

ENVIRONMENTAL ASSESSMENT

Radio Receiving and Transmission Site (RRATS) at Joint Base McGuire-Dix-Lakehurst, New Jersey



August 2012

Prepared by: EHS Technologies, Moorestown, NJ

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Finding of No Significant Impact (FONSI)
Environmental Assessment (EA)
Radio Receiving and Transmission Site at
Joint Base McGuire-Dix-Lakehurst (JB MDL) New Jersey

PURPOSE

The purpose of the proposed action is to provide a fixed location to generate and receive a variety of signals in order to support Intelligence, Electronic Warfare & Sensors initiatives.

The U.S. Air Force has prepared this EA IAW the National Environmental Policy Act (NEPA); Council on Environmental Quality (CEQ) regulations implementing NEPA; and Title 32, Code of Federal Regulations, Part 989, as amended, "Environmental Impact Analysis Process" (EIAP).

Proposed Action

The Communications-Electronics Research, Development and Engineering Command (CERDEC) Flight Activity (CFA) at JB MDL proposes to install a Radio Receiving and Transmission Site (RRATS) on Lakehurst.

Description of the Alternatives

Alternative 1 – Construct and Operate a RRATS at the Lakehurst Borrow Site (Preferred Alternative).

The Army would install antennas on a 23-acre site, varying in height between 60 feet and 90 feet, with guy wires to stabilize them. The site would be manned when in use and over 80 percent of the facility use would occur at night. No new employees would be needed to operate the site. Buried electric and communication lines would be extended to the site. The site would utilize the same frequencies currently used by the CFA. The preferred location is the current borrow site, south of the test tracks and north of the Test Runway. About 7 acres of trees around the perimeter of the borrow site would be cleared. To provide a replacement borrow site for gravel, a new 5 acre gravel site located to the southeast would be created, used for a maximum of 10 years, and then be fully reforested.

No Action Alternative. Under this alternative, CFA would continue to use mobile vans for radio transmission and receiving activities.

Summary of Anticipated Environmental Impacts Associated with the Proposed Action

Based on the analysis in the EA, which is herewith incorporated by reference, I determine that no significant adverse effects are expected on any resource area as a result of the implementation of the proposed action. We would adhere to all installation management plans, policies and procedures. Furthermore, the project would adhere to several best management practices to minimize environmental impacts. During construction and operation, the proposed action would result in less than significant impacts to land use, airspace, air quality, noise, geology, water resources, biological resources, cultural resources, socioeconomics, infrastructure, materials and waste and safety. Overall, the analysis in the EA indicates that the project, as described under the proposed action, would not result in or contribute to significant adverse direct, indirect, or cumulative impacts to the resources in the region.

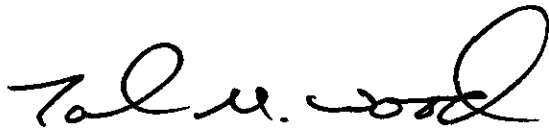
Public Review and Interagency and Intergovernmental Coordination Planning

The Interagency and Intergovernmental Coordination for Environmental Planning process associated with the preparation of the EA was conducted for 30 days, beginning 11 April 2012. The public and agency review of the draft EA and draft Finding of No Significant Impact was conducted between 6 July 2012 and 6 August 2012. Copies of these documents were available for public review at the Manchester Library, Ocean County. All public comments received were addressed in the final EA.

Finding of No Significant Impact

The Air Force, JB MDL has determined that the Preferred Alternative is Alternative 1 and that JB MDL would proceed with the implementation of the RRATS.

I conclude that the environmental effects of the proposed action at JB MDL are not significant, that preparation of an Environmental Impact Statement is unnecessary, and that a FONSI is appropriate. The EA, prepared IAW NEPA, CEQ regulations, and 32 Code of Federal Regulations 989, as amended, is herein incorporated by reference.



JOHN M. WOOD, Colonel, USAF
Commander, Joint Base McGuire-Dix-Lakehurst



Date

Attachment:

Environmental Assessment

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List of Acronyms

ACAIT	Aircraft Carrier Aviation Integrated Test	NAAQS	National Ambient Air Quality Standards
ALRE	Aircraft Launch and Recovery Equipment	NEPA	National Environmental Policy Act
AFI	Air Force Instruction	NJ	New Jersey
BMPs	Best Management Practices	N.J.A.C.	New Jersey Administrative Code
CAA	Clean Air Act	NJDEP	New Jersey Department of Environmental Protection
CEQ	Council on Environmental Quality	NJPDES	New Jersey Pollution Discharge Elimination System
CERDEC	Communications-Electronics Research, Development and Engineering Command (Army)	NJSA	New Jersey Statutes Annotated
CFA	CERDEC Flight Activity	NOA	Notice of Availability
CFR	Code of Federal Regulations	NO _x	Nitrogen oxides
CO	Carbon monoxide	NRHP	National Register of Historic Places
CRM	Cultural Resources Manager	OSHA	Occupational Safety and Health Administration
DoD	Department of Defense	PM	Particulate matter
EA	Environmental Assessment	RONA	Record of Non-Applicability
EAF	Expeditionary Air Field	RRATS	Radio Receiving and Transmission Site
EIS	Environmental Impact Statement	SHPO	State Historic Preservation Office
EO	Executive Order	SIP	State Implementation Plan
ESA	Endangered Species Act	SO ₂	Sulfur dioxide
FAA	Federal Aviation Administration	tpy	Tons per year
FONSI	Finding of No Significant Impact	USEPA	United States Environmental Protection Agency
FY	Fiscal Year	USFWS	United State Fish and Wildlife Service
GIS	Geographic Information System	USC	United States Code
HAZMART	Hazardous Material Control Program	UXO	Unexploded Ordnance
ICRMP	Integrated Cultural Resources Management Plan	VOC	Volatile Organic Compound
INRMP	Integrated Natural Resources Management Plan		
JB MDL	Joint Base McGuire-Dix-Lakehurst		

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1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

The Communications-Electronics Research, Development and Engineering Command (CERDEC) Flight Activity (CFA) at Joint Base McGuire-Dix-Lakehurst (JB MDL) (Figure 1-1) proposes to install a Radio Receiving and Transmission Site (RRATS) on Lakehurst, in Ocean County, NJ. This Environmental Assessment (EA) addresses the potential environmental, socioeconomic, and cultural impacts of this proposal at JB MDL.

This EA has been prepared to document the potential for environmental impacts resulting from the Proposed Action. This EA has been prepared under the provisions of, and in accordance with, the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 *et seq.*), Council of Environmental Quality [CEQ] Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and 32 CFR 989 (*Air Force Environmental Impacts Analysis Process*).

1.2 Purpose and Need

The Proposed Action is needed to generate and receive a variety of signals in order to support multiple Program Executive Office, Intelligence Electronic Warfare & Sensors initiatives.

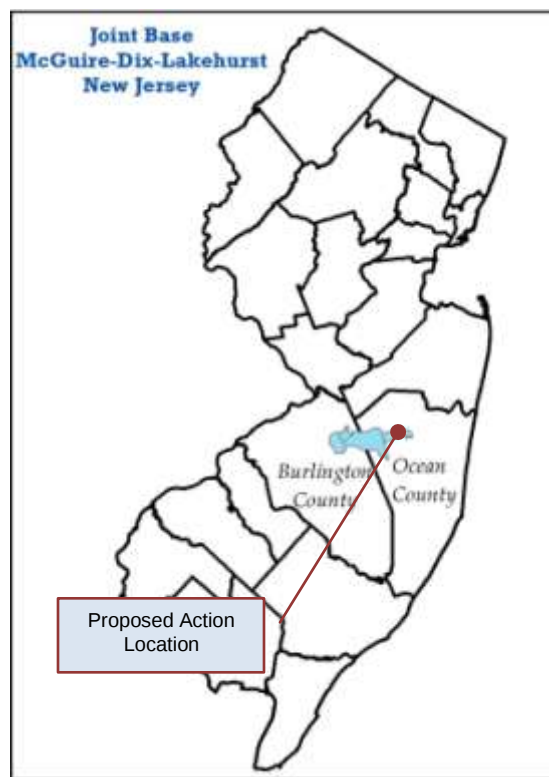


Figure 1-1. Location of JB MDL

The project would represent an upgrade from legacy test standards and equipment to enhanced testing methods and facilities for current and emerging technologies. It would provide a fixed site for calibration and testing of airborne collection and direction finding systems currently under development by the CFA. No comparable capability exists in the Northeast US. A similar facility exists in the Mid-Atlantic region, although its distant location and frequent scheduling conflicts makes it unsuitable for CFA use. The CFA is currently using antennas mounted on mobile vans to provide some of this capability and a fixed site would significantly improve calibration accuracy.

1.3 Scope and Content of the Environmental Assessment

This EA evaluates the individual and cumulative effects of the alternatives with respect to land use, airspace, air quality, soils, water resources, biological resources, cultural resources, infrastructure, materials/waste, and human health and safety.

1.4 Decisions to be Made

JB MDL will decide on whether to allocate land to CFA for the installation and operation of a RRATS. CFA will decide whether to develop a permanent RRATS site at Lakehurst (Proposed Action) or continue to use mobile vans for some of this capability (No Action Alternative).

1.5 Interagency Coordination and Public Involvement

Public participation is a significant component of the NEPA process. The following provides a listing of key public notification and participation events that have occurred as part of this environmental review process:

- JB MDL conducted intergovernmental coordination for environmental planning pursuant to the requirements of NEPA as required under Executive Order (EO) 12372, which has since been superseded by EO 12416 – Intergovernmental Review of Federal Programs, and subsequently supplemented by EO 13132. The EA provides a list of agencies contacted during initial scoping (Chapter 8). Copies of the letters received from the respective agencies are included in Appendix A.
- The project sites are located in previously disturbed areas that are unlikely to contain archeological sites; however, if sites are discovered, JB MDL would cease all disturbance activity, secure the site(s) and contact the JB MDL Cultural Resources Manager (CRM). The CRM will take necessary actions pursuant to the JB MDL Integrated Cultural Resources Management Plan (ICRMP).
- JB MDL published and distributed the Draft EA and Draft Finding of No Significant Impact (FONSI) for a 30-day public comment period between July 6 and August 6, 2012. The mailing list for the Draft EA is provided in Chapter 9. Notification of the availability of the Draft EA and FONSI has been accomplished through publication of a legal Notice of Availability (NOA) in the *Asbury Park Press*, the local newspaper that services the JB MDL region. Upon distribution of the Draft EA to the public, copies of the Draft EA and important reference documents were made available for public review at the Manchester Branch of the Ocean County Library. The JB MDL Public Affairs Officer is the primary point of contact for any inquiries from the local news media.
- JB MDL received responses and/or comment letters from interested parties in association with the public circulation of the Draft EA. Copies of received responses/comments on the Draft EA, as well as responses to these comments, are provided in Appendix D.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

CFA proposes to develop a fixed RRATS on the Lakehurst area of JB MDL.

2.2 Alternatives

This EA evaluates the individual and cumulative effects of the following alternatives with respect to land use, airspace, air quality, topography and soils, water resources, biological resources, cultural resources, infrastructure, materials and waste, and human health and safety.

2.2.1 Alternative 1 – Construct and Operate a RRATS at the Lakehurst Borrow Site (Preferred Alternative).

The project would require a 23-acre site (1,000 feet by 1,000 feet) that is level and cleared of obstructions, including trees. There would be several antennas installed on the site varying in height between 60 feet and 90 feet, with guy wires to stabilize them (see Figure 2-1).

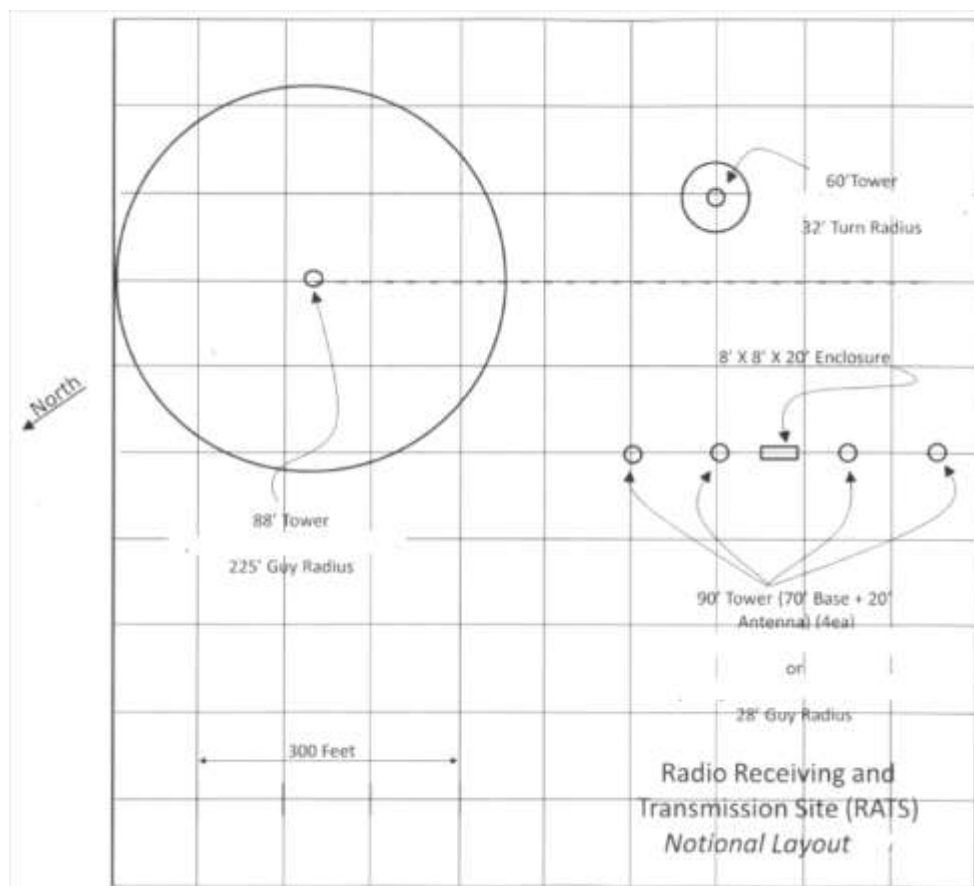


Figure 2-1. Notional Layout of the Proposed RRATS

The site would include an equipment enclosure (standard steel shipping container or conex box) that is 8 feet wide, 8 feet high and 20 feet long. The site would be manned when in use (about 4-6 hours per test) and over 80 percent of the facility use would occur at night. No new employees would be needed to operate the site. Buried electric and communication (fiber optic and phone) lines would need to be extended to the site. A non-metallic fence would be installed around the site perimeter to prevent unauthorized access. The site would utilize the same frequencies currently used by the CFA with their mobile vans.

Aircraft that would use the site would operate along flight tracks several miles to the east and south of Lakehurst, primarily off-shore. No new aircraft would be stationed at JB MDL, nor would the program increase runway use at JB MDL. The antennas would be located outside of the current clear zones and imaginary surfaces for all runways at Lakehurst, including the Test Runway.

The preferred location for the RRATS on Lakehurst is the area of the current borrow site, located south of the test tracks and north of the Test Runway (Figure 2-2). Most of the site is highly disturbed from its use as a borrow site and approximately 70 percent of the area needed for the RRATS is already cleared. About 7 acres of trees around the perimeter of the borrow site would need to be cleared under the Proposed Action. Some unauthorized staging of concrete and asphalt occurred at the site in 2010, and this material is in the process of being removed by JB MDL and properly disposed of or recycled.

The RRATS site would displace existing gravel extraction operations at Lakehurst, where gravel is currently used for base road maintenance and minor construction projects. To replace this capability, a five-acre area would be designated southeast of the RRATs for gravel operations. This area would be mined and restored in phases, with each phase consisting of a nominal 1-acre parcel. There would be a central half-acre maneuver and staging area in the center of the site (Figure 2-3). Topsoil from the mine site would be removed carefully and staged for later site reclamation. The parcels would be mined to comparable depths to the existing site (up to 11 feet below ground surface). Once mining is complete in a parcel, the topsoil would be reapplied and native tree seedlings would be planted across the site. The entire gravel extraction site would be operated for no more than 10 years.

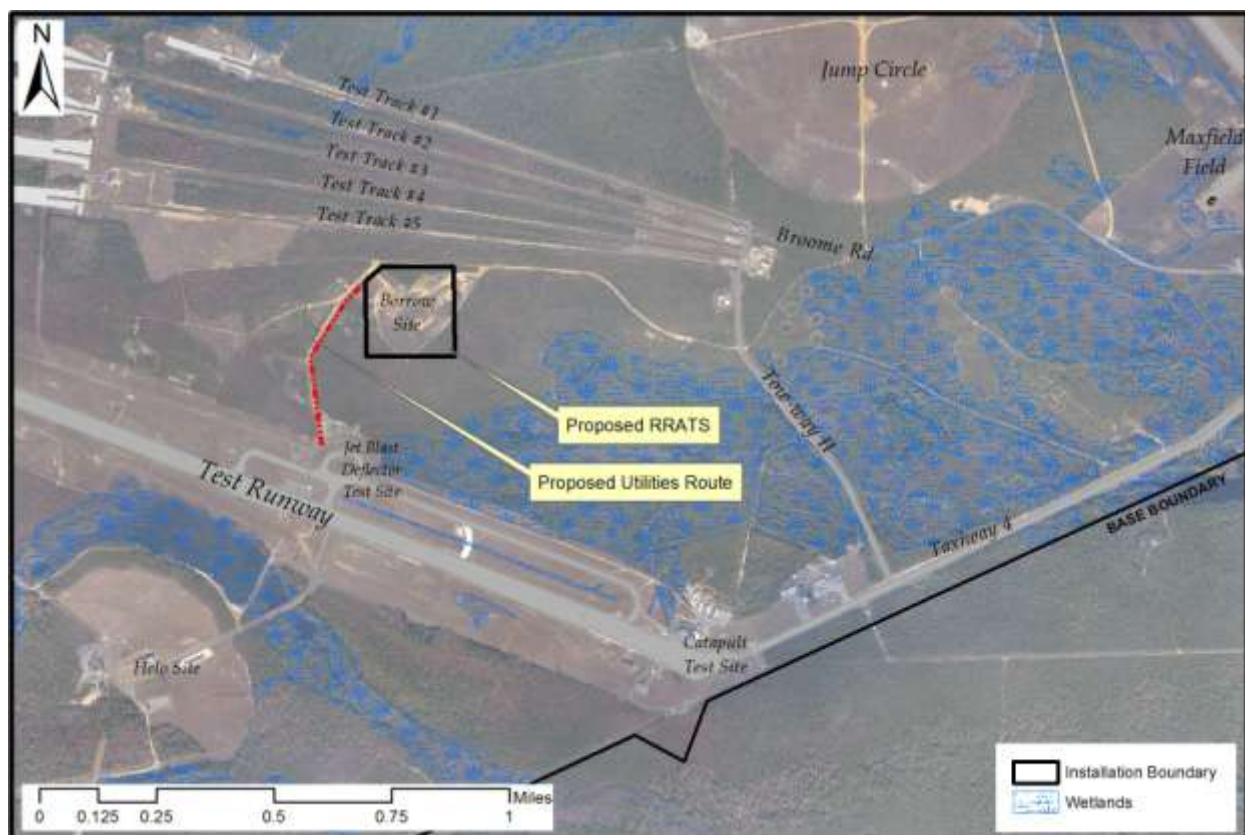


Figure 2-2. Proposed RRATS on Lakehurst

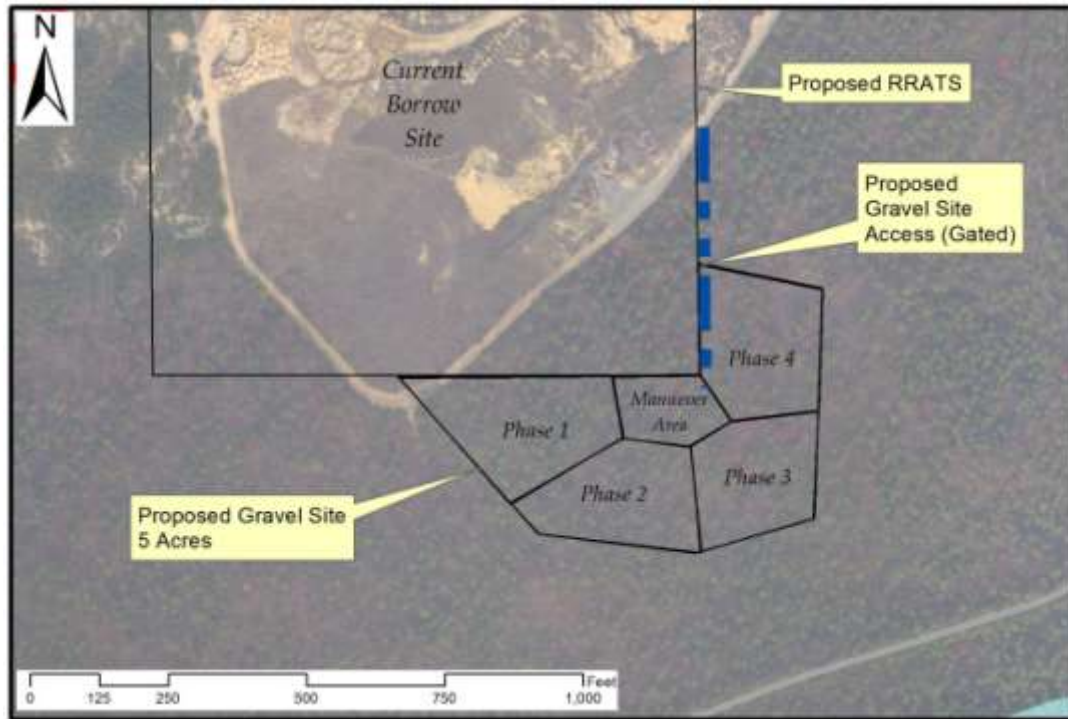


Figure 2-3. Proposed Gravel Site

2.2.2 Alternative 2 – No Action Alternative.

As required under NEPA and 32 CFR 989, the No Action Alternative (Alternative 2) is retained in this EA for comparative analysis. Under this alternative, CFA would continue to use mobile vans for radio transmission and receiving activities.

2.2.3 Best Management Practices

To minimize impacts on the environment, JB MDL would incorporate the following best management practices (BMPs) when implementing the Proposed Action:

- A site-specific Erosion and Sedimentation Control Plan would be submitted to the Ocean County Soil Conservation District for review and approval. The plan would receive certification from the District prior to initiating construction.
- New buried utility lines for the site would follow existing unimproved roads in the area in order to minimize tree removal.
- Tree cutting would be conducted outside of the migratory bird breeding season of March 15 to July 31 to reduce impacts on migratory birds. Additionally, to avoid adverse impacts to northern pine snakes (*Pituophis melanoleucus melanoleucus*), tree clearing would take place between November 1 and March 1.
- CFA would provide notification of intent to construct the antennas to the Federal Aviation Administration (FAA) 45 days prior to construction.
- The antennas would meet FAA criteria for lighting/observability. To reduce potential for bird mortality, red flashing lights (30 flashes per minute) would be used on the RRATS towers per FAA's recommendation (see Section 3.2).
- Guy wires would be painted with reflective paint and bird diverters would be applied.

- CFA and the Natural Resources Manager would monitor the site for dead or injured birds as a result of bird impacts and report findings to the US Fish and Wildlife Service (USFWS) on a quarterly basis for the first two years of RRATS operation. During or after that time, if bird mortality or injury rates are significant, JB MDL would work with USFWS to develop strategies to minimize bird mortality/injury rates.
- Security lighting for on-ground facilities and equipment would be down-shielded to keep light within the boundaries of the site.
- Any future changes in radio-frequency spectrum use would be coordinated with and approved by the JB MDL frequency manager and coordinated with the Naval Air Systems Command.
- The construction contractor would stage all equipment and materials within the project site, and limit all disturbance to the site.
- A Digging Permit from JB MDL would be required prior to any subsurface disturbance.
- A sweep for Unexploded Ordnance (UXO) would be conducted for areas of subsurface disturbance. The construction contract would provide clear instructions to contractors on the steps to follow if UXO is discovered. A pre-construction safety brief would be provided by JB MDL outlining how to recognize UXO and the steps to follow. If UXO is discovered, all work would cease, workers would muster at an off-site location, and the discovery would be reported immediately to the base dispatch office at 732-323-4000.
- If archeological sites or cultural artifacts are inadvertently discovered during ground disturbing activities, JB MDL would cease all disturbance activity, secure the site(s) and contact the JB MDL CRM. The CRM would take necessary actions pursuant to the base ICRMP.
- JB MDL would seek bids for forest products removed from the site in accordance with Air Force Instruction (AFI) 32-7064.
- The RRATS site would be restored after construction and native warm-season grasses would be planted across most of the site. The grass would be mowed once a year in the Fall or Winter to promote habitation by grassland bird species.
- Gravel extraction at the proposed replacement site would occur in 1 acre increments, with previous areas restored by replacing topsoil and planting native tree species. The replacement gravel site would operate for no more than 10 years. Dust suppression best management practices would be followed during mining events, such as wetting soils and limiting the area of disturbance.
- In the event of a hazardous material or petroleum spills, the contractor would immediately contact x911 in accordance with base spill response policy.
- To reduce the potential for spills during operation, the construction contractor would:
 - Inspect equipment and vehicles for leaks daily.
 - Store hazardous materials and wastes in a manner that provides secondary containment in the event of a spill.

2.3 Alternatives Considered but Eliminated from Further Study

CFA and JB MDL evaluated several potential sites for the RRATS on Lakehurst. Evaluation factors for a suitable site included:

- a dedicated 1000-foot by 1000-foot, secure site;
- an area that can be leveled with no more than 10 feet of elevation change across the site;

- a location that is a sufficient distance from buildings and other obstructions that would otherwise reflect or interfere with radio signals;
- a site within reasonable driving distance to their current and planned facilities near Maxfield Field;
- a site with few environmental constraints (e.g., minimal tree removal, little to no wetlands, and avoidance of threatened and endangered species);
- a site where the towers would not interfere with existing airfield operations or test programs; and
- a location where utilities (electric and communications) could reasonably be extended to site.

One possible location evaluated is just south of Track #5 on the recovery end. This site was deemed unsuitable because of its proximity to an active jet car site and the potential safety issues of a car accidentally flying off the track.

Two other possible locations evaluated are just north and east of Building 551 and the Elevated Fixed Platform test site. The site to the east was ruled out due to the presence of wetlands and State-listed threatened species. The site to the north was ruled out as it is the current training location of the Air Force Expeditionary Center.

There were no other cleared or mostly cleared areas on Lakehurst that met the criteria listed above. Therefore, the borrow site area was identified as the only reasonable alternative that could meet the needs of the project while minimizing environmental impacts.

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3. AFFECTED ENVIRONMENT

3.1 General Overview

This section specifically describes current baseline environmental, cultural, and socioeconomic conditions of JB MDL. The potential direct, indirect, and cumulative effects of the Proposed Action components and alternatives on each of the resources are addressed in Section 4.

3.1.1 Project Location

The project study area is located in the Lakehurst area of JB MDL, surrounded by Ocean County, NJ, in the central part of the State. JB MDL is located within the Pinelands National Reserve, also referred to as the Pinelands. This reserve consists of approximately 1.1 million acres in southern NJ, managed by the NJ Pinelands Commission. The Pinelands National Reserve includes portions of seven counties, including: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean.

3.1.2 Scope of Affected Environment

This EA evaluates the individual and cumulative effects of the following alternatives with respect to land use, airspace, air quality, soils, water resources, biological resources, cultural resources, infrastructure, materials and waste, and human health and safety. The Proposed Action would not require additional full-time personnel and would have a negligible impact to socioeconomics, environmental justice, and transportation and traffic. The proposed RRATS location and gravel site would be located in a remote area of the base, surrounded by existing test sites that produce high noise events. Therefore, the Proposed Action's impacts on noise would be negligible. Therefore, these subjects are not further analyzed in this EA.

3.2 Land Use and Airspace

In the NJ Pinelands, specific areas have been designated for environmental protection, forestry, and agriculture, with growth being directed and encouraged in and around areas capable of accommodating further development. The Pinelands Comprehensive Management Plan zones JB MDL as "Military and Federal Installation Area" defined as Federal enclaves within the Pinelands. Permitted uses are those associated with function of the installation or other public purpose uses (NJ Pinelands, 2011).

The borrow site falls within the former firing range of the Eddystone Chemical Company (1916 to 1919) and the Lakehurst Proving Ground operated by the Chemical Warfare Service (1919 to 1921). See Section 3.10 Human Health and Safety for further information on the former range and the potential for encountering UXO.

The borrow site and several acres to its east were cleared of trees in the early 1970's as a potential borrow site for a project to extend one of the Maxfield Field runways (see Figure 3-1 for the 1972 aerial photograph). However, that runway project was cancelled and the area was replanted with pine trees in the mid-1970's (Petted, 2012).

The Lakehurst borrow site was established in 1982 as a 30-acre site to provide an inexpensive source of gravel and fill to be used exclusively for Lakehurst construction and maintenance projects (NAEC, 1982). The site was cleared again of native vegetation at that time. The borrow site was first intended to be used for five years, but has been used intermittently since 1982, on an as-needed basis, to provide fill dirt and to receive excavated soils from the base. The site is bordered on all sides by forest and sits between the test tracks to the north and the Test Runway to the south.

The borrow site is located about 2,000 feet north of the Test Runway and about 1.5 miles west of the Maxfield Field runways. It is also located 0.6 miles southwest of the Lakehurst Jump Circle. It is not located within any of the clear zones or accident potential zones of the Lakehurst runways. It is also located outside the imaginary surfaces under 250 feet mean sea level for the Maxfield Field runways (Figure 3-2).

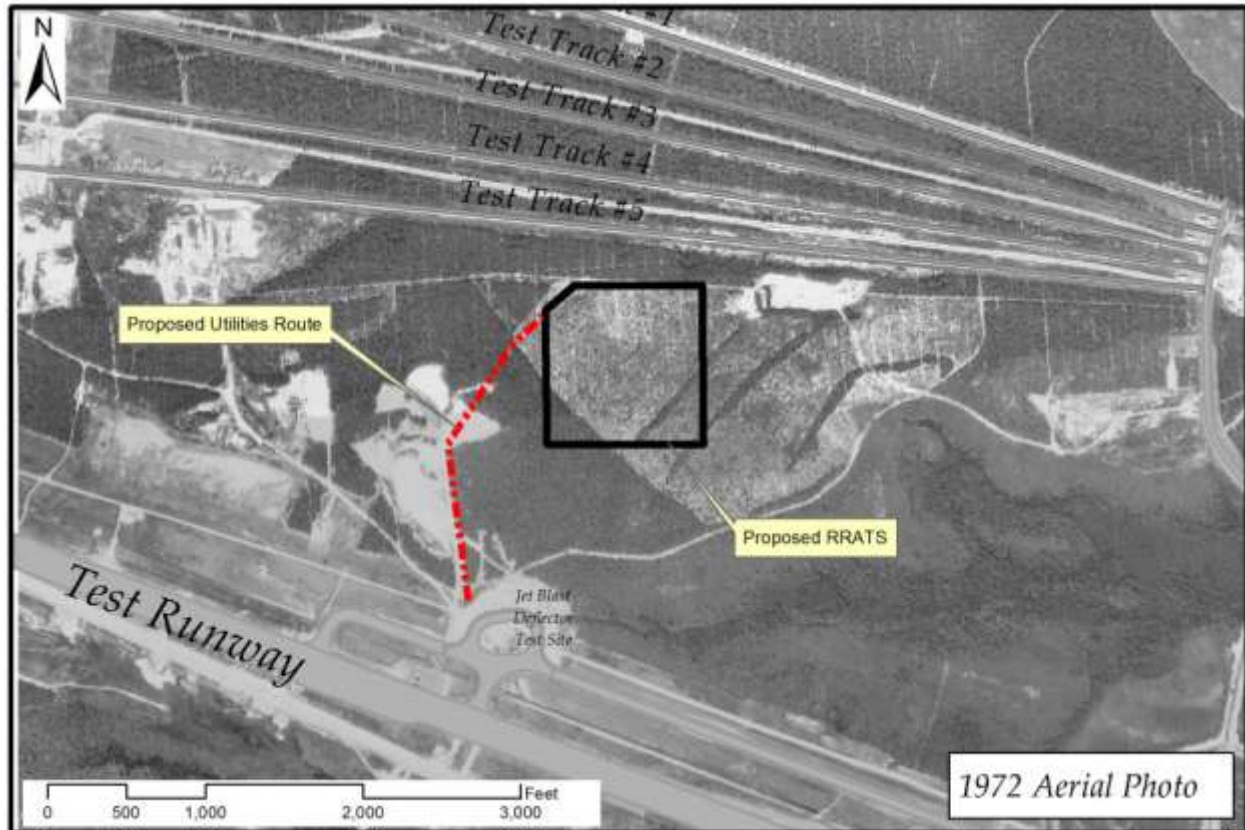


Figure 3-1. 1972 Aerial Photograph of the Project Area

JB MDL planners used the FAA Notice Criteria (online) Tool to determine if the towers would require FAA notification (as described in 47 CFR part 77). The tool indicated that the proposed structure exceeds an instrument approach area by 38 feet and exceeds the FAA 100:1 slope by 54 feet for Maxfield Field (Carroll, 2012a). Based on this online tool, FAA notification is requested.

According to FAA Advisory Circular (AC) 70/7460-1K, "Obstruction Marking and Lighting", any temporary or permanent structure that exceed an overall height of 200 feet above ground level or exceeds any obstruction standard contained in 14 CFR part 77, should be marked and lighted. Although towers would be under 200 feet, the FAA requires lighting for the proposed structures due to helicopter traffic in the area and their proximity to runways.

Per AC 70/7460-1K, communications towers should be painted in alternate bands of aviation orange and white. In the current Circular, communications towers under 150 feet above ground level should have two or more steady burning (L-810) red lights installed in a manner to ensure an unobstructed view of one or more lights by a pilot. However, studies on the effects of obstruction lights on migratory birds have revealed that the L-810 lights are more likely to cause bird mortality. Consequently, JB MDL contacted Mr. Jim Patterson at FAA on May 3, 2012 about pending changes to the AC to protect migratory birds. Mr. Patterson stated that a revision to the AC is expected in late Summer 2012 that will eliminate the use of the L-810 lights on towers above 150 feet. The L-810 lights will be generally be replaced with flashing red lights (optimally at 30 flashes per minute). Exceptions to the 150 foot threshold could be made depending on the location of the site and if guy-wires are used (Patterson, 2012).



Figure 3-2. Airspace Imaginary Surfaces

3.2.1 Surrounding Off-Base Land Uses

The project area is located between two test areas in the center of the Lakehurst, more than a mile from the nearest off-base residential or commercial area. There are no adjacent privately owned parcels near the project area.

3.3 Air Quality

3.3.1 Ambient Air Quality

Ambient air quality in an area can be characterized in terms of whether or not it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to set NAAQS for pollutants considered harmful to public health and the environment.

NAAQS are provided for six principal pollutants, called criteria pollutants (as listed under Section 108 of the CAA), including the following: carbon monoxide (CO), lead, nitrogen oxides (NO_x), ozone, particulate matter (PM), and sulfur dioxide (SO₂).

Each state and locality has the primary responsibility for air pollution prevention and control. The CAA requires each state to promulgate a State Implementation Plan (SIP) that provides for implementation, maintenance, and enforcement of the NAAQS in each Air Quality Control Region in the State. In addition, the CAA allows states to adopt air quality standards more stringent than the Federal standards. Regions that

comply with the standards are designated as attainment areas. In areas where the applicable NAAQS are not being met, a non-attainment status is designated (USEPA, 2007).

NJ's location along the northeast corridor between the major metropolitan centers of Boston and Washington, D.C., places NJ at the epicenter of pollutants transported from other states. In addition, westerly winds from the Ohio River Valley and nighttime reservoirs of pollutants from southern states along the Appalachian Mountain Range have been shown to contribute to high ozone and fine particulate concentrations in NJ (NJDEP, 2010a). Currently, the entire State of NJ does not meet the NAAQS for ozone and is classified as moderate non-attainment for ozone.

Atmospheric ozone occurs when NO_x, CO and Volatile Organic Compounds (VOCs) react in the atmosphere in the presence of sunlight (a photochemical reaction). NO_x and VOCs are called ozone precursors and are regulated as a means of controlling ozone production. Motor vehicle exhaust, industrial emissions, and chemical solvents are the major anthropogenic sources of these chemicals.

The October 29, 2007 NJ SIP established general conformity budgets for McGuire AFB and Lakehurst for VOCs and NO_x (NJDEP, 2007). These proposed budgets were established to provide the bases the operational flexibility to meet their missions and future missions of the Department of Defense (DoD). There is no specific SIP budget for the former Fort Dix area.

3.3.2 General Conformity Rule

The General Conformity Provision of the CAA (42 USC 7401 *et seq.*; 40 CFR 50-87) Section 176(c), including the USEPA's implementation mechanism, the General Conformity Rule (40 CFR 51, Subpart W), requires Federal agencies to prepare written Conformity Determinations for Federal actions in or affecting NAAQS non-attainment areas or maintenance areas. Since Ocean County is currently in non-attainment status for ozone, the procedural requirements of the General Conformity Rule are in effect for the Proposed Action. Ozone producing air emissions associated with the proposed action would occur during site preparation, utility work, and antenna construction phases. A Conformity Rule Compliance analysis is provided in Appendix B.

3.4 Topography and Soils

The soils at the site consist of Downer loamy sand (0 to 5 percent slopes). This soil is characterized as nearly level to gently sloping, well drained soil on divides or side slopes. Typically found in wooded areas, the surface layer is grayish brown loamy sand about 2 inches thick; the subsurface is brown loamy sand about 14 inches thick. Permeability is moderate or moderately rapid. Organic matter content and natural fertility are low.

The site has been altered from past sand and gravel mining and by the deposit of soil from base projects. The topography is relatively level with occasional man-made mounds of soil.

3.5 Water Resources

3.5.1 Regulatory Framework

Water resources at JB MDL are also regulated under Federal Clean Water Act under the jurisdiction of the NJ Department of Environmental Protection (NJDEP). NJDEP has the primary responsibility for protecting NJ's surface and ground waters from pollution caused by improperly treated wastewater and its residuals, as well as destruction of watersheds from development.

3.5.2 Surface Water Resources

The closest wetlands to the project area are located 725 feet to the southeast of the proposed RRATS site (Figure 2-2). The closest wetlands to the proposed utility line route are more than 600 feet to its east. There are no surface water features within the proposed area of disturbance.

3.5.3 Groundwater

Based on borings conducted to investigate gravel potential in 1982, groundwater at the borrow site is encountered generally at 30 feet below ground surface (NAEC, 1982). While there are installation restoration sites with contaminated groundwater at test sites to the northeast and south, groundwater at the borrow site has not been affected.

3.5.4 Stormwater Management

Construction projects at the base shall have site-specific soil erosion and stormwater management plans considering runoff control during and after construction. Proposed projects that disturb more than 1 acre of soil must obtain authorization under NJ Pollution Discharge Elimination System (NJPDES) Permit No. NJG008323, or under an individual permit. The procedures and practices included in these plans shall be in accordance with the Standards for Soil Erosion and Sediment Control under Chapter 251, P.L. 1975, the Soil Erosion and Sediment Control Act and the Federal Water Pollution Control Act, 33 U.S.C. 1323.

JB MDL and its projects must comply with the stormwater requirements of the Energy Independence and Security Act of 2007, 42 USC 17001, et seq., (Section 438, Stormwater Runoff). All newly constructed drainage systems shall have a maintenance and inspection schedule as part of their design. Inspections of all major drainage facilities are conducted annually and after major storms.

3.6 Biological Resources

3.6.1 Integrated Natural Resource Management Plan

A Joint Base Integrated Natural Resource Management Plan (INRMP) is under development. Until the new INRMP is promulgated, natural resources for the Lakehurst area are addressed by the 2002 INRMP. The INRMP provides descriptions of the natural resources present, identifies management issues, and establishes specific natural resources management activities.

3.6.2 Vegetation

Vegetation communities at Lakehurst are diverse, ranging from open grasslands to mature forest communities. Lakehurst consists of approximately 45 percent upland forest, 28 percent brushland and shrubland, 1.3 percent surface waters, 12 percent wetlands, and 13 percent developed/disturbed areas. According to the Lakehurst INRMP, there were 759 acres of mixed forest and 3,326 acres of total forest across the 7,430 acre Lakehurst area (44 percent of the base) in 2002. Plant species found within the region are common for climatic and hydrologic conditions of the Pine Barrens Natural Community.

About 70 percent of the proposed RRATS site is highly disturbed from borrow site operations and is lacking vegetation. The borrow site is surrounded by forest. The forest types and acres within the proposed RRATS area are described in Table 3-1.

Table 3-1. Forest Types Within the Area of Potential Effect

Location within Proposed RRATS	Vegetation Type	Acres
Northern edge	Coniferous Forest, 50% Crown Closure	2.51
Southwest corner	Mixed Forest (50% deciduous with 10-50% crown closure)	2.36
Southeast corner	Mixed Forest (50% deciduous with 10-50% crown closure)	2.18
Total		7.05

3.6.3 Mammals

There have been no mammal surveys conducted on Lakehurst other than rare species surveys. However, the vegetative communities are representative of NJ Pine Barrens, and common large to medium species that are likely to occur include: white-tailed deer; gray fox; opossum; and raccoon. Species that occur less frequently include: red fox and eastern coyote. Groundhogs are commonly found occur along grass taxiway clearzones and lawn areas at the base. Common medium to small mammals that occupy upland forests include: eastern

gray squirrel, red squirrel, and southern flying squirrel. Small mammals that occur in dry upland areas include white-footed mice and pine voles (NAES, 2002).

3.6.4 Forest Birds

The extensive areas of pine and mixed pine and oak forests provide habitat for a number of bird species. Between August 2006 and July 2007, a forest bird survey was conducted by the NJ Audubon Society on Lakehurst (NJ Audubon, 2007). Forest bird counts were conducted once per month at each point between sunrise and 10 am unless weather or other climatic conditions interfered with the sampling protocol. Prior to each count, the observer recorded starting time, wind intensity in Beaufort Scale, and temperature. No surveys were conducted when winds were above Beaufort Scale 4 or when moderate rain or noise levels significantly affected the observer's ability to detect vocalizations. Each count lasted 10 minutes, during which the observer recorded all individuals, by species, detected by sight or sound.

A forest bird survey point was located just south of the borrow site (point F35) (Figure 3-3). Twenty bird species were recorded at point F35 at least once over the twelve month survey. The species that were identified in three to nine of the twelve surveys included¹: Carolina Chickadee (9); Eastern Towhee (6); White Breasted Nuthatch (5); Eastern Wood Peewee (4); Tufted Titmouse (4); Blue Jay (3); Gray Catbird (3). Species that were detected during one or two monthly surveys included: American Goldfinch, American Robin, Chipping Sparrow, Brown Headed Cowbird, Eastern Bluebird, Blue Grosbeak, Golden-Crowned Kinglet, Great Crested Flycatcher, Hairy Woodpecker, Northern Flicker, Ovenbird, Pine Warbler, Prairie Warbler, Red Bellied Woodpecker, Song Sparrow, and White Throated Sparrow. None of these bird species are State or federally-listed as endangered or threatened. The Prairie Warbler is on the USFWS list of Birds of Conservation Concern for Region 30. The Prairie Warbler is found in scrubby fields and forests throughout the eastern and south-central US (not on the prairies). The forest survey identified 48 observations of the Prairie Warbler across Lakehurst, detected during its peak breeding season (May through July).

3.6.5 Special Status Species

There have been no special status species identified within the proposed RRATS fenceline. A map of special status species identified historically around the borrow site is provided in Figure 3-3. Northern Pine Snakes (State-listed threatened) are common on Lakehurst and there have been individuals sighted in and around the test sites occasionally, although there are no documented finds at the borrow site. The closest known hibernacula sites are located 2500-3000 feet from the borrow site, and are separated by roads, test tracks and runways.

Along the Test Runway, 1,200 feet south of the borrow site, grassland bird species are prevalent, such as the grasshopper sparrow, prairie warbler and horned lark. The closest bald eagle occurrence to the borrow site was at Pickerel Lake about 2,500 feet southwest, separated by the Test Runway. Bald eagles (State-listed endangered status for breeding populations) have been frequently observed at Pickerel Lake, Clubhouse Lake, and Island Pond during November and December, prior to their nesting season. They are not known to nest on Lakehurst. Ospreys, a State-listed threatened species, have also been found at the Lakehurst lakes (including Pickerel Lake), but are not known to nest at Lakehurst and have not made use of nesting platforms that have been provided. The Prairie Warbler, a Bird of Conservation Concern, was identified at the forest bird survey point just south of the proposed RRATS site (see Section 3.6.4). Dragon's Mouth, a State-imperiled orchid plant species (because of rarity), was identified in the wetlands 1,500 feet southwest of the borrow site. This plant is found in open, pinelands bogs and swampy grasslands.

¹ monthly occurrences in parentheses.

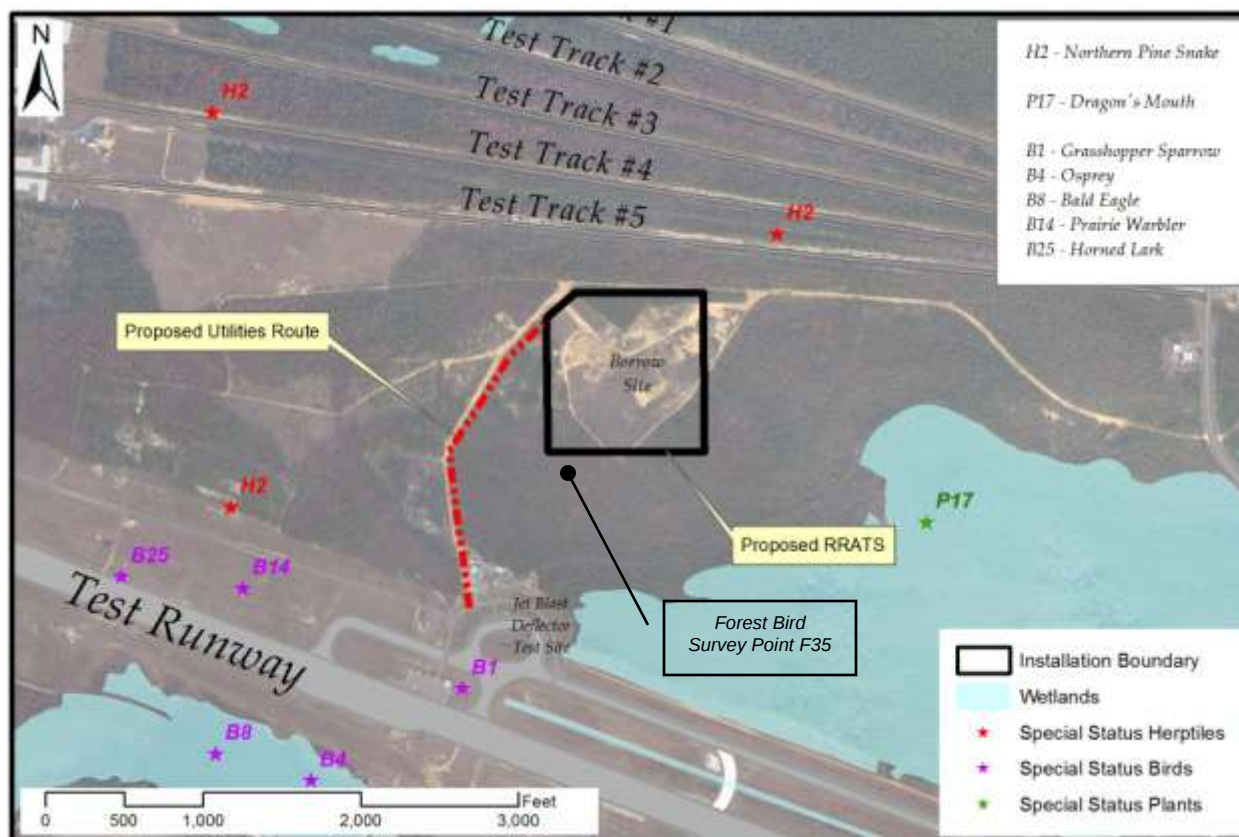


Figure 3-3. Species Map

3.6.6 Effects of Communications Towers on Migratory Birds

Bird collisions at communications towers in the U.S. have been reported for over 50 years and studies are ongoing to determine the causes and solutions. The towers that are the most hazardous to birds are those over 200 feet, are illuminated at night with red lights, are supported by guy wires, and are located in migration corridors, near wetlands and in areas prone to fog, low clouds and precipitation. All towers, however, have the potential to kill birds. Light appears to be a key attractant for night-migrating songbirds, especially on nights with poor visibility, low cloud ceilings, heavy fog, or various forms of precipitation. Disoriented, they circle the area, eventually striking the guy wires, the tower or even one another. The species impacted most seem to be night migrating songbirds (warblers, thrushes, vireos, tanagers, cuckoos, sparrows, etc.), although smaller numbers of waterfowl, shorebirds and other species have also been documented (Kerlinger, 2000).

3.6.7 US Fish and Wildlife Service Guidelines

The New Jersey Field Office of the US Fish and Wildlife Service has a guideline for communication tower and antenna consultation (USFWS NJ, 2009). This guidance states that the USFWS determined that construction of new towers without lights or guy wires, under 200 feet in height, is not likely to adversely affect federally listed species in NJ, nor have any significant impacts on migratory birds or other wildlife resources under Service jurisdiction provided that:

- All ground disturbance is at least 150 feet from any beach or dune;
- An net gain in impervious surface is under 0.25 acre, and all ground disturbance is at least 150 feet from any wetland or open water, or is limited to existing developed areas²;

² This provision applies to municipalities with extant, historic, or potential occurrence of bog turtle, Indiana bat, dwarf wedgemussel, swamp pink, Knieskern's beaked-rush, sensitive joint-vetch bog asphodel, or Hirsts' panic grass. JB MDL is not located within a

- The project is consistent with the Service's National Bald Eagle Management Guidelines; and
- The project is not located in a National Wildlife Refuge.

For projects meeting these guidelines, this guidance may be used as the Service's concurrence with an ESA determination of "not likely to adversely affect" federally listed species.

USFWS recommends using the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA. Other recommendations include using only white (preferable) or red strobe lights at night unless otherwise required by the FAA, and employing the minimum number, minimum intensity, and minimum number of flashes per minute permitted by the FAA.

USFWS recommends avoiding guyed towers unless no other option is viable. To increase their visibility to birds, the Service recommends use of reflective paint or materials, large balls, or other available technology.

3.7 Cultural Resources

3.7.1 National Register of Historic Places

There are no National Register of Historic Places (NRHP) listed or eligible historic sites in the area of potential effect. There are several test site buildings that are over 50 years old within a mile of the site. However, an intensive-level architectural survey in 2009 inventoried most of the buildings over 50-years old at the test sites and determined that none are eligible for listing on the NRHP, either individually or collectively as a historic district (NAVFAC, 2009). The only NRHP-listed site on Lakehurst is Hangar 1, located more than 3 miles east of the borrow site.

3.7.2 Potential for Archeological Sites

No prehistoric archeological sites have been identified on Lakehurst. Two cultural resource surveys have been conducted for Lakehurst, including a reconnaissance survey conducted in 1994 that identified areas of prehistoric site sensitivity and Phase 1B shovel testing conducted in 2008 accomplished along a stretch of proposed road in an area having potentially high archeological sensitivity. Neither survey encountered evidence of prehistoric occupation.

3.7.3 Potential for Historic Architectural Resources

There are no indications of human habitation or historic buildings/structures in the project study area based on historic records and maps dating back to 1872.

3.7.4 Native American Consultation

No Native American Traditional Cultural Properties, protected tribal resources, tribal rights, sacred tribal sites, or Indian lands are known to be present within the study area. The likelihood of finding Native American artifacts or sites within the project area is low, as this area has been extensively disturbed from extensive tree clearing and mining operations.

3.8 Infrastructure

3.8.1 Potable Water Supply

The Lakehurst area has three community water systems: the Hill System, Helo System and Test System. The Helo and Hill Systems obtain groundwater from wells screened in the Cohansey Aquifer. The Test System obtains groundwater from the Potomac-Raritan Magothy aquifer. The closest water lines to the borrow site are at the Jet Blast Deflector test site, about 1,200 feet to the south. However, these lines provide untreated water. The closest treated potable water lines are either 1 mile southeast at the catapult area (Test System) or 1 mile southwest at the Elevated Fixed Platform test site (Helo System).

municipality, but the surrounding municipalities (Jackson, Lakehurst, and Manchester) have one or more occurrences or potential occurrences for at least one of these species. Indian Bat is not listed as an extant or potential species in the surrounding municipalities (NJDEP, 2010b).

3.8.2 Wastewater Treatment

Most facilities at Lakehurst connect to a base wastewater collection system and pumping systems (operated by JB MDL) that ultimately ties into the Ocean County Utility Authority, which provides tertiary treatment for wastewater before it is discharged into the Atlantic Ocean. The remote test sites in the western portions of Lakehurst use septic systems to treat sanitary wastewater. The closest restroom to the study area (connected to a septic system) is at Building 566 at the Jet Blast Deflector test site, which would be a 0.4 mile drive from the borrow site along unimproved roads.

3.8.3 Telecommunications

The closest telephone and fiber optic lines to the borrow site are at the Jet Blast Deflector test site to the south (0.4 miles from the site along existing unimproved roads).

3.8.4 Energy Supply

GPU Energy provides electricity to the Lakehurst area of JB MDL. The closest electric line to the proposed project location is at the Jet Blast Deflector test site that has both 4160 volt and 120 volt lines.

3.9 Materials and Waste

JB MDL adheres to a Hazardous Material Control and Management Plan which defines the procedures for the handling and disposal of hazardous waste. According to the management plan, each department and tenant must possess a Hazardous Waste Coordinator and Spill Response Coordinator. The base HAZMART process receives hazardous materials at a central location where they are distributed on an as-needed basis and their usage and disposal are tracked. The Spill Response Coordinator and/or the Hazardous Waste Coordinator must be contacted in the event of a spill.

Lakehurst operates a separate Recycling Center for office and residential recyclables, such as aluminum cans, glass, paper products, and cardboard. Lakehurst also operates at Material Recovery Center next to its Recycling Center, where Base personnel can drop off the following materials in open-top dumpsters for subsequent recycling: scrap lumber and pallets (cannot be treated, painted, or stained wood); cardboard; scrap metal (ferrous); scrap metal (non-ferrous); concrete; and asphalt.

The borrow site has been used intermittently since 1983 to provide fill and gravel for Lakehurst construction projects. It has also been used to deposit excess soil from base construction projects. Designated personnel stage compostable yard waste such as leaves, grass clippings, yard trimmings, trees, stumps, brush, and other organic matter at the designated drop off area to the west of Tow-Way No. 11. Recycling personnel then transfer these materials to the nearby Borrow Pit where they undergo the composting process. Another small (2 acre) borrow site is located adjacent to the Jump Circle access road.

3.10 Human Health and Safety

UXO and spent rounds have been found at Lakehurst. These are remnants of former Russian and U.S. army ammunition testing activities dating back to 1915. Most of the ordnance rounds were tested in the western area of Lakehurst. These included shrapnel and chemical rounds. Based on records kept since 1980, most UXO finds are just fragments of shells. However, some are found relatively intact. All UXO is regarded as an explosive hazard. When a round is found, the Explosive Ordnance Disposal team usually detonates it by applying another explosive material to it.

In the “Sweep Required” zone, UXO is much more likely to be discovered than in other parts of Lakehurst. This area was delineated based on historical records of past ordnance operations and past UXO finds. Any excavation in this area requires a sweep before a digging permit can be issued. The area shown as “Use Caution” is less likely to contain UXO, but caution is still advised when disturbing the ground. The proposed RRATS location, proposed utility route, and replacement gravel borrow site are within the “Sweep Required” area (Figure 3-4). The JB MDL Explosive Ordnance Detachment does not typically conduct non-emergency UXO sweeps. Sweeps for specific projects are conducted under contracts with privately-owned companies

experienced in UXO sweeps. The JB MDL Safety Office provides oversight of these projects and reviews the qualifications and training of approved companies. They also review and approve the site-specific workplans and health and safety plans for sweeps.

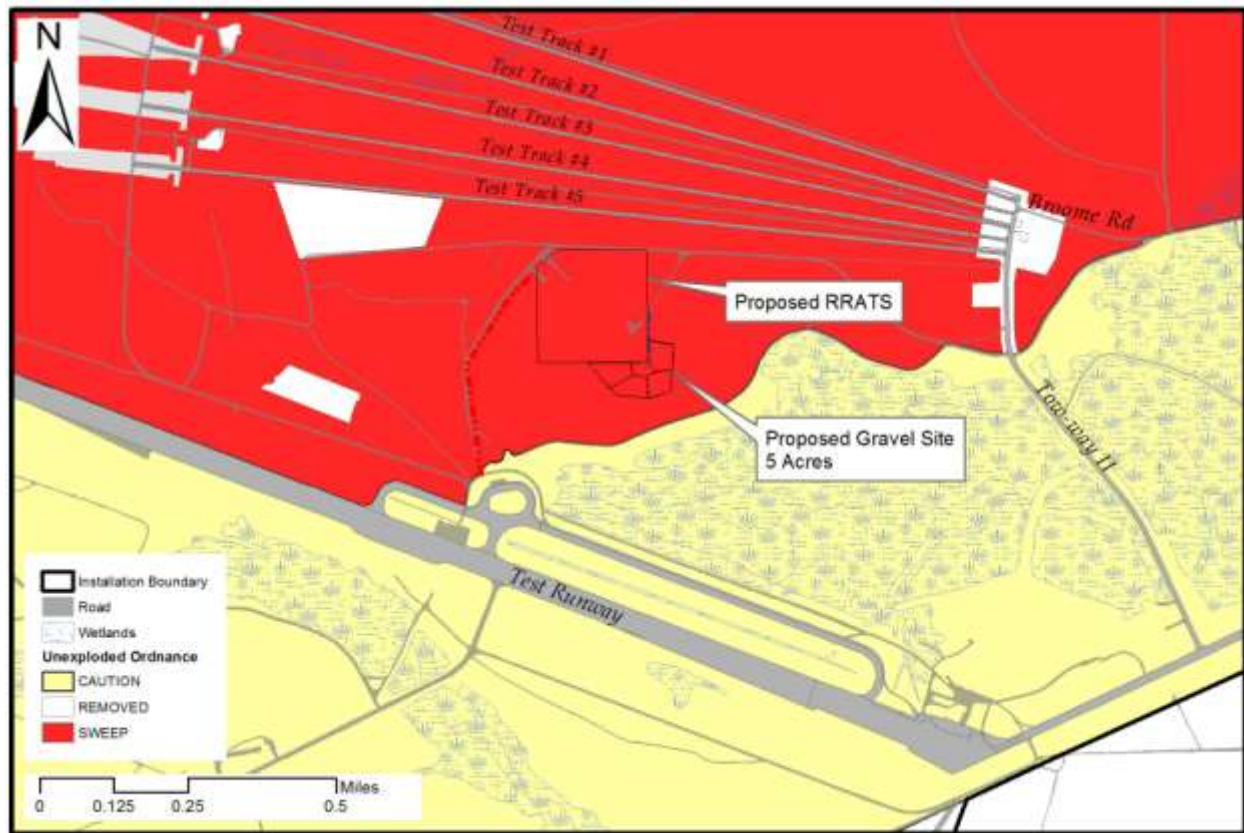


Figure 3-4. UXO Potential Zones

4. ENVIRONMENTAL CONSEQUENCES

4.1 General Overview

This section identifies potential direct and indirect effects of the alternatives for each resource area described in Section 1 and compares and contrasts the potential effects of those alternatives. The potential environmental, cultural, and socioeconomic effects of implementing each identified alternative, as well as any required mitigation associated with each alternative, are also presented.

4.2 Land Use and Airspace

4.2.1 Effects of Alternative 1

The Proposed Action would remove an active soil and gravel borrow site at Lakehurst. However, Lakehurst has another smaller soil borrow site adjacent to the southern entrance of the Jump Circle that would be available for soil that would meet the needs for Lakehurst construction projects. For gravel, a five-acre replacement gravel extraction site would be created, and operated in nominal 1 acre phases, for a total of 10 years. Gravel would be mined to a maximum depth of 11 feet. The replacement gravel area would ultimately be returned to forest land use.

The highest antenna proposed at the RRATS would be 98 feet above ground level (approximately 228 feet above mean sea level) and would be 50 feet below the airfield surface for the Lakehurst Maxfield Field runways (06/24 and 15/33) (Figure 3-2). The antenna would not violate airfield safety criteria (Carroll, 2012b). However, CERDEC must file with the FAA at least 45 days prior to construction based on the antennas' proximity to Maxfield Field and the FAA 100:1 slope ratio for runway 06/24. The antennas would also require obstruction lighting per FAA AC70/7460-1K based on proximity to runways and the presence of helicopter traffic in the area. The 305th Operations Support Squadron reviewed this proposed action and did not have any concerns, although they asked to be notified on construction dates and times so they could put out a Notice to Airmen (NOTAM) to advise local pilots (Rex, 2012). Overall, the impacts to land use and airspace would be insignificant.

4.2.2 Effects of Alternative 2 (No Action Alternative)

No adverse land use or airspace impacts would result from Alternative 2.

4.3 Air Quality

4.3.1 Effects of Alternative 1

Fugitive dust from on-site construction activities and mobile source emissions from construction vehicles, equipment, and construction workers vehicles would occur. Project construction would involve earth movement, grading, tree clearing and other typical construction activities. Exhaust emissions from construction vehicles, personal vehicles, soil erosion, and fugitive dust are all construction issues that would cause insignificant, short-term air quality impacts.

Based on the analysis provided in Appendix B, the project's temporary construction-related emissions, when added to current emissions at Lakehurst, would be well below the de minimis threshold established at 40 CFR 51.853(b) and the Lakehurst SIP budget for NO_x and VOCs; therefore, the Record of Non-Applicability (RONA) satisfies the General Conformity Rule. As such, the RONA documents JB MDL's decision not to prepare a written conformity determination for the Proposed Action. Construction BMPs, as described in Section 2.2.3, would sufficiently minimize airborne particulate emissions. Mobile source emissions during construction would result in direct, insignificant, short-term adverse air quality impacts.

Once the antenna site becomes operational, intermittent trips would occur under this alternative by a handful of workers to operate and maintain the sites as needed. There would be no appreciable increase of automobile emissions once the facility becomes operational.

Gravel mining operations would continue intermittently, as they currently do, but in a location southeast of the current borrow site. Operators would minimize dust by adhering to best management practices, such as wetting soils and minimizing land disturbance. There would be no appreciable increase in dust from the new gravel site.

The US EPA requested that JB MDL consider carbon sequestration losses from tree removal and offsets in this EA (see Appendix A). The permanent loss of 7 acres of trees would reduce annual carbon sequestration by approximately 108 tons per year (assuming 38 tons/hectare uptake per Rutgers, 2011). However, approximately 22 acres would be planted with switchgrass, that has a typical carbon uptake of approximately 1.5 tons per acre (Burras & McLaughlin, 2002) or 33 tons/year. The net carbon sequestration loss under the Proposed Action would be approximately 75 tons per year. The removal of trees for the new borrow site would increase the sequestration loss slightly but ultimately the site would be restored. JB MDL has an active forestry program that promotes healthy forests in areas not built up for mission activities. With the expanding mission of JB MDL, the creation of new forest as an offset would not be practicable on-site. However, in an unrelated project, JB MDL is seeking to increase use of solar energy with a set of rooftop and land-based systems that would offset 3,098 tons of CO₂ per year (JB MDL, 2012). We note that there is no requirement that has been established by any authority requiring the offset suggested by EPA in this case, nor has there been any authorized funding for the suggested optional offset.

4.3.2 Effects of Alternative 2 (No Action Alternative)

The No Action Alternative would not affect air quality.

4.4 Topography and Soils

4.4.1 Effects of Alternative 1

Installation of the RRATS antenna, utilities, and equipment would include land clearing and minor soil grading prior to the installation of the antennas, utilities, and equipment. As a result, there would be potential for soil erosion by wind and rain if adequate soil conservation practices are not followed. However, the installer would obtain certification of a soil erosion and sediment control plan by the Ocean County Soil Conservation District and obtain an authorization to discharge stormwater associated with a construction activity under the NJDEP general permit. With the adherence to soil conservation plans and construction best management practices described in Section 2.2.3, there would be minimal impact to soils.

The Proposed Action would change the topography of the proposed RRATS site slightly by leveling man-made soil piles and grading the site to a condition much closer to its pre-1982 levels. During gravel mining adjacent to the RRATS, the site topography would be altered, although reclamation of the site would level the area and replace topsoil prior to replanting.

4.4.2 Effects of Alternative 2 (No Action Alternative)

No change to topography and soils would result from implementation of Alternative 2, as the project would not occur.

4.5 Water Resources

4.5.1 Effects of Alternative 1

No significant, adverse impacts to surface water resources would be anticipated due to implementation of Alternative 1 as the site is located 725 feet from the nearest water body and would not affect groundwater. Like the other remote test sites on Lakehurst, bottled water would be provided to workers at the RRATS. Personnel at the site would use port-a-johns or use restroom facilities at the JBD site. There would be no new septic system for the RRATS and no extension of sanitary sewer lines. Mining of gravel adjacent to the RRATS would occur well above the water table and not impact groundwater flow or water quality.

4.5.2 Effects of Alternative 2 (No Action Alternative)

There would be no effect to water resources under the No Action Alternative.

4.6 Biological Resources

4.6.1 Effects of Alternative 1

The RRATS would result in the removal of approximately 7 acres of pine forest around the edges of the borrow site. This would reduce habitat for forest dwelling birds, particularly those species identified at Point 35 during the 2006/2007 Lakehurst Forest Bird (see Section 3.6.4). However, the habitat loss would be insignificant as the proposed tree removal represents less than 0.3 percent of the Lakehurst area's forest. To reduce impacts on migratory birds, tree cutting would be conducted outside of the migratory bird breeding season of March 15 to July 31. As described in Section 2.2.3, JB MDL would seek bids for the forestry products cleared from the site in accordance with 10 USC 2665 and AFI 32-7064, and deposit proceeds in the AF Forestry Account.

No Federally-listed threatened or endangered species are located within the project site; therefore, no further consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (ESA) is required. State-listed bird and plant species outside the project site are associated with wetland and grassland habitats that are not present on the proposed RRATS. The USEPA indicated that Swamp Pink, Knieskern's Beaked-Rush, and Bog Asphodel are located on Lakehurst during the coordination phase of this EA (see Appendix A). These are obligate wetland species that would not be affected by the development of the proposed upland site, which is located more than 600 feet from the closest wetland.

Based on the extensive snake monitoring program data at Lakehurst, there are no known hibernacula or nests for the Northern Pine Snake (State-Threatened) on or in the vicinity of the proposed RRATS site. Walkovers of the site between April 11 and 27, 2012 by the Natural Resources Manager (who has managed the Lakehurst Northern Pine Snake monitoring program for more than a decade) revealed no suspected nest sites. The Lakehurst INRMP includes protective buffers of 350 feet around known hibernacula and 150 feet around single nest sites for the Northern Pine Snake; consequently, the project would be in compliance with the INRMP's Northern Pine Snake protection elements. With the numerous previous sightings within a quarter-mile of the project area, the site is considered foraging habitat for the pine snake. The loss of 7 acres of Lakehurst's forested area would not pose an irreversible adverse impact on foraging habitat that is critical to the survival of the relatively abundant local population of Northern Pine Snakes on Lakehurst. Based on the numbers of pine snakes on Lakehurst, it is always possible that hibernacula or nests could be inadvertently uncovered or disturbed by construction activities. The Natural Resources Manager would periodically monitor construction activities for the presence of snakes and construction personnel would be required to contact the Natural Resources Manager at 732-323-2911 if snakes are discovered (see Section 2.2.3). If snakes are discovered, the Natural Resources Manager would attempt to capture and relocate them to other suitable habitat on the base.

According to current 2007 FAA Advisory Circular on Obstruction Marking and Lighting (AC 70/7460-1K), the towers would be required to have red steady-burning lighting based on its location (FAA, 2007). Based on published studies of tower bird collisions, steady-burning red lights were found to attract and disorient migratory birds and are a known contributor to bird collisions. Based on the 2006/2007 Lakehurst Forest Bird Survey, there are several night migrating songbirds such as warblers and sparrows in the project area that could be more likely to strike the tower based on attraction to its lighting. After discussion with FAA, given the unique circumstances at the proposed RRATS site and the proposed use of guy wires, a red flashing light scheme (30 flashes per minute) would be appropriate, even though the towers would be less than 150 feet in height. Although the revised FAA Advisory Circular would not be promulgated until late Summer 2012, the CFA would design the towers to use red flashing lights. Per USFWS recommendations, the site would also use downward lighting for on-ground security lighting to reduce impacts. With these measures, tower lighting would not have a significant impact on migratory birds.

To further protect birds, guy wires would be painted and have bird diverters (reflective, swiveling, glow-in-the-dark flaps) to make them noticeable to birds in flight. According to a California study, the use of bird

flight diverters decreased bird strikes from electric distribution lines by 48 percent compared to baseline power lines with no diverters (CEC, 2009).

Bald eagles have been present on the lake south of the proposed RRATS but there has been no evidence of nesting sites over the last decade. The proposed RRATS would be located almost 4 times further than the recommended 660-foot avoidance distance listed in the USFWS National Bald Eagle Management Guidelines for construction and tree clearing activities. Therefore, no impacts to bald eagles at Lakehurst would be anticipated. The site and towers would meet nearly all of the NJ Field Office USFWS guidelines (Section 3.6.7) that would result in a No Adverse Effect Determination, except for the presence of guy wires. As stated previously, the use of bird diverters on the guy wires would reduce impacts to birds below significant levels.

The RRATS site would be planted with native grasses, providing additional grassland habitat on Lakehurst. Although Grasshopper Sparrows typically favor sites more than 100 acres in size, there are several areas on Lakehurst where they have nested within small 15 to 25 acre sites. Based on the number and distribution of grassland birds at Lakehurst, it is likely that the RRATS would provide suitable habitat for state-listed grassland birds.

The new gravel extraction area would be operated in phases, with about 1 acre disturbed at a time. After each phase is completed, the site would be restored with the reapplication of topsoil and the planting of native tree species. Based on previous forestry projects, it would take approximately 40 years for planted seedlings to reach full maturity. After the reforestation of the gravel site, the net tree removal under the RRATS project would be 7 acres. Overall, the gravel extraction site would have insignificant impacts on available forest habitat.

4.6.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, there would be no land disturbance or vegetation removal. There would be no impact to biological resources under this alternative.

4.7 Cultural Resources

4.7.1 Effects of Alternative 1

The proposed RRATS area has low potential to contain National Register eligible archeological resources based on previous heavy land disturbance and grading from the early 1970's to present day. However, if archeological sites are inadvertently discovered during ground disturbing activities or normal operations at this site, JB MDL would cease all disturbance activity, secure the site(s) and contact the JB MDL CRM. The CRM would take necessary actions pursuant to the base ICRMP (see Section 2.2.3).

Given the distance of the proposed RRATS from the Lakehurst Lighter-Than-Air district and Hangar 1, the proposed antennas would not be visible from these properties and would not pose indirect adverse effects. The SHPO provided a "No Historic Properties Affected" determination for the project on April 23, 2012.

4.7.2 Effects of Alternative 2 (No Action Alternative)

The No Action Alternative would have no effect on cultural resources.

4.8 Infrastructure

4.8.1 Effects of Alternative 1

The Proposed Action would require extension of electric and communication lines. These utilities would be buried located along an existing unpaved road for a distance of 0.4 miles between the Jet Blast Deflector Test Site and the borrow site. There would be no new right-of-way or utility easements or agreements required for these utility lines. The route along the road would minimize the need to clear vegetation. Extending these lines would not result in adverse effects on utility service or utility capacity on Lakehurst.

Treated potable water and sanitary sewer utilities are not available within a reasonable distance of the proposed RRATS. Therefore, bottled water and port-a-johns would be provided for workers to minimize project costs and land disturbance.

4.8.2 Effects of Alternative 2 (No Action Alternative)

The No Action Alternative would have no effect on infrastructure.

4.9 Materials and Wastes

4.9.1 Effects of Alternative 1

As discussed in Section 4.2.1, the Proposed Action would close the primary borrow site on Lakehurst. However, a second smaller borrow site is available that would provide sand, and a new gravel borrow site would be opened for the next 10 years to provide gravel for base projects. After 10 years, gravel would be bought from commercial sources, of which there are several within 15 miles of Lakehurst.

The Proposed Action would require standard construction materials, such as structural steel for the towers and concrete for foundations) that are readily available. The preparation of the site would require clearing of 7 acres of pine trees and scrub/shrub vegetation. JB MDL would seek bids for forest products removed from the site in accordance with Air Force Instruction (AFI) 32-7064. The Proposed Action would generate about 933 cubic yards of wood waste (assuming a basal area of 80 with average tree height of 45 feet), primarily in the form of wood chips that would be resold by the contractor for beneficial use in landscaping. These chips would be transported off site most economically by large walking floor trailers that can each carry about 145 cubic yards of chips. These projects cumulatively would generate a minimum of 7 truckloads.

There would be little to no hazardous materials used at the site during normal operations. Overall, there would be less than significant impacts to materials and waste from the Proposed Action.

4.9.2 Effects of Alternative 2 (No Action Alternative)

The No Action Alternative would have no effect on materials and wastes.

4.10 Human Health and Safety

4.10.1 Effects of Alternative 1

The proposed RRATS would be located within identified UXO contamination areas where sweeps are required. The site has been heavily disturbed and cleared at least twice since the Proving Ground era (based on aerial photographs). Given the high level of land disturbance, the possibility of encountering UXO may be less than in the rest of the “sweep required” areas. However, without a sweep, the actual potential for UXO at the site is unknown.

Therefore, as stated in Section 2.2.3, sweeps would be required for site preparation activities that disturb the subsurface. Before and after the sweep, pre-construction safety briefs would be provided by JB MDL to the construction team outlining how to recognize UXO and the steps to follow. If UXO is discovered, all work would cease, workers would muster at an off-site location, and the discovery would be reported immediately to the base dispatch office at 732-323-4000. With advance UXO sweeps and adherence to base UXO policy, the impacts to safety would not be significant.

The RRATS towers would emit radio frequencies. These frequencies would be at a power low enough that there would be no harm to site workers at ground level during testing (Alexoudis, 2012).

4.10.2 Effects of Alternative 2 (No Action Alternative)

There would be no impact to human health and safety under Alternative 2, as the RRATS would not be implemented.

4.11 Cumulative Impacts

The CEQ regulations implementing NEPA requires the consideration of cumulative impacts as part of the process. “Cumulative impacts result from the incremental impact of the Proposed Action when added to other past, present and reasonably foreseeable future actions” (40 CFR 1508.7). Secondary impacts are those that are caused by the Proposed Action, but may occur later in time or farther removed in distance, relative to the primary impacts of the Proposed Action. Relevant actions (those that could result in cumulative impacts) include regulations, policies, and trends related to land use, natural resources, and infrastructure. Relevant actions also include projects planned within 5 miles of the study area that affect these resources.

4.11.1 Cumulative Impacts of JB MDL Tree Clearing Actions

In addition to the Proposed Action, there are several projects across JB MDL that are recently completed, approved or planned that would convert forested land to cleared land or developed land. These include:

- McGuire Airfield Clear Zone Tree Clearing (completed in 2012): 175 acres of tree clearing in airfield safety zones. This will include 16 acres of scrub-shrub wetlands, 137 acres of forested wetlands, and 22 acres within upland areas.
- Army Flight Activity Facility on Lakehurst (planned): 37 acres of upland forest would be cleared for a proposed hangar, aircraft parking and short taxiway.
- Solar Farm near the Lakehurst main gate (approved): 16.8 acres of pine plantation and 6 acres of scrub/shrub vegetation would be cleared.
- Long-Endurance Multi-Intelligence Vehicle Airfield on Lakehurst (planned): 77 acres of forest proposed to be cleared under the “major Lakehurst facility and airfield improvements alternative”, inclusive of 17.6 acres of tree removal within wetland areas.
- Airfield and Training Tree Clearing (planned): This project would remove two forest stands (35.9 acres). These two areas are bordered by roads and airfields and would be cleared to increase visibility of airfields from the Maxfield Air Traffic Control Tower and provide new training area for the Air Force Expeditionary Center.

These projects, when added to the Proposed Action, would remove 332.75 acres of forest across JB MDL. This would result in localized displacement of forest dwelling species in the areas of the tree removal, although cumulatively, the impacts would not be significant when compared to the remaining 25,000+ acres of forest habitat at JB MDL.

4.11.2 Forest and Natural Resource Related Projects at or Adjacent to JB MDL

JB MDL worked with a variety of agencies and non-profit organizations to preserve over 3,500 acres of land surrounding Lakehurst since 2007 to prevent encroachment. Not only does land conservation along the Ridgeway Branch of the Toms River prevent encroachment of the Lakehurst airfield, it conserves the highly vulnerable land within the 425,000-acre Barnegat Bay watershed and protects water quality.

JB MDL is planning a large scale tree thinning project in the Fiscal Year (FY) 2012-2013 timeframe. Through a commercial timber sale project, trees would be thinned within 9 forest stands, across 501 acres, in the western portion of Lakehurst. The primary objective is to remove thin, closely spaced, small-diameter trees. However, in more mature stands that are overstocked, the objective is to leave behind a more diverse age structure and in mixed stands, a higher component of oak species. The objective is to maintain the property over time for safe military use, with a forest cover that is healthy and more resistant to disease outbreaks, insect attacks, and wildfire damage.

4.11.3 Test Site Infrastructure Projects at Lakehurst

The Navy is proposing to construct an Aircraft Carrier Aviation Integrated Test (ACAIT)/Aircraft Launch and Recovery Equipment (ALRE) Facility on Lakehurst, just west of the Jet Blast Deflector Test Site and north of

the RALS Tower. The main facility would clear 4 acres of mixed forest where 2.4 acres would be converted to maintained grassland around the building and 0.8 acres would become building and walkways, and 0.8 acres would be paved for taxiway and apron use. By demolishing 24 obsolete buildings, there would be an increase of 4.6 acres of grassland. The proposed main facility would require the extension of potable water and sanitary sewer lines for about a mile along the test runway from the Catapult Sites. There would also be increased personal vehicle traffic along the access road parallel to the Test Runway as the majority of test workers would be displaced from the current test administration building (Building 355).

There are also plans for a new Expeditionary Air Field (EAF) alongside the Test Runway. This project may require additional tree removal and would slightly decrease grassland habitat along the Test Runway. The proposed location would be within 1 mile of the RRATS and testing would involve periods of aircraft take-offs and landings on the EAF near the RRATS.

4.11.4 Cumulative Impacts Associated with the Proposed Action (Alternative 1)

The Proposed Action would require 7 acres of tree clearing around an existing borrow site. This clearing, when added to the other planned clearing projects, would not significantly affect forest habitat at JB MDL. With the other forestry and land conservation measures planned or underway both on base and off, the amount of forest habitat lost under the Proposed Action would have a negligible effect on forest species.

The ACAIT project would occur more than 2 years later than the Proposed Action. However, it would have a long-term benefit of bringing potable water and sanitary sewer utilities closer to the RRATS with potential to more-economically extend these utilities to the RRATS site. Because the construction timeframes would not coincide, there would be no cumulative effect with regard to noise, traffic, or air emissions. Both projects would cumulatively increase the amount of grassland by 30 acres, providing some additional nesting areas for state-listed threatened and endangered bird species. The EAF project would increase aircraft testing periodically along the Test Runway. The RRATS would pose a height obstruction in the area, like the two nearby Test air traffic control towers. With proper pre-planning, the RRATS would not pose a safety risk to EAF testing. The EAF may also require some tree removal and removal of grassland habitat. This would increase the cumulative amount of tree removal on Lakehurst and detract from the grassland habitat created from the ACAIT and RRATS projects.

4.11.5 Cumulative Impacts Associated with Alternative 2 (No Action Alternative)

Under the No Action Alternative the CFA would not undertake the action described under Alternative 1. No cumulative environmental, socioeconomic or cultural resources impacts would be anticipated.

4.12 Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources is defined as the loss of future options. The term applies primarily to the effects of use of nonrenewable resources such as minerals or cultural resources, or to those factors such as soil productivity that are renewable only over long periods. It could also apply to the loss of an experience as an indirect effect of a “permanent” change in the nature or characters of the lands. An irretrievable commitment of resources is defined as the loss of production, harvest, or use of natural resources. The amount of production foregone is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume production.

The primary irretrievable impacts of the Proposed Action would involve the commitment of energy, labor, material, and funds, for the installation of the RRATS.

4.13 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The Proposed Action would commit resources in the form of energy, labor, materials, and funds in the short-term. The justification for these commitments at this time is described in Chapter 1, Purpose and Need for the

Proposed Action. Long-term productivity associated with the Proposed Action includes the ability of the Army to more efficiently and effectively provide radio transmission testing and calibration of aircraft.

4.14 Unavoidable Adverse Impacts

During site preparation and the installation of utilities and antennas there would unavoidable, although temporary, increase in construction-related noise and air pollutant emissions at the sites. There would be increased truck traffic to and from the site to prepare the site and deliver equipment.

5. COMPARISON OF ALTERNATIVES AND CONCLUSIONS

As a result of the implementation of Alternative 1, the following impacts would be anticipated:

- Conversion of 23 acres from use as a borrow site (16 acres) and forest (7 acres) to a clear and level fenced area for a radio transmission site.
- Conversion of forest for gravel mining adjacent to the proposed RRATS, operated in 1 acre increments, for up to 10 years.
- Insignificant, short-term adverse air quality impacts due to increased mobile emissions and dust during construction activities and gravel mining.
- Insignificant, short-term soil erosion from grading activities and utility work.
- Less than significant safety hazards associated with land clearing in a UXO “sweep required” area.
- Negligible noise impacts from facility construction, site operation, and gravel mining due to the remoteness of the area.

There would be no impacts associated with Alternative 2, the No Action Alternative. A summary of impacts for both alternatives is provided in Table 5-1.

Based on the analysis presented in this EA, Alternative 1 is the Preferred Alternative. The evaluation performed within the EA concludes that, with the adherence to BMPs in Section 2.2.3, no significant impacts would occur as a result of implementation of the Preferred Alternative. This analysis determines that an Environmental Impact Statement (EIS) is not necessary for the implementation of Alternative 1 and that a FONSI is appropriate.

Table 5-1. Summary of Impacts

Resource Area	Alternative 1- Construct and Operate the RRATS	Alternative 2 - No Action Alternative
Land Use and Airspace	The action would be consistent with existing and planned land uses (as a test area). Would convert 23 acres of forest and borrow site to a radio antenna communications test site. The towers would not interfere with any of the approaches, departures, or imaginary surfaces for the runways at Lakehurst. A notice to FAA would be provided 45 days prior to construction. The interim gravel site would be reclaimed after use, reverting back to forest. Overall, there would be less than significant impacts to land use and airspace.	No impact.
Air Quality	Construction activities would result in less than significant, short-term increases in air emissions. Construction dust would cause less than significant short-term adverse effects to air quality. The contractor would employ dust control strategies to minimize effects. JB MDL personnel mining gravel would also follow dust suppression BMPs.	No impact.
Topography and Soils	Site work would have a insignificant, short-term effect on soil erosion with the use of soil conservation BMPs. The topography would be changed to a more level condition.	No impact.
Water Resources	With the use of soil conservation BMPs, there would be no adverse impact to surface water resources.	No impact.

Resource Area	Alternative 1- Construct and Operate the RRATS	Alternative 2 - No Action Alternative
Biological Resources	No wetlands would be affected. No federally-listed or State-listed threatened or endangered species would be affected. Migratory bird impacts would be reduced to less than significant by implementing a more protective flashing lighting scheme and using bird diverters on the guy wires.	No impact.
Cultural Resources	The site has low potential for archeological or historical sites based past disturbance. SHPO provided a "No Historic Properties Affected" determination for the project on April 23, 2012.	No impact.
Infrastructure	Electric and communication lines would be extended 0.4 miles to the site. Extending these lines would not result in adverse effects on utility service or utility capacity on Lakehurst.	No impact.
Materials and Waste	JB MDL would seek bids for forest products removed from the site in accordance with AFI 32-7064. The Proposed Action would generate about 933 cubic yards of wood waste. Overall impacts would be less than significant.	No impact.
Human Health and Safety	With advance UXO sweeps of the site prior to construction and adherence to base UXO policy, the impacts to safety would be insignificant. There would be negligible impacts on noise from the RRATS and gravel site. The use of the RRATS would not pose a hazard to human health and safety.	No impact.

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Petted, 2011	Petted, William. 2011. Personal communication with William Petted, long time Lakehurst public works employee, regarding the clearing around the current borrow site that occurred in the early 1970's.
Rex, 2012	Rex, Captain Justin B. 2012. Email from Captain Rex indicated that the 305 th OSS reviewed the draft RRATS EA and has no comments at that time. They requested notification of the dates and times of construction so they can issue a NOTAM to advise all pilots. May 25, 2012.
Rutgers, 2011	Rutgers, the State University of New Jersey. Assessing the Potential for New Jersey Forests to Sequester Carbon and Contribute to Greenhouse Gas Emissions Avoidance. Lathrop, et.al. March 2011. Funding provided by the Division of Parks and Forestry of the New Jersey Department of Environmental Protection.
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Mr. Anthony Becker, Biologist. Mr. Becker holds a M.S. in biology and has 7 years of NEPA experience on federal projects for DoD, Department of Energy, and General Services Administration.

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APPENDIX A

Project Planning Correspondence

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Summary of Correspondence Received

Date	Commenter	Description/Summary
April 23, 2012	NJ State Historic Preservation Office	Concurrence that no historic properties would be affected.
April 25, 2012	NJ Pinelands Commission	Letter stating the proposed development requires completion of an application with the commission.
April 30, 2012	US Fish and Wildlife Service, NJ Field Office	Comments on the proposed action with recommendations to not require guy wires, design guy wires with visual markers, and down-shield on-ground security lighting.
May 1, 2012	US EPA Region 2	Comments requesting that carbon sequestration losses from forest removal and offsets be included in the EA. Indicated that federally-listed species may be located in the project area.
May 14, 2012	NJDEP Office of Permit Coordination and Environmental Review	Comments requesting analysis of impacts to grassland birds and Northern Pine Snake.

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR MOBILITY COMMAND
JOINT BASE MCGUIRE-DIX-LAKEHURST

11 April 2012

Dennis Blazak
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

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APR 16 2012

HISTORIC PRESERVATION OFFICE

Mr. Dan Saunders
New Jersey Department of Environmental Protection
Historic Preservation Office
Mail Code 501-04B
P.O. Box 420
Trenton, NJ 08625-0420

Subject: Interagency and Intergovernmental Coordination for Environmental Planning for the Environmental Assessment (EA) for the Radio Receiving and Transmission Site (RRATS) at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Dear Mr. Saunders:

The Communications-Electronics Research, Development and Engineering Command (CERDEC) Flight Activity (CFA) at Joint Base McGuire-Dix-Lakehurst (JB MDL) propose to install a Radio Transmission and Receiving Site (RRATS) on Lakehurst, in Ocean County, NJ.

The Proposed Action is needed to generate and receive a variety of signals in order to support military communication initiatives. The project would represent an upgrade from legacy test standards and equipment to enhanced testing methods and facilities for current and emerging technologies. It would provide a fixed site for communicating with airborne electronics systems. No comparable capability exists in the Northeast US. The CFA is currently using antennas mounted on mobile vans to provide this capability.

The project would require a 23-acre site (1,000 feet by 1,000 feet) that is level and cleared of obstructions, including trees. There would be several antennas installed on the site varying in height between 60 feet and 90 feet, with guy wires to stabilize them. The site would include an equipment enclosure (standard steel shipping container or conex box) that is 8 feet wide, 8 feet high and 20 feet long. The site would be manned when in use (about 4-6 hours per test) and over 80 percent of the facility use would occur at night. No new employees would be needed to operate the site. Buried electric and communication (fiber optic and phone) lines would need to be extended to the site. A non-metallic fence would be installed around the site perimeter to prevent unauthorized access. The site would utilize the same frequencies currently used by the mobile vans.

The preferred location for the RRATS on Lakehurst is the current borrow site, located south of the test tracks and north of the Test Runway (Attachment 1). Most of the site is highly disturbed

from its use as a borrow site since 1982 and approximately 70 percent of the area needed for the RRATS is already cleared. Aircraft communicating with the site would operate along flight tracks several miles to the east and south of Lakehurst, primarily off-shore. No new aircraft would be stationed at JB MDL, nor would the program increase runway use at JB MDL. The antennas would be located outside of the current safety zones for all runways at Lakehurst.

JB MDL will be conducting an EA addressing the potential environmental, socioeconomic, and cultural impacts of this proposal. The EA will evaluate the individual and cumulative effects of the Proposed Action with respect to land use, airspace, air quality, noise, soils, water resources, biological resources, cultural resources, infrastructure, materials/waste, and safety. The EA will also evaluate the No Action Alternative, where the CFA would continue to conduct radio transmission tests using mobile vans.

The JB MDL is currently identifying environmental resources, issues, and constraints associated with the proposed project area, as identified above, in order to effectively assess potential environmental impacts associated with the proposal. The JB MDL is requesting baseline information regarding any concern that you may have as related to the potential environmental issues, or other issues of concern, at, or in the vicinity of, the potential project location. Any information you can provide that might be pertinent to the alternatives being analyzed would be appreciated.

If you are aware of other individuals, organizations, or resource agencies that may have additional environmental information or other pertinent knowledge that may assist us in preparing the EA, please contact us or forward this letter for their review, and include any returned comments with your response. Attachment 2 provides a list of agencies/offices we have initiated consultation with.

On behalf of the JB MDL, I look forward to your participation in this NEPA review process. Your response on or before May 4, 2012 will enable us to complete this phase of the project within the scheduled timeframe. If you have any questions, do not hesitate to contact me at (732) 323-7544 or the mailing address listed below. If preferable, you may fax your response to my attention at (732) 323-5223.


DENNIS BLAZAK, GS-13, DAFC
Deputy Asset Manager, 87th Civil Engineer Squadron

Attachments:

- (1) Map of Proposed RRATS location
- (2) Coordination list

shelley coltrain/DEP via email
ken Koalek/DEP via email

I concur with your finding that there are no historic properties affected within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.	
 DANIEL D. SAUNDERS Deputy State Historic Preservation Officer	4/23/12 Date NP



State of New Jersey
THE PINELANDS COMMISSION

PO BOX 359
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CHRIS CHRISTIE
Governor
KIM GUADAGNO
Lt. Governor

Nancy Wittenberg
Executive Director

April 25, 2012

Dennis Blazak
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

Please Always Refer To
This Application Number

Re: Application # 1991-0836.063
Joint Base McGuire-Dix-Lakehurst
Borough of Lakehurst

Dear Mr. Blazak:

Thank you for your April 11, 2012 letter asking that we identify any concerns that the Commission staff may have related to the proposed development of a Radio Transmission and Receiving Site (RRATS) at Joint Base McGuire-Dix-Lakehurst (JB MDL). This information is requested to aid JB MDL with the preparation of an Environmental Assessment for the proposed RRATS. As we understand the submitted information, the proposed "development" includes the clearing of forested areas and the construction of several antennas.

The Pinelands Comprehensive Management Plan (CMP) contains many land use and environmental standards. For example, the land use standards of the CMP require that, where feasible, development at military installations be located in that portion of the installation located within the Pinelands Protection Area and avoid the Pinelands Preservation Area District and Forest Area. Examples of CMP environmental standards include a prohibition on most development in wetlands and a required buffer to wetlands, the protection of threatened and endangered plants and animals and stormwater management.

To discuss these standards, you may wish schedule a pre-application conference with our staff. During this conference we can discuss the proposed development and advise of the specific standards of the CMP that appear to be of concern. There is no fee required for a pre-application conference.

Please note that the proposed development requires the completion of an application with the Commission. The CMP requires an application review fee. Applications filed with the Pinelands Commission may not be reviewed or considered complete unless the application



www.nj.gov/pinelands

General Information: Info@njpinelands.state.nj.us

Application Specific Information: AppInfo@njpinelands.state.nj.us 1 9 9 1 0 8 3 6 . 0 6 3 *

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2

review fee and supporting documentation required by the CMP (N.J.A.C. 7:50-1.6) have been submitted.

For your convenience, application submissions consisting of letter or legal sized documents and electronically notarized application forms may now be submitted via email to AppInfo@njpinestates.state.nj.us. Large reports, plans, checks, and items that have a manually applied seal (i.e., plans, manually notarized items, etc.) must still be submitted as hard copies.

If you have any questions, please contact the Regulatory Programs staff.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ernest M. Deman", followed by a horizontal line.

Ernest M. Deman
Supervising Environmental Specialist

c: Nancy Wittenberg, Executive Director



In Reply Refer To:
12-CPA-0172

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
<http://www.fws.gov/northeast/njfieldoffice>



Dennis Blazak, Deputy Asset Manager
87th Civil Engineer Squadron
Highway 547, Building 5
Lakehurst, New Jersey 08733

APR 30 2012

Dear Mr. Blazak:

The U.S. Fish and Wildlife Service (Service), New Jersey Field Office has received your April 11, 2012 letter regarding the *Interagency and Intergovernmental Coordination for Environmental Planning for the Environmental Assessment for the Radio Receiving and Transmission Site at Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey*. The proposed action would establish several antennas varying in height between 60 and 90 feet, with guy wires to stabilize them. Buried electric and communication lines would be extended to the site via an existing road. The second alternative under consideration is No Action. The Service is providing fish and wildlife review comments on the proposed action, including a determination of whether federally listed endangered and threatened species would be affected.

AUTHORITY

The following comments on the proposed action are provided pursuant to Section 7 of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) and the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755; 16 U.S.C. 703-712), as amended, to ensure the protection of federally listed endangered and threatened species, and migratory birds. Additional comments are provided as technical assistance for the draft Environmental Assessment and do not preclude further comment pursuant to the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) (NEPA).

FEDERALLY LISTED SPECIES

No federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the vicinity of the proposed project site. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

SERVICE REVIEW

The construction of new communication towers, particularly towers with guy wires, creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communications towers are estimated to kill 4-5 million birds per year, which violates the spirit and the intent of the MBTA and the Code of Federal Regulations at Part 50 designed to implement the MBTA. The Service's Branch of Conservation Planning Assistance developed a set of voluntary guidelines for the siting, construction, operation, and decommissioning of communication towers (<http://www.fws.gov/habitatconservation/communicationtowers.html>).

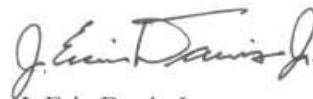
The Service emphasized that:

- We strongly encourage constructing communication towers which do not require guy wires (*e.g.*, use lattice structures or monopoles).
- Tower designs using guy wires for support should have daytime visual markers on the wires to prevent collisions by diurnally moving migratory bird species. For guidance on markers, see APLIC 1994, 1996. Copies can be obtained via the Internet at <http://www.eei.org/resources/pubcat/enviro/>.
- Security lighting for on-ground facility and equipment should be down-shielded to keep light within the boundaries of the site.

Also, Gehring *et al.* (2009 - enclosed) reported that guyed towers illuminated with both non-flashing/steady-burning red lights (L-810s) and flashing, red, strobe-like lights were involved in more avian fatalities than towers lit only with white strobes (both unguyed and guyed).

The Service requests that the JB MDL evaluate the use of lattice structures or monopoles, and consider the use of white strobes in the draft Environmental Assessment. Thank you for the opportunity to provide initial comments on the proposed communications site. Please contact Carlo Popolizio at (609) 383-3938, extension 32, if you require further assistance.

Sincerely,



J. Eric Davis Jr.
Field Supervisor

Enclosure

REFERENCES

- Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute, Washington, D.C., 78 pp.
- Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices/or Raptor Protection on Power Lines. Edison Electric Institute Raptor Research Foundation, Washington, D. C., 128 pp.
- Gehring, J., P. Kerlinger, and A.M. Manville. 2009. Communication towers, lights, and birds: successful methods of reducing the frequency of avian collisions. *Ecological Applications*, 19(2) 505–514.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY - 1 2012

Dennis Blazak
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

Subject: Interagency and Intergovernmental Coordination for Environmental Planning for the Environmental Assessment (EA) for the Radio Receiving and Transmission Site (RRATS) at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Dear Mr. Blazak:

This letter is in response to your April 11, 2012 scoping letter for the installation of a Radio Receiving and Transmission Site (RRATS) to generate and receive a variety of signals in order to support military communication initiatives.

The project would require a 23-acre site that is level and cleared of obstructions, including trees. Seventy percent of the preferred location for the RRATS is already cleared. The project would result in the deforestation of approximately seven acres of trees. EPA's climate change webpage states that "carbon sequestration is the process by which growing trees and plants absorb or remove CO₂ from the atmosphere and turn it into biomass (e.g., wood, leaves, etc)." Conversely, deforestation results in increased levels of CO₂ in the atmosphere.¹

Tools such as this calculator: <http://www.fs.fed.us/ccrc/tools/ctcc.shtml>, from the USDA Forest Service, provide a quantification of the carbon sequestration of individual trees. This information can be applied to the seven acres that will need to be deforested, thereby providing a quantitative value of the sequestration losses that will be associated with this project. EPA recommends utilizing this information to determine appropriate offsets to help neutralize the impacts of deforestation. EPA believes that both the sequestration losses as well as the comparable offsets should be included in the Environmental Assessment.

Additionally, there are two threatened species, Swamp Pink and Knieskem's Beaked Rush, as well as one candidate species, Bog Asphodel, located in Lakehurst. In order to be in compliance with the Endangered Species Act, the Department of the Air Force would need to complete a section 7 consultation with the Fish and Wildlife Service, or make a No Effects determination for the project.

¹ http://www.epa.gov/climatechange/emissions/co2_human.html

EPA appreciates the opportunity to comment on the RRATS project. If you have any questions regarding this letter, please contact Stephanie Lamster at 212-637-3465.

Sincerely,

A handwritten signature in dark ink, appearing to read "Grace Musumeci", written in a cursive style.

Grace Musumeci, Chief
Environmental Review Section



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF PERMIT COORDINATION AND ENVIRONMENTAL REVIEW
P.O. Box 420 Mail Code 401-07J Trenton, New Jersey 08625-0420
Phone Number (609) 292-3600
FAX NUMBER (609) 292-1921

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

May 14, 2012

Mr. Dennis Blazek
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

**RE: Radio Transmission and Receiving Site (RRATS) at
Joint Base McGuire-Dix-Lakehurst, New Jersey**

Scoping Comments for the Environmental Assessment

Dear Mr. Blazek:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed, for review and comment, your letter regarding the preparation of an Environmental Assessment (EA) for the proposed Radio Transmission and Receiving Site (RRATS) at Joint Base McGuire Dix Lakehurst. On behalf of the Department, we offer the following comments for your consideration.

Cultural Resources

The Department's Historic Preservation Office (HPO) provided comments directly to the Department of the Air Force on April 23, 2012. The HPO concurs with your finding that there are no historic properties affected within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Natural Resources

The Department's Division of Fish and Wildlife's review notes that the largest resource impact this project would have is on the Northern Pine Snake. The Northern Pine Snake nesting area is less than 1,000 meters from the proposed site. The site is also over 1000 meters from documented grassland bird habitat. Both of these resources should to be addressed in the EA.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the preparation of an EA for the proposed project. Please send six copies of the completed EA directly to our office, so that we can coordinate a comprehensive Departmental review.

Sincerely,



Scott Brubaker, Director
Office of Permit Coordination
and Environmental Review

C: Jonathan Kinney, NJDEP - HPO
Kelly Davis, NJDEP – DFW
Kim Korth, NJDEP – DFW
Ken Koschek, NJDEP – PCER
Donna Mahon, NJDEP- PCER
Shelley Coltrain, NJDEP

APPENDIX B

Conformity Rule Compliance Record of Non-Applicability

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Conformity Rule Compliance Record of Non-Applicability

Project/Action Name: **Radio Receiving and Transmission Site (RRATS) at Joint Base McGuire-Dix-Lakehurst**

Conformity under Clean Air Act, Section 176, has been evaluated for the above-described project per 40 CFR Part 51. The requirements of this rule are not applicable to this action because:

Total direct and indirect emissions increases from the Proposed Action have been estimated at:

One time Construction Emissions
0.21 tons VOCs; and
0.90 tons of NO_x.
Operational Emissions: negligible

The emission increases from the Proposed Action are below the de minimis threshold established at 40 CFR 51.853(b) of 50 tons per year (tpy) VOCs and 100 tpy NO_x, and the Proposed Action is not considered "regionally significant" under 40 CFR 51.853(i).

The supporting documentation and emissions estimates are attached.

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Record of Non-Applicability (RONA) Supporting Documentation Radio Receiving and Transmission Site at JB MDL

1. Overview of Considered Project Alternatives

The referenced EA considers two alternatives:

- Alternative 1 – the Proposed Action of establishing a RRATS on Lakehurst on the current borrow site, south of Track 5.
- Alternative 2 – No Action Alternative. As required under NEPA and 32 CFR 989, the No Action Alternative (Alternative 2) is retained for comparative analysis. Under this alternative, the Army would not build a RRATS and would continue to conduct radio signal testing with mobile vans.

2. Purpose of the Record of Non-Applicability

In compliance with the General Conformity Rule (40 CFR Part 51, Subpart W) and the National Environmental Policy Act (NEPA; 42 USC 4321 et seq.), a Record of Non-Applicability be prepared in cases where the proposed increases in emissions are clearly *de minimis*.

The action would be located in the Ocean County NJ, which is designated moderate non-attainment areas for ozone according to the National Ambient Air Quality Standards (NAAQS) and USEPA's green book.

Atmospheric ozone occurs when nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOCs) react in the atmosphere in the presence of sunlight, a photochemical reaction. NO_x and VOCs are called ozone precursors. Motor vehicle exhaust, industrial emissions, and chemical solvents are the major anthropogenic sources of these chemicals. Although these precursors often originate in urban areas, winds can carry NO_x hundreds of kilometers, causing ozone formation to occur in less populated regions as well.

de minimis is defined as "so small or minimal in difference that it does not matter or the law does not take it into consideration".

Therefore, VOCs and NO_x emissions are regulated as a means of controlling ozone production.

Ocean County is in attainment with the NAAQS for all other criteria pollutants. Lakehurst has a State Implementation Plan (SIP) emission budget of 129 tpy of VOC and 793 tpy of NO_x.

3. Methodology

This applicability analysis evaluates all stationary and mobile sources of VOCs and NO_x emitted from commuter vehicles, and related construction equipment. Emission factors were obtained from USEPA sources where possible. See Section 6 for a list of references.

This analysis considers only the construction of the proposed RRATs. The site would not use generators or other new emission sources for its operation. The operation of the proposed gravel site would be similar to existing gravel operations on the current borrow site, whose emissions were addressed in the baseline SIP for Lakehurst.

Tables 1 and 2 provide the assumptions and results for air emissions from road vehicles, site preparation, equipment delivery, equipment installation, and site restoration.

Table 1. Road Vehicle Emissions – Alternative 1

Vehicle type	Vehicle Miles	NOx Emission Factor (g/mi)	Tons of NOx annually	VOC Emission Factor (g/mi)	Tons of VOCs annually
Light Duty Gasoline Vehicles	30,000	0.95	0.031	1.36	0.045
Light Duty Gasoline Trucks	48,000	1.22	0.065	1.61	0.085
Heavy Diesel Trucks	7,200	13.43	0.107	1.43	0.011
Total	85,200		0.203		0.142

Source: USEPA, 2005. Notes: g=gram; mi = mile; Conversion factor 1 pound = 453.592 grams.

Table 2. Diesel Construction Equipment Emissions Worksheet – Alternative 1

Equipment Type (quantity)	Total hours of operation	Horse Power	Load Factor	Emission Factor – VOC (g/HP-hour)	Emission Factor – NOx(g/HP-hour)	VOC Emissions (tons)	NOx Emissions (tons)
Tree Clearing (6 weeks duration)							
Chipping Machine	105	99	37	1.2	8	0.005	0.034
Loader	105	158	54	0.84	10.3	0.008	0.102
Feller Buncher	105	220	62	0.86	11.3	0.014	0.178
Antenna Construction and Utility Work							
Loader	80	158	54	0.84	10.3	0.006	0.077
Backhoe	210	77	55	1.4	10.1	0.014	0.099
Roller	120	99	56	0.8	9.3	0.006	0.068
Crane	75	194	43	1.26	10.3	0.009	0.071
Loader	50	158	54	0.84	10.3	0.004	0.048
Air Compressor	90	37	48	1.2	8	0.002	0.014
Gas Powered Generator	80	11	68	1.2	8	0.001	0.005
Totals						0.068	0.698

Source: USEPA, 1991. Notes: HP = horsepower, Conversion factor 1 pound = 453.592 grams; 1 ton = 2000 pounds.

4. Emissions Summary

Table 3 provides a summary of construction emissions estimated for Alternative 1.

Table 3. Summary of Construction Emissions – Alternative 1

Source	Tons of NOx	Tons of VOCs
Road Vehicles	0.203	0.142
Construction Diesel Equipment	0.698	0.068
Total in Tons	0.900	0.210

5. Results and Conclusions

Since the General Conformity Rule requires analysis only for emissions of criteria pollutants and their precursors for which an area is designated a “non-attainment” or maintenance area, emissions were calculated only for the precursors of ozone, VOCs and NOx, as part of this RONA documentation.

This analysis revealed Alternative 1 would emit 0.9 tons of NOx and 0.21 tons of VOCs during construction, assumed to occur in one calendar year. The emission increases from the Proposed Action are below the de minimis threshold established at 40 CFR 51.853(b) of 50 tpy VOCs and 100 tpy NOx, and the Proposed Action is not considered "regionally significant" under 40 CFR 51.853(i). Therefore, this RONA satisfies the General Conformity Rule. As such, this RONA documents JB MDL's decision not to prepare a written conformity determination for the Proposed Action. These one-time emissions would fall within the existing annual SIP budget for Lakehurst.

6. References

United States Environmental Protection Agency (USEPA). 1991. EPA 460/3-91-02. “*Nonroad Engine and Vehicle Emission Study – Report*”. November 1991.

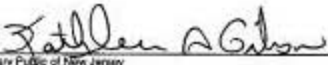
United States Environmental Protection Agency (USEPA). 2005. “*Emission Facts. Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks*”. EPA420-F-05-022. Office of Transportation and Air Quality. August 2005.

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APPENDIX C

Newspaper Public Notice Affidavit

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Affidavit of Publication	
State of New Jersey) SS. MONMOUTH/MIDDLESEX/OCEAN COUNTIES	
Personally appeared	Melanie Altz
of the <u>Genrett</u> , a newspaper printed in Freehold, NJ and published in NEPTUNE, in said County and State, and of general circulation in said county, who being duly sworn, deposes and swears that the advertisement of which the annexed is a true copy, has been published in the said newspaper	
<u>1 (one)</u>	times, once in each issue, as follows
<u>July 6, 2012</u>	<u>Asbury Park Press</u>
A.D., 2012	
Sworn and subscribed before me this <u>19</u> day of <u>July</u> A.D., 2012	
 Kathleen A. Gibson Notary Public of New Jersey	

Kathleen A. Gibson
Notary Public State of New Jersey
My Commission Expires Dec. 18, 2014

Kathleen A. Gibson
Notary Public State of New Jersey
My Commission Expires Dec. 18, 2014

Notice of Availability	
Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Radio Receiving and Transmission Site (RRATS) at Joint Base McGuire-Dix-Lakehurst, New Jersey	
JBLM announces the availability of and invites public comments on the Draft EA and Draft FONSI for the proposed RRATS. The facility would provide a fixed site for calibration and testing airborne collection and direction finding systems. Under the Proposed Action, the Army would construct several antennas, up to 90 feet in height, on 23 acres at the Lakehurst bombing site. Seven acres of trees would be removed and a new 5 acre borrow site would be established for up to 10 years. Electric and communications lines would be extended to the site. The EA analyzes related construction and operational aspects of the Proposed Action and No Action Alternative. The Draft EA was prepared in accordance with the National Environmental Policy Act. Copies are available for review at the Ocean County Library, 21 Colonial Drive, Manasquan, NJ 08733. Written comments should be submitted by August 8, 2012 to Mr. Dennis Blazan, 87 OSW/OSA, JBLM, Hwy 547, Bldg 5, Lakehurst, NJ 08733.	

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APPENDIX D

Public Comments and Responses on the Draft EA

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In Reply Refer To:
12-CPA-0172a

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office

Ecological Services

927 North Main Street, Building D

Pleasantville, New Jersey 08232

Tel: 609/646 9310

Fax: 609/646 0352

<http://www.fws.gov/northeast/njfieldoffice>



Dennis Blazak, Deputy Asset Manager
87th Civil Engineer Squadron
Highway 547, Building 5
Lakehurst, New Jersey 08733

JUL 27 2012

Dear Mr. Blazak:

The U.S. Fish and Wildlife Service (Service), New Jersey Field Office has reviewed the *Draft Environmental Assessment for the Radio Receiving and Transmission Site at Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey* (Draft EA). The proposed action would establish several antennas varying in height between 60 and 90 feet, with guy wires to stabilize them. Buried electric and communication lines would be extended to the site via an existing road. The second alternative under consideration is No Action. The Service provided preliminary comments and recommendations on April 30, 2012 (page A-7 of the Draft EA).

On page 3-2 of the Draft EA, the JB MDLs proposed to implement flashing red lights (optimally at 30 flashes per minute). The JB MDLs noted that exceptions to the 150 foot threshold could be made depending on the location of the site and if guy-wires are used. The JB MDL does not specify what exceptions may be considered for protecting migratory birds from being attracted by the flashing red lights and colliding with the radio tower. Gehring *et al.* (2009) reported that guyed towers illuminated with both non-flashing/steady-burning red lights (L-810s) and flashing, red, strobe-like lights were involved in more avian fatalities than towers lit only with white strobes (both unguyed and guyed). The Service recommends implementing lights that minimize to the maximum extent the risk of migratory birds colliding with the radio tower consistent with Federal Aviation Administration regulations.

The Service's Branch of Conservation Planning Assistance developed a set of voluntary guidelines for the siting, construction, operation, and decommissioning of communication towers (<http://www.fws.gov/habitatconservation/communicationtowers.html>). The JB MDL emphasized that, according to the Service's voluntary guidelines, the proposed guy-wired radio tower will not have any significant impacts on migratory birds or other wildlife resources under Service jurisdiction. However, the Service's voluntary guidelines also encourage constructing communication towers which do not require guy wires (e.g., use lattice structures or monopoles). In our April 30, 2012 letter, we requested that the JB MDL evaluate the use of lattice structures or monopoles in the Draft EA, but such evaluation was not provided. It remains unclear why the

JB MDL cannot construct the proposed radio tower with lattice structures or monopoles, thus avoiding the use of guy wires. The Service requests that the JB MDL provide the requested evaluation prior to issuing the Final EA and Finding of Non-Significant Impact.

The Service appreciates the JB MDL implementing bird diverters, conducting tree removal outside the nesting migratory bird period, and providing this office with periodic accounts of migratory bird mortality caused by the proposed radio tower.

Thank you for the opportunity to provide comments on subject Draft EA. Please contact Carlo Popolizio at (609) 383-3938, extension 32, if you require further assistance.

Sincerely,



for J. Eric Davis Jr.
Field Supervisor

REFERENCE

Gehring, J., P. Kerlinger, and A.M. Manville. 2009. Communication towers, lights, and birds: successful methods of reducing the frequency of avian collisions. *Ecological Applications*, 19(2) 505–514.



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR MOBILITY COMMAND
JOINT BASE MCGUIRE-DIX-LAKEHURST**

August 2, 2012

Robert Previte
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

Mr. Eric Davis Jr., Supervisor
NJ Ecological Services Field Office
U.S. Fish and Wildlife Service
927 N. Main Street, Building D
Pleasantville, NJ 08232

Subject: Draft Environmental Assessment (EA) for the Radio Receiving and Transmission Site at
Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey.
U.S. Fish and Wildlife Service (USFWS) Reference: 12-CPA-0172a

Dear Mr. Davis,

The Army Communications-Electronics Research, Development, and Engineering Command (CERDEC) Flight Activity (CFA) proposes to install a Radio Receiving and Transmission Site (RRATS) on JB MDL Lakehurst in Ocean County, New Jersey – the subject of the referenced EA. The project would consist of several antennae varying in height from 60 to 90 feet with guy wire supports over an approximately 23-acre site. The Proposed Action is needed to generate and receive a variety of signals in order to support military communications initiatives. The project would represent an upgrade from legacy test standards and equipment to enhanced testing methods and facilities for current and emerging technologies. It would provide a fixed site for communicating with airborne electronics systems. No comparable capability exists in the Northeast US. JB MDL provided the Draft EA to the USFWS New Jersey Field Office for their review and comment. USFWS responded with a letter dated July 27, 2012. This letter is a response to USFWS' comments on the Draft EA provided in that letter.

According to Federal Aviation Administration (FAA) Advisory Circular (AC) 70/7460-1K "Obstruction Marking and Lighting" any temporary or permanent structure that exceeds an overall height of 200 feet above ground level or exceeds any obstruction standard contained in 14 CFR Part 77, should be marked and lighted; communication towers under 150 feet in height should be fitted with two or more steady burning (L-810) red lights installed in a manner to ensure an unobstructed view of one or more lights by a pilot. Although the proposed antennae would be less than 200 feet in height, the FAA requires lighting for the structures to ensure the safety of lives and property due to helicopter traffic in the area and the proximity to existing runways.

Studies on the effects of obstruction lighting on migratory birds have shown that the L-810 lights are more likely to induce bird mortality as opposed to other lighting features. In response to

these studies, FAA has released a study titled "Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities" dated May 2012 (enclosed). The study evaluated the frequency of avian collisions under different tower lighting systems (Appendix A, Part II) included analysis of two towers lit at night with red blinking lights (L-864) combined with red non-blinking lights (L-810), three towers lit at night only with white strobes (L-865) and no non-blinking lights, and one unique tower with red blinking lights (L-864) combined with L-810 lights reprogrammed to blink simultaneously with the L-864 lights. Each of the towers was guyed for support. The results of the study showed that towers with non-blinking lights were involved in significantly more avian fatalities than towers with only white blinking lights or only red blinking lights. There was no significant difference in the numbers of avian fatalities between towers lit with red blinking lights and towers lit with white blinking lights. These results suggest that avian fatalities at communication towers can be significantly reduced by using white strobe lights or blinking red lights instead of the more common lighting system of red blinking lights combined with non-blinking red lights. The main text of the FAA study concluded that the optimal flash rate for the lights to flash simultaneously was determined to be between 27 and 33 flashes per minute (fpm). Flashing at slower speeds (under 27 fpm) did not provide the necessary conspicuity for pilots to clearly identify the obstruction at night without the steady-burning lights, and flashing at faster speeds (over 33 fpm), the lights were not off long enough to be less of an attractant to migratory birds. The study recommended revisions to AC 70/7460-1K following these guidelines in order to further protect migratory birds while providing adequate flight safety standards (Patterson Jr., 2012).

Prior to the publication of the FAA study, JB MDL consulted with its author, Mr. James W. Patterson Jr. of the FAA William J. Hughes Technical Center, and utilized information provided by him to develop the criteria listed in the Draft EA – that a red flashing light scheme at 30 flashes per minute would be appropriate for the antennae to provide maximum migratory bird protections while also providing adequate flight safety characteristics. Mr. Patterson also indicated that AC 70/7460-1K would be revised according to the recommendations of the aforementioned study in 2012. In addition, JB MDL has committed to use downward lighting for on-ground security lighting, to paint guy wires, to use bird diverters (reflective, swiveling, glow-in-the dark flaps) on guy wires, and to perform tree removal outside of the migratory bird nesting season. JB MDL has also committed to provide USFWS with quarterly reports on bird injury and mortality due to collisions with the proposed antennae during the first two years of RRATS operation and work with USFWS to develop strategies to minimize bird mortality/injury rates if they become significant.

In your letter, you state that the exceptions to the lighting standards associated with communication towers under 150 feet in height (described above) stated on Page 3-2 of the Draft EA were not specified. Mr. Patterson indicated that the use of the red flashing lights would be an exception to following the current version of AC 70/7460-1K; an exception allowed based on the potential for adverse avian impacts. It is not an option to use no lighting or any other lighting designs.

Additionally you asked that the use of lattice structures or monopoles in place of guy wire supports be evaluated to further protect migratory birds. The Army (project proponent) has internally considered utilizing such features and determined that the costs of the foundations and stronger tower materials would exceed the funding available for the proposed project. Should the use of these features be considered a requirement, the increased cost would prohibit JB MDL

from developing the project and the national security purpose and need would not be met. Thus, it was determined that the use of lattice structures or monopoles were not practicable alternatives and would not be evaluated in either the Draft or Final EAs.

Based on the information provided above and in the Draft EA, JB MDL has determined that the proposed project has been designed to protect migratory birds to the maximum extent practicable and no significant impacts to migratory birds would be expected. We respectfully request USFWS concurrence with this determination and would be pleased to discuss these issues with your staff at their convenience. For additional information, please contact Ms. Dorothy Peterson at 732-323-4396.



ROBERT PREVITE, GS-13, DAFC
Chief, Compliance Element, 87th Civil Engineer Squadron

Reference

Patterson Jr., James W. 2012. Evaluation of new obstruction lighting techniques to reduce avian fatalities. U.S. Department of Transportation, Federal Aviation Administration. May 2012. DOT/FAA/TC-TN12/9. Accessed August 1, 2012 at <http://www.airporttech.tc.faa.gov/safety/downloads/TC-TN12-9.pdf>. Document enclosed.

Enclosure

From: Carlo_Popolizio@fws.gov
Sent: Wednesday, August 15, 2012 8:24 AM
To: PETERSON, DOROTHY S CTR USAF AMC 87 CES/CEA
Subject: Re: FW: RRATS EA at JB MDL

Good morning Dorothy,

The USFWS has reviewed the information you provided and has no further comments to offer on the Radio Receiving and Transmission project.

Carlo Popolizio
U.S. Fish and Wildlife Biologist
New Jersey Field Office
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Phone: (609) 383-3938 ext. 32
Fax: (609) 646-0352



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF PERMIT COORDINATION AND ENVIRONMENTAL REVIEW
P.O. Box 420 Mail Code 401-07J Trenton, New Jersey 08625-0420
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CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

August 1, 2012

Mr. Dennis Blazek
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

**RE: Radio Transmission and Receiving Site (RRATS) at
Joint Base McGuire-Dix-Lakehurst, New Jersey**

Comments on the Environmental Assessment

Dear Mr. Blazek:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed, for review and comment, the Environmental Assessment (EA) for the proposed Radio Transmission and Receiving Site (RRATS) at Joint Base McGuire-Dix-Lakehurst (JB MDL). On behalf of the Department, we offer the following comments for your consideration.

Cultural Resources

The Department's Historic Preservation Office (HPO) has previously reviewed this proposed undertaking pursuant to Section 106 of the National Historic Preservation Act (as stated in the EA), and determined that there are no historic properties affected by the proposed undertaking. A copy their review letter (HPO-D2012-169) is attached for your reference.

If additional consultation is required for this undertaking, please reference the HPO project # 12-1221 in any future calls, emails, or written correspondence in order to expedite the review and response.

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Natural Resources

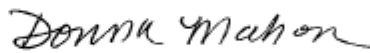
The Department's Division of Fish and Wildlife's (DFW) review recommends that in Section 2.2.3 **Best Management Practices**, the following should be included:

1. To avoid potential adverse impacts to Northern pine snakes, tree clearing will take place between November 1 and March 1;
2. To avoid potential adverse impacts to Northern pine snakes, all contractors and/or sub-contractors will use low pressure equipment to avoid crushing unknown hibernaculum.

If these conditions are included in this section, the DFW would concur with the FONSI.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the EA for the proposed project.

Sincerely,



Donna Mahon
Office of Permit Coordination
and Environmental Review

Attachment

C: Jonathan Kinney, NJDEP - HPO
Kelly Davis, NJDEP – DFW
Ken Koschek, NJDEP – PCER
Shelley Coltrain, NJDEP

RE: RRAT EA comments

Korth, Kim [Kim.Korth@dep.state.nj.us]

Sent: Tuesday, August 07, 2012 10:07 AM

To: PETERSON, DOROTHY S CTR USAF AMC 87 CES/CEA [dorothy.peterson.ctr@us.af.mil]; Mahon, Donna [Donna.Mahon@dep.state.nj.us]

Cc: Anthony Becker; JOYCE, JOHN G GS-12 USAF AMC 87 CES/CEAN [john.joyce.7@us.af.mil]; Davis, Kelly [Kelly.Davis@dep.state.nj.us]

Hi Dorothy & John,

As we discussed on the phone, based on the specific site conditions, specifically soil, I agree to remove the condition of the low pressure tires for this project.

I will work to set up a conversation with Bill Zipse regarding the low pressure equipment requirement on future forestry activities on the joint bases.

Looking forward to getting on the base and seeing all the good work you are doing.

Best,
Kim Korth

-----Original Message-----

From: PETERSON, DOROTHY S CTR USAF AMC 87 CES/CEA [mailto:dorothy.peterson.ctr@us.af.mil]

Sent: Tuesday, August 07, 2012 8:29 AM

To: Korth, Kim; Mahon, Donna

Cc: abecker@ehstech.net; JOYCE, JOHN G GS-12 USAF AMC 87 CES/CEAN

Subject: RRAT EA comments

Hi Kim, Donna,

Would you be available sometime before noon today for a short call on the comments to the RRATS EA? We received the attached letter and wanted to discuss the recommended BMPs.

Thanks,

Dorothy Peterson, P.E.
Environmental Engineer, EHS Technologies
Joint Base McGuire-Dix-Lakehurst
Building 5, CEAN
Lakehurst NJ 08733
732-323-4396
DSN 624-4396

Response to NJDEP Comments

NJDEP asked that two additional BMPs be implemented during land preparation for project construction. JB MDL agrees with BMP #1 and has added it to Section 2.2.3 of the EA (restricting tree clearing to between November 1 and March 1). JB MDL does not agree with BMP #2 (use of low pressure equipment) as the majority of the project site currently contains heavily compacted soils in the borrow pit area and adjacent areas consist of previously disturbed, low-quality habitat. JB MDL discussed this concern with NJDEP (Kim Korth) via phone conference on 2 August 2012 and Ms. Korth confirmed this assessment and agreed to remove BMP #2 from consideration.