 It was mentioned on the impact on the -
22 - minimal impact on the hospital and the clinic
23 during the construction time, and I certainly
24 appreciate that. But I will not -- if I'm
D3 25 allowed a couple more minutes, I do want to

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D3 — 1 raise this issue of the solid waste to be
2 generated during the construction time. During
3 and post, how are they going to be addressed?
4 I am sure you guys are aware of the situation
5 in that particular infrastructure. How is air
6 space -- maybe I'm jumping ahead of myself
7 here, but when you say transportation, I
8 immediately think about the air transportation.
9 But I'll reserve that.

D3 — 10 And finally, the CNMI and Tinian had
11 developed an environmental impact assessment
12 report that said Tinian spent almost a million
13 dollars for a joint -- on the solid
14 waste/sewage treatment facility here in Tinian.
15 And we will be sharing those information to you
16 so that could help you guys determine the best
17 possible use. And we encourage to be able to
18 do a partnership hereto forth. Once again I
19 thank you for this opportunity and I look
20 forward to seeing you guys again. Thank you.

21 HEARING OFFICER JIMENEZ: Mr. Pepe
22 Connolly?

23 MR. CONNOLLY: Yeah.

24 HEARING OFFICER JIMENEZ: And you may
25 use the podium as well.

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1 MR. CONLEY: I have to say my name and
2 then you're going to start --

3 HEARING OFFICER JIMENEZ: And then
4 they're going to start the clock.

5

6

7 **COMMENTS BY JOEY PEPE BATBON CONNOLLY**

8 MR. CONNOLLY: Joey Pepe Batbon
9 Connolly. I'd like to ask Ms. -- just on my
10 questions. Ms. Turko, you mentioned a couple
11 of times on the roadway and pipeline, no
12 significant impact. At some point, not this
13 evening -- I'd like you to define what that
14 means, no significant impact. No significant
15 impact.

K1 — 16 I have one question about the PIM, the
17 pipeline integrated management. And that is
18 about water table contamination from pipeline
19 leaks possibly due to earthquakes. We do have
20 them here. And in reading another piece of
21 information, not this, it seemed to have been
22 washed over or kind of dismissed as not a major
23 concern that we wouldn't need to worry about
24 that. I'm real worried about it if there's
25 fuel in there and there's some kind of a leak.

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1 And I also wondered about the usage,
2 the utilization of pipe pigs in the pipe. They
3 look like submarines that go through. I've
4 worked on oil rigs in the Gulf of Mexico
5 production platforms, and we have good safety
6 records there with maintenance; safety of the
7 pipelines.

8 Mr. Gimbrone mentioned about
9 improvement of certain existing roads. It says
10 only one roadway route is under consideration
11 for road improvements which travels through
12 blah, blah, blah. I like the vagueness in some
13 of the papers that said improve existing roads
14 because I have a -- there's a major
15 intersection up here where the new rotary is,
16 where the roundabout is that I think needs some
17 work. And although that's perhaps not in this
18 particular -- it's not in this at all, I would
19 ask that you consider in your analysis helping
20 improve that because I think that there's some
21 serious engineering flaws there as far as
22 access from all four points; it's the major
23 intersection coming down from the airport onto
24 this road here. And since you're going to have
25 equipment in here, heavy duty equipment on that

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1 road, that perhaps you could -- it would remove
2 -- it would involve removing two telephone
3 poles; and so if you could possibly make that
4 some kind of contribution or consider making
5 that -- improving that roundabout, it'll be
6 well appreciated. And I guess that's about it.
7 Thank you, Ms. Jimenez.

8 HEARING OFFICER JIMENEZ: Mr. Jose --
9 is it Kiyoshi?

10 MR. KIYOSHI: (not present)

11 HEARING OFFICER JIMENEZ: He made a run
12 for it? (laughter) Well, that is all the names
13 I have right now. So, it does not mean you're
14 off just yet. That means we still have more
15 time. So, if you would like to make more
16 comments, please.

17 SENATOR HOF SCHNEIDER: Sure. I totally
18 forgot to mention, and I'm sorry.

19 HEARING OFFICER JIMENEZ: Please, sir.

20

21

22 **COMMENTS BY SENATOR JUDE HOF SCHNEIDER**

23 SENATOR HOF SCHNEIDER: Thank you. Just
24 another associated infrastructure here that I
25 would like to go on record saying that I do

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1 know that you will be bringing in materials,
2 you'll be bringing in vessels of all sorts
3 during the construction period. And as you
4 know, during the experience of super typhoon,
5 we had a scare of swells coming up, high enough
6 to reach the old plant. So, what I'm trying to
7 get to is the idea, the construction, the
8 dilapidation and the state of the dilapidation
9 of the water break, is the artery, the main
10 artery of our public wellness here on Tinian.
11 And, since we are partnering today, we are
12 partnering with the U.S. Air Force here on
13 Tinian, we would like to bring this forth to
14 you -- to your attention that that is a
15 significant, most crucial part of our
16 infrastructure that we would like to bring
17 forth for discussion and consideration. Thank
18 you.

19 HEARING OFFICER JIMENEZ: Is there
20 anybody else who'd like to -- oh. We're going
21 to get you to fill out a card just so I can
22 make sure we get the right name as well.

23 MR. BORJA: Sure.

24 HEARING OFFICER JIMENEZ: Okay.

25 MR. BORJA: Here.

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1 HEARING OFFICER JIMENEZ: Mr. Antonio
2 Borja, please? And we will turn over the
3 microphone to you.

4
5
6 **COMMENTS BY MR. ANTONIO BORJA**

7 MR. BORJA: I'm Antonio Borja, I am
8 here representing CPA. And my comment is on
9 the pipeline. We asked the CPA manager -- to
10 have the pipeline on the east route. The
11 closer it is to the airport, the cheaper it is
12 for us to put in a fuel tank and connect it to
13 the pipeline. That's it. Thank you.

14 MR. CONNOLLY: I'll go again.

15 HEARING OFFICER JIMENEZ: Oh! Please
16 step forward, sir. We're adding on three
17 minutes to your clock.

18
19
20 **COMMENTS BY MR. JOEY PEPE BATBON CONNOLLY**

21 MR. CONNOLLY: I was wondering about
22 the pipeline. Pressure valves. How will the
23 monitoring of these valves in use, or not in
24 use, what type of monitoring situation will
25 there be as far as pressure valves to indicate

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1 both from the port up at the airport itself and
2 in between? That's why I asked about pigs.
3 Because if it was underground, of course, with
4 some type of earthquake, some type of movement,
5 that's going to be difficult to see. That's
6 pressure valves -- I'm just wondering whether
7 there would be more information about the
8 pipeline, yeah. Thank you.

9 HEARING OFFICER JIMENEZ: Thank you,
10 sir. Mr. Frederick Dela Cruz?

11 MR. DELA CRUZ: Yeah.

12 HEARING OFFICER JIMENEZ: Sir?

13

14

15 **COMMENTS BY MR. FREDRICK DELA CRUZ**

16 MR. DELA CRUZ: Good afternoon -- good
17 evening. My questions regarding the pipeline,
18 even after it's done there's going to be --
19 there are going to be impacts, you know. Do
20 you guys have a response plan or response
21 package that's going to respond to the most
22 catastrophic situation that can happen while
23 that thing's here to the most likely, like the
24 things he was talking about, the pressure
25 valves or determining leaks. How do you --

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1 what's the mitigation plan for that and what's
2 acceptable and not acceptable? That's my
3 question. Thank you.

4 HEARING OFFICER JIMENEZ: Thank you,
5 sir. Anybody else?

6 ATTENDEES: (none so indicate)

7 HEARING OFFICER JIMENEZ: So, as I
8 mentioned, the hearing is scheduled to end at
9 8. So, we've heard from everyone that had
10 signed up to speak. But we still obviously
11 have some time left on our clock. So, if you
12 can raise your hand, we'll get you some more
13 speaker cards. And if anybody that has spoken
14 and would like another three minutes to speak,
15 we can have that as well. Is it Mr. John
16 Attao?

17 MR. ATTAO: Yes, it is.

18 HEARING OFFICER JIMENEZ: Please, sir.

19

20

21 **COMMENTS BY MR. JOHN ATTAO**

J1

22 MR. ATTAO: I'm wondering, there's a
23 lack of housing here, how are you -- how are
24 you going to be housing these workers? And my
25 other question is, these workers, would they be

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1 U.S. citizens? Thanks.

2 HEARING OFFICER JIMENEZ: Thank you,
3 sir.

4 MS. SMITH: (no speaker cards)

5 HEARING OFFICER JIMENEZ: Giving time
6 to see if I have any additional cards.

7 MS. SMITH: (no speaker cards)

8 HEARING OFFICER JIMENEZ: It looks like
9 I have no remaining speakers at this time. But
10 as I mentioned earlier, the Air Force
11 representatives will continue to be available
12 at this place to continue any discussions that
13 you'd like to have. Just a reminder, the
14 discussions that take place at the boards will
15 not be part of the official record of the Draft
16 SEIS.

17 So, it looks like at this time we are
18 going to just recess this portion of the
19 hearing and we'll come back on at 8 to adjourn.
20 But the boards and the representatives will be
21 around to speak. If we receive any cards
22 before then, by all means, I'll reopen the
23 hearing and we'll take any comments
24 additionally that you'd like to make. So, with
25 that, we are in recess but please feel free to

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1 enjoy the food and talk to our representatives.
2 They love to engage here. Thank you.

3 (Break was taken from 6:27 p.m. to 6:49
4 p.m.)

5 HEARING OFFICER JIMENEZ: And we have
6 Ms. Deborah Flemming. Thank you.

7

8

9 **COMMENTS BY MS. DEBORAH FLEMMING**

10 MS. FLEMMING: Thank you. I just have
11 one concern. Actually, I was hoping that Mr.
12 CPA was here. Ton? He said he wanted the
13 public to know that actually the CPA preferred
14 alternative is the east alternative because --
15 I'm not an engineer, just an old layman lady in
16 the village, but I could see that it is closer
17 if you went through the east side; it is closer
18 to the civilian side of the airport.

19 However, it runs through a public land.
20 An undeveloped public land. And I'm thinking
21 when you put pipelines right through the middle
22 of an undeveloped public land, that it may
23 hamper, it may devalue future uses of that
24 property; I don't know. But if it stayed on
25 the roadside, it's flat, and it goes around the

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1 -- on 8th Avenue and around to where the -- I
2 guess that's runway, Fox? How much would it
3 cost CPA to run their pipe at that corner
4 connection there to where they needed on the
5 side rather than going through an undeveloped
6 land that we don't know what its impact, real
7 effects are? You know, 10, 20, 50 years from
8 now? That was my comment.

9 And then I wanted Bill Cing to register
10 his comment regarding, you know -- because now
11 more than ever we're seeing that the seaport is
12 actually a joint use now. And of course, we
13 could see that the local government has not
14 been able to fix it. Much less, do any
15 preventive maintenance in the last 44 years.
16 And Bill was concerned that if you ride your
17 boats in and it's dilapidated as that seawall
18 is, that maybe it should be part of the
19 dialogue as far as fixing it or at least making
20 annual fixes at this point. So, those are two
21 comments, I suppose. Thank you.

22 HEARING OFFICER JIMENEZ: Thank you
23 very much. Do I have any additional cards
24 right now?

25 MS. SMITH: No.

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1 HEARING OFFICER JIMENEZ: Well, then
2 we're just going to recess again because we're
3 still not quite at 8. But Air Force
4 representatives are still around to take any of
5 your questions and we're going to be in recess
6 again. Thank you.

7 (Break was taken from 6:51 p.m. to 8:00
8 p.m.)

9 HEARING OFFICER JIMENEZ: Thank you for
10 your time and interest in the Tinian Divert
11 Infrastructure Improvements Proposal. Tonight
12 is not the end of your opportunity to
13 participate in the environmental review
14 process. Again, written comments sheets are
15 available at the comments table. You can turn
16 these sheets in tonight or mail them later.

17 The comment sheet is pre-addressed with
18 the mailing address printed on the back of the
19 sheets. Comments are also accepted on the
20 project website at
21 www.pacafdivertmarianasseis.com. If you'd
22 like a copy of the Final SEIS on compact disc,
23 please tell one of the representatives at the
24 welcome table or send a letter or postcard
25 asking for a copy. The Air Force will send a

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1 copy of the Final SEIS on compact disc to you.

2 The hearing is adjourned. Thank you
3 and have a good evening.

4

5 (SEIS Public Review Period concluded at 8:00 p.m.)

6 **SAN JOSE, TINIAN: TUESDAY, JUNE 6, 2019.**

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REPORTER'S CERTIFICATE

I, **George B. Castro**, Court Reporter, do hereby certify the foregoing 50 pages to be a true and correct transcript of the audio recording made by an Officer of Depo Resources at the time and place as set forth herein.

I do hereby certify that thereafter the transcript was prepared by me or under my supervision.

In testimony whereof, I have hereunto set my hand and seal of Court this 20th day of June, 2019.

George B. Castro

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July 2020 | G-92



Ralph DLG. Torres
Governor

Victor B. Hocog
Lt. Governor

Commonwealth of the Northern Mariana Islands
OFFICE OF THE GOVERNOR

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Ray S. Masga
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June 24, 2019

Melissa Markell
AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236

Dear Ms. Markell,

The Commonwealth of the Northern Mariana Island's (CNMI) Bureau of Environmental and Coastal Quality (BECQ) has received your request for scoping comments to be considered during the preparation of the U.S. Air Force Tinian Divert Infrastructure Improvements Supplemental Environmental Impact Statement (SEIS). BECQ, composed of the Division of Coastal Resources Management and Division of Environmental Quality, is responsible for the wise management of CNMI's natural resources. We expect that USAF will address the following issues in the forthcoming EIS:

ES 2.2 Purpose and Need for Supplemental EIS

ES 2 Lines 37-39 – *"The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in in the 2016 Divert EIS"*

- F1** —
 - There is no further explanation as to why the pipeline would be considered safer.
 - Please provide further information on how the pipeline is more efficient.

ES 4. Description of the Proposed Action and Alternatives

ES 3 Lines 30-31 – *"Each Proposed Action is independent of the other and have standalone value for supporting the Divert Activities and Exercises project."*

- However, each proposed action in combination may result in a cumulative effect on natural resources, and therefore cannot be considered as an independent environmental impact. In fact, beyond causing a cumulative impact, pollutants in combination may result in a supra-additive toxic interaction. In other words, a pollutant mixture may result in a significant increase in overall toxicity compared to exposure to pollutants separately.

ES 4.1 Fuel Pipeline and Support Infrastructure

ES 4 Lines 21-23 – *"...will prevent damage to the environment by accidental discharge ... Additional information ...in Appendix F"*

- See comments below on contents of Appendix F.

APPENDIX F

Table F-1:

"Marine Resources Compliance actions identified for geological resources and soils, water resources, and hazardous materials and wastes would reduce impacts on marine biological resources. See Sections F.2 through F.5"

F2.1 Stormwater Management

"The permanent stormwater management infrastructure ...peak discharge rate frequency would not exceed the pre-development peak discharge rate for the 25-year frequency storm event (CNMI BECQ and GEPA 2006). USDA NRCS has calculated a 25-year, 24-hour rainfall event to be 12.49 inches for Saipan (USDA NRCS 2008)."

- F2**
- Given climate change and the increase in frequency, intensity of storms and the amount of precipitation experienced in the last five (5) years (Typhoon Soudelor (August 2015) and Super Typhoon Yutu (October 2018)) designing for a 25-year, 24-hour storm event is insufficient to keep up with the pace of climate associated conditions.
 - Although Volume I of the *CNMI and Guam Storm Water Management Manual* provides designers with stormwater performance standards for the islands, and describes how to size and design BMPs to comply with those standards, this document was written in 2006, over a decade ago. Given that conditions have changed substantially since that time, USAF should forethink design plans for future events that could meet a 50 or even 100-year storm and preferably lasting a longer period of time than just 24Hrs.

F-8

*"Site-Specific Measures. USAF would design all construction site stormwater management measures to accommodate (safely convey without creating erosive conditions) the 10-year frequency storm. The 10-year frequency storm represents a large event that will generally produce significant runoff and yet has a relatively high chance of occurring in any given year (i.e., **10 percent**) (CNMI BECQ and GEPA 2006)."*

- F3**
- The seaport resides on coastal waters, a floodplain, and should require preventative management measures to protect the pipeline and infrastructure from flooding, storm surge, and other storm related events.
 - Relying on management measures to accommodate only a 10-year storm seems shortsighted given that climate change is already increasing frequency and intensity of storms in the region. We have experienced two (2) direct hit super typhoons within a three (3) year span. Obviously, the stated 10% chance in any given year is insufficient to withstand similar climactic conditions.

F3.5 – Water Quality Management

"Parameter that provide an indication of water quality include concentration of...fecal coliform bacteria..."

- F4**
- The 2018 CNMI Water Quality Standards calls for the use of the Fecal Indicator Bacteria (FIB) *Enterococci* and/or *Escherichia Coli*.
 - Fecal Coliform were found to be less closely associated with incidences of water born illnesses than *Enterococci* in EPA epidemiological studies. Therefore, the 2014 US EPA

F4 — Recreational Water Quality Criteria were adopted by the CNMI in their Water Quality Standards and should be used as the preferred FIB by USAF.

Table F-3. 2014 CNMI Water Quality Standards

F5 — • The CNMI Water Quality Standards were revised and promulgated in 2018. Please reflect this latest version in text.

EXECUTIVE SUMMARY Continued

ES 4.1 – Fuel Pipeline and Support Infrastructure

ES 4 Lines 29-31 - *"The pipeline would be constructed underground to prevent breaches, vandalism, sabotage, or any other means to disrupt the flow of fuel."*

F6 — • There is no mention of seismic activity or how this would be addressed in the pipeline construction design plans. The Mariana Islands are a seismically active region and seismic activity should be considered in the SEIS.

ES-5 Lines 1-2 – *"A total area of 8.23 acres could be disturbed for development of all seaport 1 support infrastructure"*

F7 — • This seems counter to the previous claim that, *"The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in the 2016 Divert EIS"*.

- USAF would now be moving a potential water quality hazard closer to the near shore environment than keeping the previously proposed bulk storage tanks and other infrastructure north of the airfield, farther away from surface water.

ES 4.1.2 – Pipeline and Support Infrastructure No Action Alternative

ES-6 Lines 37-39 – *"The No Action Alternative would increase fuel resupply time and increase the risk of environmental impacts from potential fuel spills from trucks during loading, driving, and offloading"*.

- F8** —
- This statement is unsubstantiated. How is constructing a pipeline decreasing the risk of environmental impacts from spills from pipeline failures, e.g., typhoons, cracks from seismic activity, sabotage, terrorism, etc.?
 - There are already existing fuel storage tanks at the sea port to provide Mobil gasoline for vehicles. These would already be considered targets to sabotage or terrorist attacks.
 - Adding a booster pump house next to the shoreline creates a another "target" for sabotage or terrorist attacks, in addition to the bulk storage tanks that will be needed north of the airfield. This is just adding another potential source of environmental contamination at each end of the pipe.
 - Please explain how moving trucks are harder to target/attack/sabotage than immobile infrastructure.
 - What kind of pig will be used to regularly check the pipeline for integrity, potential weakening or corroding/thinning walls?

- What government agency will hold the USAF responsible for making regular inspections and conducting timely maintenance on the pipeline to prevent cracks or spills? US EPA has jurisdiction over oil and fuel above ground tanks, but not pipelines.

ES 7. – Summary of Environmental Impacts and Mitigation Measures

ES-11 – Table ES-1. “**Biological Resources** under **No Action Alternative** column states, “*Marine Biological Resources. While impacts on marine species could be expected because potential fuel spills from trucks are more common than from pipelines*”.

- F9** • Claim unsubstantiated. No study findings or statistics provided to support statement.

ES-13 – Tables ES-1 and ES-2. “**Water** under **No Action Alternative** column states, “*Increased impacts under the No Action Alternative in comparison to the Proposed Action due to increased potential for spills and larger area of impervious surfaces. Storm water runoff volumes could be increased under this scenario.*”

- F10** • Claim unsubstantiated. No study findings or statistics provided to support statement that more spills would occur.
- Line 17-20 on page ES6 states, “*Based on review of the 2016 Divert EIS and consideration of technical and siting factors, USAF determined that the proposed support infrastructure should be sited in the location originally proposed for the bulk fuel storage facilities at the seaport and no other site alternatives were identified or considered.*” Doesn’t this mean that the same amount of impervious surface would be created from construction of infrastructure whether the east, or west actions, or if no alternative is chosen?
- Table ES-3 also indicates that the same amount of impervious surface would result from any one of the selected alternatives. See below

ES-19 – Tables ES-3. “**Water** under **Impact Description** column states, “....., **construction and increases in impervious surfaces required for the Proposed Actions and alternatives...**”

- F10** • This statement does not indicate that the proposed actions would result in less impervious surface than the no action alternative.

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS) MAIN

1.3.2 – Purpose and Need for SEIS

1-4 Lines 19-22 - “*USAF sought to determine, through these consultations, if there was a more efficient alternative for fuel delivery to the airport than transporting via fuel tank trucks, and if the existing transportation network could support the anticipated Divert vehicles, as were studied in the 2016 Divert EIS (Final EIS, Section 2.5.2).*”

- F11** • The stated primary purpose for the proposed pipeline is **efficiency**. Therefore, the statement made in the executive summary under heading ES 2 Lines 37-39, “*The pipeline and support infrastructure are needed to provide a safer, more reliable, secure, efficient and less costly method than was analyzed in the 2016 Divert EIS,*” is mischaracterizing the purpose of the pipeline.
- People often, if not usually, formulate their initial opinions based on summary statements. Therefore, an individual may forego reading the entire Main document when safety

concerns and security is characterized as the driving factor for a pipeline, especially in these times of post 9/11 and more recently Super Typhoons Soudelor and Yutu.

- NEPA requires that the public be clearly informed of the intent or purpose for an action that may have significant environmental impacts so the public may be provided with the chance to pose pertinent questions to more clearly understand the activity, and in so doing may provide substantive comment and express concerns about the potential risks associated with the action, of which the proposed pipeline and infrastructure at Tinian harbor poses many. These potential and significant risks are why the SEIS should clearly explain what safety and security concerns USAF did not foresee while compiling the original EIS, and clearly substantiate them in the current SEIS.

F12

- Safety and security are mentioned as an afterthought on Lines 27-28.

2.2 – Fuel Pipeline and Support Infrastructure

2-3 Lines 7-14

- Although there will no longer be a storage tank at the seaport there will be a booster pump house and the pipeline will require protection, as does the existing Mobil fuel tanks.
- USAF discussed constructing in accordance with all federal agencies, but does not discuss coordinating with US Coast Guard to ensure that their required management measures at the seaport are also incorporated into construction plans.

Lines 22-23 – *“The pipeline would be constructed underground to prevent breaches, vandalism, sabotage, any other means to disrupt the flow of fuel.”*

- What prevents breaches, vandalism, sabotage to the existing Mobil tanks? Why is this not a concern also?

F13

- No mention of seismic activity being considered in the construction design plans. Given the frequency of tremors and earth quakes in the region, this is of great concern
- USGS study entitled “Seismic Hazard Assessment for Guam and the Northern Mariana Islands” (<https://pubs.usgs.gov/of/2012/1015/report/OF12-1015.pdf>) states that, “The Pacific plate subducts west-northwestward beneath Guam at 6.3 cm/yr and the back-arc Mariana trough opens at 4.7 cm/yr full rate (Sella and others, 2002).”

2-4 Lines 11-13 – *“The transfer pipeline would be equipped with an impressed current cathodic protection system and would be designed to allow for cleaning and testing of the pipeline between the seaport and the airport”*

- Describe what methods will be used to test the integrity of the pipeline.

Lines 14-19 – *“Low point drains would be installed in pits lined with fiberglass to prevent infiltration to the subsurface soils or groundwater and would allow access below ground surface. Drained material would be removed from the pits via a vacuum truck, or similar process”.*

F14

- Where would drained material removed from the pits be disposed?

2-5 Lines 10-11 – A septic system and leaching field is proposed for the seaport.

F15

- Given the failure of the Tinian Dynasty’s leaching field leading to an increase in Water Quality Violations, USAF should consider other wastewater collection and treatment measures, as the shoreline in this area has fresh water seeps.

Lines 36-40 – *“impervious surface footprint of the support infrastructure proposed in this SEIS (4,550 square feet) would be approximately half the size of the fuel storage tanks and support structures (7,534 square feet) proposed in the 2016 Divert EIS at the same location. Additionally,*

the combined area of potential disturbance proposed at the seaport in this SEIS (8.23 acres) is in the same area as the fuel storage tank area (5.29 acres) proposed in the 2016 Divert EIS."

- Unclear how is 8.23 acres in the SEIS not greater than 5.29 acres in the 2016 Divert EIS. This area will be disturbed. How will it not be made impervious from heavy equipment compacting soil in the area?

2.2.1 Pipeline and Support Infrastructure Selection of Alternatives

2-8 Lines 12-14 – *"Additionally, to maximize efficiency in pipeline construction and fuel transfer, USAF focused consideration of pipeline routes on those that would travel as direct as possible from the Tinian seaport to the airport, with minimal deviation."*

- F16** —
 - Then why is the East route alternative (4.94 miles) preferred by USAF over the West route (4.08 miles)? See Figure 2.2.4. Proposed West and East Pipeline Route Alternatives.

2-9 Lines 13-24 – Both alternatives resulted in the same finding by USAF *"This route falls entirely within lands with easement rights; does not travel extensively along any existing communities, infrastructure, or buildings,"*

- F17** —
 - The only difference is that the West route is shorter.
 - However, there is no discussion about the proximity of the two preferred alternatives to the nearshore environment. Spills occurring closer to the coastal floodplain (West Route) have a significantly greater chance of cataclysmic water quality, cultural, and economic impacts both from an environmental and subsistence fisheries standpoint.

2-14 Lines 4-7 – *"The No Action Alternative would increase fuel resupply time and increase for the risk of environmental impacts from potential fuel spills from trucks during loading, driving, and offloading."*

- F18** —
 - Unsubstantiated. The SEIS does not provide any studies to support this assumption. How does the volume of fuel that may spill from loading, driving or offloading from trucks compare to those volumes experienced by parties responsible for containing spills from numerous other broken or compromised fuel pipelines?
 - This is a recurring statement with no supportive documentation.

2-21 Table 2.6.1 – No Action Alternative column *"Marine Biological Resources. While impacts on marine species could be expected because potential fuel spills from trucks are more common than from pipelines (Strata 2017), impacts are anticipated to be negligible."*

- F19** —
 - This is the first mention of "Strata 2017". If this is a study being used to substantiate the claim made in 2-14, lines 4-7, please provide the complete reference where it can be found and include it well before appearing here on page 2-21.

3.7 Soils and Geology

3-34 Lines 12-16 *"Due to the frequency of seismic activity, the CNMI is considered to be within Seismic Zone 4 (CNMI 2017). Seismic Zone 4 describes regions in which a common level of seismic design is required due to the frequent occurrence (sic) of earthquakes. (USGS Undated). The proposed West route, East route, and roadway improvements project areas partially coincide with fault lines"*

- The potential for a tsunami to hit the East and West Routes is mentioned, and landslides are also discussed on lines 22-30 with the West route containing steep slopes that may be of concern compared to the East Route, which does not have steep slopes.

- F20** • What is lacking is any discussion of potential pipeline fissures or cracks as a result of seismic activity.

3.8 Water

3-36 Lines 19-22 – “CNMI combined their 303(d) and 305(b) list into one report referred to as the Integrated Report. The Integrated Report identifies those water bodies that are impaired and do not meet designated uses, and it establishes total maximum daily loads for the pollutants of concern (CNMI BECQ 2016).”

- F21** • Clarification, Section 305(b) of the CWA requires a report on the conditions of the waters of each state and territory, it is not a list.
- In addition, the Integrated Report is not only compiled by the CNMI, all states and territories include their list of impaired waters (required by Section 303(d) of the CWA) within their 305(b) in an integrated report.
- Please refer to the more recent 2018 CNMI Integrated report available for download from the DEQ website under the Water Quality Surveillance & Non-point Source branch/reports (<http://www.deq.gov.mp/sec.asp?secID=71>).

3-38 Lines 25-29 – “The coastal waters of the Makpo Watershed are impaired (Category 5). These waters do not support use by aquatic life due to low dissolved oxygen levels and poor aquatic habitat, and do not support recreational use due to Enterococci exceedances. Total maximum daily loads for these impaired waters have not yet been developed (CNMI BECQ 2016).”

- F22** • Please refer to the 2018 CNMI 305(b) and 303(d) Integrated report (hence forward referred to as the IR) for the most recent evaluation of CNMI waters. In 2018, the Makpo watershed was subdivided into Segment 9 Class AA waters including Kammer, Taga, and Tachogana beaches, and Segment 9H that only includes the Class A waters of San Jose Harbor.
- The 2018 CNMI IR assigned Makpo's Class AA waters the following conditions, “Makpo's coastal waters do not support the Propagation of Aquatic Life DU.
- To date, there has been no data collected on fish tissue and/or biota contamination in Makpo's coastal waters to assess the Fish and Shellfish Consumption DU.*
- However, there have been notable improvements to Enterococci levels in Makpo's coastal waters. All BEACH sites were well within the CNMI WQS this reporting cycle. This is thought to be associated with the closure of Tinian Dynasty, which was a suspected source from fresh water seeps carrying wastewater from the hotel's IWDS and other nearby on-site systems. However, exceedances of the WQS for pH resulted in Makpo's coastal waters being added to the 303(d) listed as impaired for pH. Therefore, they do not support the Recreational DU.*
- Makpo's Class A waters were assessed and the 2018 CNMI IR states that, “Tinian's San Jose Harbor is located in the Makpo Harbor Sub-watershed (Segment 9H), and is Tinian's only designated Class A waters.
- Since last reporting cycle, there have been far fewer tourists visiting Tinian. However, permits are now in place for a new development next to the harbor. If the plans are implemented, they will include construction of a small commercial building with retail office*

F22 — space, and restaurants. A ferry terminal has also been considered for providing additional means for residents to travel to and from Saipan”.

- The IR goes on to state, “However, there have been improvements. The Harbor’s water quality levels were well within the CNMI WQS for Enterococci this reporting cycle, resulting in Makpo Harbor being removed from the 303(d) list as impaired for Enterococci, and now attains the Recreation DU.”
- TMDLs were established in 2017 for Saipan’s coastal waters impaired by bacteria, which can be downloaded from the DEQ website:
(http://www.deq.gov.mp/resources/files/branches/WQS/Saipan_FINAL_TMDL_Report_2017-10-19.pdf)

3-40 Lines 11-12 – “Other Tinian wetlands are considered ephemeral because they are not large enough to sustain during periods of low rainfall.”

F23 — • The 2018 CNMI IR reports another assessment of Tinian’s smaller wetlands, specifically in the Puntan/Diapolamanibot Watershed. The IR states, “This reporting cycle wetland delineations and assessments were conducted on a few locations on Tinian to field test the 2016 CNMI Wetland RAM. During the field test, the smaller wetlands in the Puntan/Diapolamanibot watershed, named the Bateha I and II Complex were explored, but not fully delineated or assessed by BECQ. However, a survey conducted for the US military states that these complexes are shallow depressional areas thought to be the result of anthropogenic activities (March 2015, *Survey Report of Potential Wetland Sites on Tinian in Support of the CJMT EIS/OEIS*). The survey cites the USFWS National Wetland Inventory that determined these areas to be palustrine, emergent, wetlands. The survey also states that the Bateha I and II Complexes have “suitable hydrology, wetland vegetation, and hydric soils...” Therefore, Bateha I (7.1 acres) and Bateha II (5.8 acres) are isolated wetlands and support the *Propagation of Aquatic Life DU*.”

4. Environmental Consequences

4-13, 4.2.2.2 - Pipeline and Support Infrastructure, 4.2.2.2.1 – *West and East Routes*

F24 — • The SEIS does not assess potential impacts from the pipeline and support construction within the West and East Routes separately. Given that the West Route is nearer to the shore, the potential impacts of sedimentation, stormwater runoff, and potential spills on coastal water quality (and fish habitat) is significantly higher than the East Route. Therefore, the two routes should be assessed separately.

4.2.2.2.2 - *No Action Alternative* Lines 24-25

“Greater impacts on marine species from potential fuel spills would be expected because spills and leaks from trucks are more common than from pipelines (Strata 2017).”

F25 — • This suggests that the number of spills or leaks from trucks is more important than the volume of a potential spill. The volume of one spill from a pipeline would be expected to be far higher than the cumulative volume from truck spills.

- What would be the estimated volume spilled if the pipeline failed? What If the storage tanks in the No Action Alternative fail?

4.8 Water

4.8.2.2 East Route

4-48 Lines 8-12 *"Impacts from construction of the East route would have lesser potential to affect coastal waters, as the East route travels more inland than the West route"*

- The SEIS **finally** states that the East route would pose lesser of a risk to coastal waters. Why so late in the document?
- The SEIS states that the East Route would almost completely occur within an area with a shallow water table, which would increase the risk of impacts to the groundwater lens if a spill or leak to occur. Was any analysis of bedrock geology along both routes done to support this claim?

Wastewater

4.9.2 Pipeline and Support Infrastructure

4.9.2.1 West Route

Sanitary Sewer and Wastewater Treatment. Negligible to minor impacts on sewer or wastewater treatment would be expected from an increase in the generation of wastewater during the construction of the West route. To manage construction-related wastewater, construction contractors could utilize the permitted leaching field controlled by JRM, lease or rent the processing system from the closed Tinian Dynasty, or develop a new system. It is also assumed that construction workers would use portable toilets at the construction site and non-local workers would use existing wastewater infrastructure at their place of lodging.

4.9.2.2 East Route

- Impacts on the ***Airfield, Seaport, Electrical Supply, Liquid Fuel Supply, Storm Water, and 2 Sanitary Sewer and Wastewater Treatment*** would be the same as described under the West route. Construction and operation impacts on ***Water Supply*** and ***Solid Waste*** under the East route would be similar to but greater than those described for the West route because of the additional 0.86 mile of pipeline required for this route. This would lead to an additional 8 acres of disturbance. The same assumptions for water use under the West route would apply to the East route. An additional 4,000 gallons of water per day could be used over the course of construction for dust suppression because of the extended length of the pipeline. This equates to percent of the assumed Tinian water availability from the existing CUC system for construction of the East route, an additional 2 percent than the West route. An additional 27,919 gallons of water could be used for static testing of the East, also because of the extended length of the pipeline. This equates to percent of the assumed Tinian water availability from the existing CUC system for testing of the East route, an additional 12 percent than the West route. As described under *Construction* in **Section 4.9.2.1** and in the 2016 Divert 33 EIS (Final EIS, Section 4.13.2.1), USAF would install two water wells to meet USAF water 34 requirements and to rectify impacts on the CUC potable water.

4.9.3 Roadway Improvements

- **Water Supply.** As with the 2016 Divert EIS (Final EIS, Section 4.13.2.1), an estimated 3 500 gallons/acre/day could be used for dust suppression during construction. Assuming a 4 30-foot-wide surface disturbance over 2.51 miles (approximately 9 acres of disturbance), the 5 roadway improvements would require approximately 4,500 gallons of water per day over the 6 course of construction. Water to support an additional 25 construction workers would also be 7 required during construction, at an average rate of 98 gpd per person, equating to 8 approximately 2,450 gpd for all workers. Negligible amounts of water would also be needed for 9 additional washing construction vehicles and equipment and wetting base and subgrade to 10 optimize moisture content for compaction, and continuously spraying aggregate stockpiles to 11 maintain a saturated surface-dry state.

BECQ Wastewater Comments

- F26
- The SIES proposed pipeline for the East and West Route and for the Roadway Improvements does not indicate the gallons per day of wastewater generated during construction of the pipeline. For projects located within a class I aquifer recharge area with an average daily flow greater than 5,000 gallons per day, the applicant must install and operate an OWTS meeting the siting, design, operations, and financial requirements of this chapter.
 - Options to address wastewater included; utilizing the permitted leaching field controlled by JRM, lease or rent the processing system from the closed Tinian Dynasty, or develop a new system. BECQ request more information on the permitted leaching field controlled by JRM for it has no records for JRM. Furthermore, the Tinian Dynasty Wastewater Treatment System OWTS Permit expired in May 2015. Prior to utilizing the Wastewater Treatment System, the permit must be renewed and a BECQ inspection of the system must be conducted prior.

5. Cumulative Effects and Irreversible and Irretrievable Commitment of Resources

5-1 Lines 27-28 - *"Does a relationship exist such that elements of the Proposed Actions or alternatives might interact with elements of past, present, or reasonably **foreseeable actions**?"*

- The 2018 CNMI IR discusses proposed construction of a small commercial building with retail office space, and restaurants. A ferry terminal has also been considered for providing additional means for residents to travel to and from Saipan.
- Residents will want this means of transportation in the future (as they had in the past) to increase accessibility to and from Saipan in a much more affordable manner than air travel.
- How does this align with an increased military presence in the harbor, which may place the harbor at increased risk from sabotage/terrorist activities targeting fuel tanks or a fuel pipeline?
- This would suggest an irreversible and irretrievable commitment of resources.

F27 — Last but not least, BECQ recommends that PACAF engage in further coordination with the CNMI Department of Public Lands (DPL) and Commonwealth Ports Authority (CPA) with respect to existing leases on Tinian. Please note that a substantial change in the scope of the Divert action would merit federal consistency review, which is handled by the BECQ Division of Coastal Resources Management. We invite USAF to share updated data, reports, and related information with CNMI resource management agencies early in your drafting process and throughout monitoring efforts to further support meaningful review and avoidance of impacts. To ensure full review of future documents in time-limited comment periods, we request that you send copies to our office digitally rather than by post – you can email me directly at elicabrera@becq.gov.mp.

Sincerely,



ELI D. CABRERA
Administrator
Bureau of Environmental and Coastal Quality

cc: Gil Birnbrich, Legal Counsel, Office of the Governor
Janice Castro, Director, Division of Coastal Resources Management
Ray Masga, Director, Division of Environmental Quality

Ms. Julianne Turko, AFCEC/CZN
ATT: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JB SA Lackland, TX 78236

Subject: Draft Supplemental Environmental Impact Statement for Tinian Divert Infrastructure Improvements.

Dear Ms. Turko,

The Commonwealth of the Northern Mariana Islands (CNMI) Division of Coastal Resources Management (DCRM) has reviewed the Draft Supplemental Environmental Impact Statement for the Tinian Divert Infrastructure Improvements received by our office on June 12, 2019. CNMI Public Law 3-47, entitled the “Coastal Resources Management Act,” grants DCRM regulatory authority towards activities within its jurisdictional territory that can impact the coastal resources of the CNMI. DCRM’s mission is to maintain each resident’s constitutional right to a clean and healthful environment.

In May of 2018, DCRM provided scoping comments on the Draft SEIS. The agency maintains its initial comments and adds the following:

USAF should address how the proposed improvements have the potential to affect the nature and number of operations and other activities to be conducted in Tinian, and account for anticipated secondary and cumulative impacts. If new or expanded activities are being proposed, such changes should be clearly detailed.

**Main Volume
Environmental Consequences**

Pg. 4-46

Ground water could also be impacted by accidental leaks of fuel from the pipeline.

Would the USAF consider portions of the proposed pipeline above-ground so that in the event of a potential leak, trenching would not be required which could damage the pipeline even more?

Pg. 4-59

Solid waste management

There is no materials processing plant on Tinian and the only means of waste disposal on the island is by an open dump which happens to be situated on property that has been leased to a private investor. The SEIS implicates that all construction debris that is not recycled shall be landfilled or shipped off island. There have been plans to develop a materials processing plant on Tinian as shipping waste off-island is cost prohibitive. Will the USAF be able to support these efforts?

Pg. 4-68

Hazardous Materials and Waste

Pipeline will be able to transport 2,000 gallons per minute of aviation fuel.

Tinian Airport

H1 —

- 9.24 million gallons of aviation fuel storage capacity
- *Will this much fuel be stored at a given time?*
- *Is this much fuel necessary for the Divert activities?*
- *Will there be personnel monitoring the storage facilities when activities are less frequent?*
- *Will USAF provide personnel to conduct general maintenance on the facilities?*

Cumulative Effects and Irretrievable Commitment of Resources

Page 5-2

Tinian Harbor Improvements

- Include concrete pile cap repair, installation of new mooring hardware, concrete pad construction, and installation of new pile cap fenders.

It is advised that USAF assess the potential port improvements such as the need to dredge the Tinian port in order to accommodate future improvements.

Are the needs of the USAF compatible with future land use of the municipality of Tinian?

H2 —

How can USAF ensure that infrastructure upgrades are resilient to typhoon forces?

Appendices

Appendix F

F4.3

Spill Prevention Control and Countermeasures

- *Analyze and assess viable alternatives and specific mitigation measures*
- *Thorough discussion on direct and potentially cumulative impacts existing groundwater wells in the project area.*
- *Detailed spill response plans which identifies responsible personnel and minimum response time for all scenarios*
- *Volume of fuel needed for Divert activities and expected volume at risk at any time needs to be assessed.*

Thank you for the opportunity to comment on the proposed activity. Should you have any questions or concerns, please contact Ms. Sam Sablan, DCRM Permit Manager at ssablan@dcrm.gov.mp, or Mr. Richard Salas, Coastal Resources Planner, at rsalas@dcrm.gov.mp.



Commonwealth of the Northern Mariana Islands Department of Lands and Natural Resources

Lower Base, Caller Box 10007
Saipan, MP 96950
Tel: 670-322-9834 Fax: 670-322-2633



June 25, 2019

Ms. Julianne Turko, AFCEC/CZN
Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236-9853

Subject: Comments on Supplemental Environmental Impact Statement for Tinian Divert Infrastructure Improvements

Dear Ms. Julianne Turko,

The Commonwealth of the Northern Mariana Islands' (CNMI) Department of Lands and Natural Resources (DLNR) appreciates having the opportunity to share its concerns on the Supplemental Environmental Impact Statement for Tinian Divert Infrastructure Improvements (SEIS) and we appreciate the numerous meetings held by contractors and the military to facilitate information sharing and to hear our suggestion. Though more advance notice of meetings would be appreciated in the future, this process has been an improvement based on our past experience.

General concerns.

- I1** — Our primary concern is the lack of detail regarding how Tinian's sole source of fresh water will be protected and how the pipeline will be tested to prevent and contain leaks. Simply stating you are "implement compliance actions and industry standards for... "or following regulations and standards is not sufficient detail to evaluate the SEIS. How will you detect leaks in an underground system? What are the industry standards for "erosion and sediment control, storm water management, and spill prevention and control"? What are PIM Plans? This information is not readily available for review.
- I2** — • We are concerned about the statement that "The East route is longer than the West route and would almost completely occur within an area with a shallow water table. This could increase the risk of impacts to the groundwater lens if a spill or leak were to occur." (4.8.2.2) How can you mitigate for this? Is there a way to contain leaks with an impervious surface to ensure it cannot reach the water table?
- I3** — Second, the SEIS lacks mitigation for the increased land use and recreation by contracted and USAF personnel. The increase in personnel on the island could have significant impact. We have the following suggestions:
- Environmental educational component should be provided to all contractors to promote respect for their temporary home. Thus you should create and implement a program that promotes cultural and natural resource best practices, educates and informs visiting personnel about the laws and regulations as well as wildlife. (For example for sea turtles:

- I3 — no driving on the beaches, reduce plastic use and pollution, reduce light and sound on beaches after dark, and no poaching). This education program should be required at the time of arrival as well as on an annual basis.
- I4 — • To help offset the amount of trash left around the island, we recommend bi-annual island-wide clean-ups with mandatory participation from all contractors and USAF personnel.

For invasive species, there should be 100% checks for all incoming supplies and materials and funding should be made available for quarantine facilities and customs/enforcement staff.

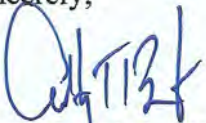
There will be substantial increase in demand for the services of several agencies. We strongly recommend increased fund for DFW surveys/permitting, enforcement and invasive species/brown tree snake (biosecurity) personnel as well as additional funds for signage to protect endangered species, habitat, and post regulations.

- I5 — This project requires a substantial amount of water (including the new wells). How will this affect the water table?

All CNMI laws and regulations should be followed, including surveys of the area by DFW and habitat destruction should be kept to a minimum.

The CNMI Department of Land & Natural Resources Division of Fish & Wildlife appreciates the opportunity to review and to provide comment on the SEIS. We hope that you will give considerable and favourable attention to our comments, and we ask for an open and ongoing exchange of information and a vigorous discussion of your future plans and their implications for our Commonwealth.

Sincerely,



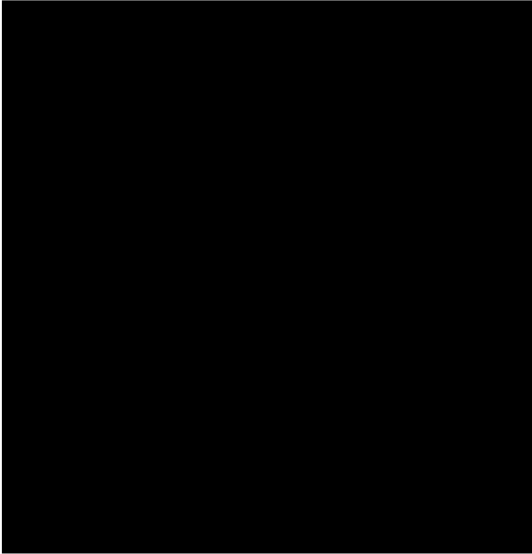
ANTHONY T. BENAVENTE
Secretary, DLNR

Smith, Emily

From: kelly.spitzley@hdrinc.com
Sent: Thursday, June 27, 2019 2:15 AM
To: Smith, Emily
Subject: Comment Form Form Submission

There has been a submission of the form Comment Form through your concrete5 website.

Name
Joseph B. Connolly



Would you like to be added to the mailing list?
Yes

Comment
Monday, Jun 24, 2019

To: Julianne Turko, AFCEC/CZN
ATTN. Tinian Divert SIS
2261 Hughes Ave. Suite 155
JBSA Lackland, TX
78236 - 9853
subject: Tinian Divert SEIS
From: Joseph B. Connolly, Tinian, CNMI

Ms. Turko,

Am I optimistic that this letter will be considered and/or heeded in any way? No, but I believe there is always hope.

At the end of the testimony at the 'DIVERT' hearing at Tinian TES where we met there was a callback for further commentary. I mentioned the possibility of the powers that be in the building of the pipeline (I'll let you fill in the correct name, rank, and serial number of those responsible) to do some construction work on the rotary at the bottom of Broadway where it leads into the village and to the waterfront. It is the major intersection in the village of San Jose leading up to the Tinian airport from the seaport and serves the same purpose coming back south from the airport.

This rotary was designed for a much smaller intersection than where it was installed. The entrance and exit ramps are woefully limited in their capacity to bear anything but small to medium compact cars. Presently school buses and dump trucks have a hard time motoring through the roundabout. And the central rotary concrete ground configuration ACTUALLY sticks out into the two main lanes of Broadway as they exist today.

Since the ostensible reason for the DIVERT runway to begin with is to provide a 'fallback' or diversion if necessary due to various and sundry geophysical, geographical, and/or geopolitical situations with the runways in Guam I feel the roundabout on Tinian might be looked at for similar reasons. Given unpredictable events and recurring natural phenomena but the distinct possibility of problems from wildfires, monsoonal rains, flooding, earthquakes, typhoons, or combinations of all or any of the above with the road up the west side, the pipeline on the west side, and general passage from the seaport to the airport DIVERT runways an alternate DIVERT road capable of handling large vehicular traffic, road and pipeline construction equipment, fuel tanker trucks, etc. might become a NECESSITY and * "... used to support Divert activities" in such an emergency. It also might be used, and more than likely will be used as the road and pipeline are being constructed.

As the roundabout or rotary currently exists it would be hazardous for use with large construction and fuel vehicles. I feel it would be in the USAF's best interest to widen all approaches, entrances, egress, and exits on the Broadway rotary for the safety and benefit of all concerned. I realize it may not be your bailiwick per se and not included in current operational cost analysis, project construction breakdown figures, etc. up to this point but think that a rotary fix is advisable for the reasons I have stated. In introductory brochures and in the Tinian Divert Infrastructure Improvements Supplemental EIS , Section 106 Consultation Meetings, 4 -5 June 2019; Saipan, CNMI Information Packet and Reference Guide, p. 11, (Expanded Undertaking), is the following:

" 1. Introduction..." In addition, reconnaissance inspections and coordination with Tinian leadership indicated the existing surface road network is inadequate to support heavy vehicle traffic required for Divert construction and activities. Therefore, USAF also proposes to improve certain existing roads between the seaport and airport that would * be used to support Divert activities".

In the same EIS, 2.3 Road Improvements on p.14 states, "Only one roadway route is under consideration for road improvements (Figure 5)." I suggest the Broadway rotary specifically be included for reasons stated above.

Thanks for reading this. Thanks for the hearings on Tinian and Saipan.

Sincerely,

Joseph B. Connolly

cc: file, CNMI Senator Jude U. Hofschneider ; Mayor of the Municipality of Tinian and Aguigan, Edwin P. Aldan; www. PACADivertMarianasEIS.com.

File Upload (optional)

No file specified

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APPENDIX H

Coastal Zone Management Act Compliance



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CNMI DCRM Conditional Concurrence Letter	H-3

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**DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES**

26 April 2019

MEMORANDUM FOR CNMI DIVISION OF COASTAL RESOURCES MANAGEMENT

FROM: HQ PACAF/A5F
25 E Street, Suite B-200
JBPHH, HI 96853-5420

SUBJECT: Commonwealth of the Northern Mariana Islands (CNMI) Coastal Zone Management Act (CZMA) Consistency Determination

1. This memorandum provides the CNMI Coastal Management Program with the U.S. Air Force (USAF) Consistency Determination under CZMA § 307(c)(1) and 15 Code of Federal Regulations (CFR) Part 930, Subpart C, for the proposed Tinian Divert Infrastructure Improvements. The information in this Consistency Determination is provided pursuant to 15 CFR § 930.39.
2. The Draft Supplemental Environmental Impact Statement (SEIS) for the Tinian Divert Infrastructure Improvements (Attachment 1) has been prepared to address proposed changes since the September 2016 completion of the Environmental Impact Statement (EIS) for Divert Activities and Exercises and Record of Decision (ROD), signed 7 December 2016. The ROD announced the USAF decision to select the Modified Tinian Alternative (Final EIS, Section 2.7, page 2-52) North Option (Final EIS, Section 2.5.2, page 2-28) as a future Divert location.
3. The USAF has developed the Draft SEIS to address the following two proposed federal actions:
1) construct a fuel pipeline from the Tinian seaport to the Tinian International Airport, to include associated infrastructure at the seaport, and 2) improve certain existing roads between the seaport and airport that were previously analyzed for Divert vehicles in the original EIS. The USAF is considering two alternatives, the East Route and the West Route, for the proposed pipeline. The USAF has identified the East Route as the Preferred Alternative for the pipeline. The Draft SEIS explains the details associated with our Proposed Actions and Alternatives, and we refer you to the Executive Summary and Sections 1 and 2 of the Main Volume for an overview.
4. As described in Sections 3.9 and 4.9 of the Draft SEIS, the USAF has determined that construction and operation of the West or East route pipeline and support infrastructure at the Tinian seaport, and construction of roadway improvements at the seaport, would occur within the Tinian Port and Industrial Area of Potential Concern (APC) and Shoreline APC. Therefore, both Proposed Actions and Alternatives could affect coastal uses and resources that are subject to CZMA federal consistency requirements. Sections 3 and 4 of the Draft SEIS provide extensive analysis of potential impacts on land, water, and natural resources of the CNMI.
5. The construction and operation of the pipeline and seaport infrastructure, and construction of roadway improvements, would be consistent to the maximum extent practicable with the enforceable policies of the CNMI Coastal Management Program as per Appendix A of the 2015 Procedures Guide for Achieving

Federal Consistency with the CNMI Coastal Management Program. The portion of the Proposed Actions and Alternatives outside of the Tinian seaport would not occur within any designated APCs or affect coastal resources.

6. Pursuant to 15 CFR § 930.41, the CNMI Coastal Management Program has 60 days from the receipt of this memorandum in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR § 930.41(b). The CNMI Coastal Management Program response should be sent to: Ms. Julianne Turko, AFCEC/CZN; Attn: Tinian Divert SEIS; 2261 Hughes Ave, Suite 155; JBSA-Lackland, TX 78236-9853, or via the project website at www.PACAFDivertMarianasEIS.com.


MICHAEL E. GIMBRONE, Colonel, USAF
Chief, Force Posture Division

Attachment:

Draft Supplemental Environmental Impact Statement for the Tinian Divert Infrastructure Improvements



Eli D. Cabrera
Administrator

Commonwealth of the Northern Mariana Islands
OFFICE OF THE GOVERNOR
Bureau of Environmental and Coastal Quality
Division of Coastal Resources Management
P.O. Box 501304, Saipan, MP 96950
Tel: (670) 664-8300; Fax: (670) 664-8315
www.dcrm.gov.mp



Janice E. Castro
Director, DCRM

August 8, 2019

Ms. Julianne Turko
AFCEC/CZN Attn: Tinian Divert SEIS
2261 Hughes Ave, Suite 155
JBSA-Lackland, TX 78236-9853

Subject: Federal Consistency Determination for the Tinian Divert Infrastructure Improvements

Dear Ms. Turko,

The Commonwealth of the Northern Mariana Islands' (CNMI) Division of Coastal Resources Management (DCRM) has reviewed the "Draft Supplemental Environmental Impact Statement (SEIS) for the Tinian Divert Infrastructure Improvements."

The proposed project has the potential to directly and significantly impact the coastal resources on the island of Tinian. DCRM concurs that the construction and operation of the proposed pipeline, as described in the draft SEIS, will be conducted in a manner that is consistent with the CNMI Coastal Zone Management (CZM) Program, provided that a Major Siting permit is secured from our office.

If the requirements for conditional concurrences specified in 15 CFR §930.4(a), (1) through (3), are not met, then all parties shall treat this conditional concurrence letter as an objection pursuant to 15 CFR Part 930, subpart C. Furthermore, you are hereby notified that, pursuant to 15 CFR § 930.63 (e) and 15 CFR Part 930, subpart H, you have the opportunity to appeal an objection resulting from not meeting the requirements of 15 CFR §930.4 (a), (1) through (3), to the Secretary of Commerce within 30 days after receiving this conditional concurrence letter.

This CZMA conditional concurrence does not represent an endorsement of the project nor does it convey approval with any other regulations administered by any agency of the CNMI.

Thank you for your cooperation in coordinating with the CNMI CZM Program. If you have any questions, please do not hesitate to contact Richard Salas, Coastal Resources Planner, at rsalas@dcrm.gov.mp or at (670) 664-8318.

Sincerely,

JANICE E. CASTRO
Director, Division of Coastal Resources Management

cc: Eli Cabrera, BECQ Administrator
Ray Masga, DEQ Director
Sam Sablan, DCRM Permit Manager

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