Final
Environmental Assessment of the Implementation of Base Realignment and Closure at Fort Monmouth, New Jersey

Prepared for:

FORT MONMOUTH, NEW JERSEY

by:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT

March 2009

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This environmental assessment considers the proposed implementation of the Base Closure and Realignment Commission (BRAC Commission) recommendations at Fort Monmouth, New Jersey. The environmental assessment identifies, evaluates, and documents the environmental and socioeconomic effects of property disposal and future uses of Fort Monmouth. A No Action Alternative is also evaluated. Implementation of the proposed action is not expected to result in significant environmental impacts. The environmental assessment has been developed in accordance with the National Environmental Policy Act and implementing regulations issued by the Council on Environmental Quality (Title 40 of the *Code of Federal Regulations* [CFR] 1500–1508) and the Army (32 CFR 651). Its purpose is to inform decision makers and the public of the likely environmental and socioeconomic consequences of the proposed action and alternatives.

An ***EXECUTIVE SUMMARY*** briefly describes the proposed action, environmental and socioeconomic consequences, and mitigation measures.

CONTENTS

SECTION 1.0: ***PURPOSE, NEED, AND SCOPE*** summarizes the purpose of and need for the proposed action and describes the scope of the environmental analysis process.

SECTION 2.0: ***PROPOSED ACTION*** describes the proposed action to dispose of the surplus property generated by the BRAC Commission-mandated closure of Fort Monmouth, including interim leases and cleanup of contaminated sites.

SECTION 3.0: ***ALTERNATIVES*** examines alternatives to implementing the proposed action.

SECTION 4.0: ***AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES*** describes the baseline (November 2005) environmental and socioeconomic setting at Fort Monmouth and identifies potential effects of implementing the proposed action.

SECTION 5.0: ***CONCLUSIONS*** summarizes the environmental and socioeconomic effects of implementing the proposed action.

SECTION 6.0: ***REFERENCES*** provides bibliographical information for cited sources.

SECTION 7.0: ***PERSONS CONSULTED*** provides a listing of persons and agencies consulted during preparation of this environmental assessment.

SECTION 8.0: ***LIST OF PREPARERS*** identifies the persons who prepared the document.

SECTION 9.0: ***DISTRIBUTION LIST*** indicates recipients of this environmental assessment.

APPENDICES
- ***A*** BRAC Commission Recommendations
- ***B*** Record of Non-Applicability
- ***C*** Coastal Zone Consistency Determination
- ***D*** List of Scientific and Common Names
- ***E*** Agency Coordination Letters
- ***F*** Economic Impact Forecast System Model Results

ACRONYMS AND ABBREVIATIONS lists acronyms and abbreviations used in the document.

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FINAL ENVIRONMENTAL ASSESSMENT OF THE IMPLEMENTATION OF BASE REALIGNMENT AND CLOSURE 2005 CLOSURE ACTIONS AT FORT MONMOUTH, NEW JERSEY

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ENVIRONMENTAL ASSESSMENT

***LEAD AGENCY*:** Fort Monmouth, New Jersey

***TITLE OF PROPOSED ACTION*:** Environmental Assessment of the Implementation of Base Realignment and Closure at Fort Monmouth, New Jersey

***AFFECTED JURISDICTION*:** Monmouth County, New Jersey

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ABSTRACT: This environmental assessment (EA) considers the proposed implementation of the Base Closure and Realignment (BRAC) Commission recommendations at Fort Monmouth, New Jersey. The EA identifies, evaluates, and documents the environmental and socioeconomic effects of property disposal and future uses of Fort Monmouth. A No Action Alternative is also evaluated. Implementation of the proposed action is not expected to result in significant environmental impacts. Therefore, preparation of an environmental impact statement is not required and a finding of no significant impact (FNSI) will be published in accordance with the National Environmental Policy Act.

REVIEW COMMENT DEADLINE: The EA and draft FNSI are available for review and comment for 30 days from publication of a Notice of Availability (NOA) in the *Asbury Park Press* of Neptune, New Jersey. Copies of the EA and draft FNSI can be obtained by contacting the Fort Monmouth Public Affairs Office (PAO) at Public Affairs Office, AMSEL-IO, Fort Monmouth, NJ 07703, at 732-532-1258, or from the BRAC Division Web site at www.hqda.army.mil/acsim/brac/env_ea_review.htm. A copy of the EA and draft FNSI is available for review at the Monmouth County Library, Eastern Branch, 1001 Route 35, Shrewsbury, New Jersey. Comments on the EA and draft FNSI should be submitted to the PAO no later than the end of the public comment period.

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Executive Summary

ES.1 Introduction

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended numerous realignment and closure actions for domestic military installations. On November 9, 2005, the recommendations became law, and they must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, as amended).

In its report to the President, the BRAC Commission recommended closure of Fort Monmouth. Pursuant to that recommendation, all Army missions at Fort Monmouth must cease or be relocated. The installations that will receive the missions leaving Fort Monmouth are listed in Table ES-1. It is estimated that between 4,600 and 5,000 civilian positions will transfer to Aberdeen Proving Grounds, and about 220 positions will transfer to other locations. Following closure, the property will be excess to Army needs. Accordingly, the Army proposes to dispose of its real property interests at Fort Monmouth. The purpose of the proposed action is to carry out the BRAC Commission's recommendations. The proposed action supports the Army's need to comply with the Base Closure Act and to transfer the excess property to new owners. This environmental assessment (EA) identifies, documents, and evaluates the potential environmental effects of property disposal and future use of Fort Monmouth.

Table ES-1
Fort Monmouth organization BRAC relocations

Fort Monmouth organization	Receiving installation
Communications-Electronics Research, Development & Engineering Center elements	Aberdeen Proving Ground, Maryland
Headquarters, elements of Program Executive Offices for Command, Control and Communications-Tactical and PEO Intelligence, Electronic Warfare and Sensor	Aberdeen Proving Ground, Maryland
Support of depot level reparable items, the portion of the Acquisition Center's work in providing the contracting support for depot level repairable items	Aberdeen Proving Ground, Maryland
Remaining elements of the Communications Electronics Life Cycle Management Command	Aberdeen Proving Ground, Maryland
Logistics and Readiness Center work in support of consumable items, the portion of the Acquisition Center's work in providing the contracting support for consumable items	Defense Supply Center in Columbus, Ohio
Elements of the Program Executive Office, Enterprise Information Systems	Fort Belvoir, Virginia
Joint Network Management System Program Office	Fort Meade, Maryland
U.S. Military Academy Preparatory School	U.S. Military Academy, West Point, New York
Other, unspecified missions (*discretionary moves*): examples are the 754th Ordinance Company, the 902nd Military Intelligence Detachment, and the U.S. Army Veterinary Command (VETCOM) Northeast District Veterinary Command Headquarters	These would relocate to currently unspecified locations; VETCOM would relocate to West Point, New York

Source: Fort Monmouth 2008.

ES.2 Proposed Action and Alternatives

The proposed action is to dispose of the 1,126 acres of improved lands of Fort Monmouth. The Army has identified two disposal alternatives (accelerated and traditional), a caretaker status alternative, and the No Action Alternative. Three reuse scenarios, based on medium, medium-low, and low-intensity uses, encompass the community's reuse plan and are evaluated as secondary actions. The Army's preference is the accelerated disposal alternative. The Army expresses no preference with respect to reuse scenarios because decisions implementing reuse will be made by other entities.

Inclusion of the No Action Alternative is prescribed by Council on Environmental Quality regulations and serves as the benchmark against which federal actions can be evaluated. No Action assumes that the Army would continue operations at Fort Monmouth at levels similar to those occurring before the BRAC Commission's recommendation for closure. This alternative cannot be implemented because the BRAC closure recommendations have the force of law. Nevertheless, the No Action Alternative is fully evaluated in this EA to establish a reasonable basis for comparison among the other alternatives.

ES.3 Environmental Consequences

Implementing the proposed action would be expected to result in a mixture of short- and long-term minor adverse effects and short- and long-term minor beneficial effects on the subject environmental resources and conditions. The proposed action would, in addition, not be expected to have an effect on many resources. The EA does not identify the need for any mitigation measures.

For each resource area, the predicted effects from both the disposal alternatives, the reuse scenarios, and the No Action Alternative are summarized in Table ES-2.

ES.4 Conclusions

On the basis of the analyses performed in this EA, implementation of the proposed action would have no significant adverse direct, indirect, or cumulative effects on the quality of the natural or human environment. Preparation of an environmental impact statement is not required. Issuance of a finding of no significant impact would be appropriate.

Table ES-2
Summary of potential environmental and socioeconomic consequences

	Environmental and socioeconomic effects of alternatives						
	ALTERNATIVES				REUSE SCENARIOS		
	Accelerated Disposal	Traditional Disposal	Caretaker Status	No Action	Medium Intensity	Medium-Low Intensity	Low Intensity
Land Use	Long-term minor beneficial	Long-term minor beneficial	Long-term minor adverse and beneficial	No effect	No effect	No effect	No effect
Aesthetics/ Visual Environment	No effect	No effect	Long-term minor adverse	No effect	Long-term minor beneficial	Long-term minor beneficial	Long-term minor beneficial
Air Quality	Short-term minor beneficial	Short-term minor beneficial	Long-term minor beneficial	No effect	Long-term minor adverse	Long-term minor beneficial	Long-term minor beneficial
Noise Environment	Short-term minor adverse	Short-term minor adverse	Long-term minor adverse	No effect	Long-term minor adverse	Long-term minor beneficial	Long-term minor beneficial

Table ES-2
Summary of potential environmental and socioeconomic consequences *(continued)*

	Environmental and socioeconomic effects of alternatives						
	ALTERNATIVES				REUSE SCENARIOS		
	Accelerated Disposal	**Traditional Disposal**	**Caretaker Status**	**No Action**	**Medium Intensity**	**Medium-Low Intensity**	**Low Intensity**
Geology and Soils							
Geology	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Soils	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse
Topography	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Prime farmland	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Water Resources							
Surface waters	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Groundwater	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Floodplains	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Coastal zone	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	No effect	No effect	No effect
Biological Resources							
Vegetation	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Wildlife	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Protected species	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Wetlands	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse
Cultural Resources	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect or long-term minor adverse
Socioeconomics							
Economic environment	Short-term minor adverse	Short- and long-term minor adverse	Long-term minor adverse	No effect	Long-term minor beneficial	Short- and long-term minor adverse	Short- and long-term minor adverse
Housing	No effect	No effect	No effect	No effect	Long-term minor beneficial	Short-term minor adverse	Short-term minor adverse
Public services	No effect	No effect	No effect	No effect	Long-term minor beneficial	Short-term minor adverse	Short-term minor adverse
Environmental justice	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Protection of children	No effect	No effect	Long-term minor adverse	No effect	No effect	No effect	No effect

Table ES-2
Summary of potential environmental and socioeconomic consequences *(continued)*

	Environmental and socioeconomic effects of alternatives						
	ALTERNATIVES				REUSE SCENARIOS		
	Accelerated Disposal	**Traditional Disposal**	**Caretaker Status**	**No Action**	**Medium Intensity**	**Medium-Low Intensity**	**Low Intensity**
Transportation	Short-term minor beneficial	Short-term minor beneficial	Long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse
Utilities	Short-term minor beneficial and long-term minor adverse	Short-term minor beneficial and long-term minor adverse	Long-term minor adverse and beneficial	No effect	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial
Hazardous and Toxic Substances	Short-term minor beneficial	Short-term minor beneficial	Short-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse

CONTENTS

SECTION 1.0 PURPOSE, NEED, AND SCOPE 1-1
1.1 Purpose and Need 1-1
1.2 Scope 1-2
1.3 Public Involvement 1-2
1.4 Framework for Disposal 1-3
1.4.1 BRAC Procedural Requirements 1-3
1.4.2 Relevant Statutes and Executive Orders 1-4
1.4.3 Other Reuse Regulations and Guidance 1-5

SECTION 2.0 DESCRIPTION OF THE PROPOSED ACTION 2-1
2.1 Introduction 2-1
2.2 Proposal Implementation 2-1
2.3 Disposal Process 2-3
2.3.1 Caretaking of Property until Disposal 2-3
2.3.2 Cleanup of Contaminated Sites 2-3
2.3.3 Real Estate Disposal Process 2-4

SECTION 3.0 ALTERNATIVES 3-1
3.1 Introduction 3-1
3.2 Disposal Alternatives 3-1
3.2.1 Accelerated Disposal Alternative 3-1
3.2.2 Traditional Disposal Alternative 3-2
3.2.3 Encumbrances Applicable to Either Disposal Alternative 3-2
3.3 Caretaker Status Alternative 3-5
3.4 No Action Alternative 3-5
3.5 Reuse Scenarios 3-6
3.5.1 Development of Reuse Scenarios 3-6
3.5.2 Land Use Intensity Categories Described 3-6
3.5.3 Baseline Land Use Intensity 3-8
3.5.4 Local Reuse Plan 3-8
3.6 Alternatives Not To Be Evaluated in Detail 3-10
3.6.1 Medium-High-Intensity Reuse 3-10
3.6.2 High-Intensity Reuse 3-10

SECTION 4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES 4-1
4.1 Introduction 4-1
4.1.1 Proponency 4-2
4.1.2 Applicable Controls 4-2
4.1.3 Magnitude of Redevelopment 4-2
4.1.4 Mitigation 4-2
4.2 LAND USE 4-3

4.2.1 Affected Environment 4-3
4.2.2 Environmental Consequences 4-8
4.3 AESTHETICS AND VISUAL RESOURCES 4-14
4.3.1 Affected Environment 4-14
4.3.2 Environmental Consequences 4-15
4.4 Air Quality 4-16
4.4.1 Affected Environment 4-16
4.4.2 Environmental Consequences 4-19
4.5 Noise 4-22
4.5.1 Affected Environment 4-22
4.5.2 Environmental Consequences 4-24
4.6 GEOLOGY AND SOILS 4-27
4.6.1 Affected Environment 4-27
4.6.2 Environmental Consequences 4-28
4.7 Water Resources 4-30
4.7.1 Affected Environment 4-30
4.7.2 Environmental Consequences 4-35
4.8 Biological Resources 4-36
4.8.1 Affected Environment 4-36
4.8.2 Environmental Consequences 4-38
4.9 Cultural Resources 4-40
4.9.1 Affected Environment 4-40
4.9.2 Environmental Consequences 4-44
4.10 Socioeconomics 4-47
4.10.1 Affected Environment 4-47
4.10.2 Environmental Consequences 4-51
4.11 Transportation 4-57
4.11.1 Affected Environment 4-57
4.11.2 Environmental Consequences 4-60
4.12 Utilities 4-64
4.12.1 Affected Environment 4-64
4.12.2 Environmental Consequences 4-68
4.13 Hazardous and Toxic Materials 4-71
4.13.1 Affected Environment 4-71
4.13.2 Environmental Consequences 4-75
4.14 Cumulative Effects 4-76
4.15 Mitigation 4-77

SECTION 5.0 FINDINGS AND CONCLUSIONS 5-1
5.1 FINDINGS.....5-1
5.1.1 Consequences of the Accelerated Disposal Alternative.....5-1
5.1.2 Consequences of the Traditional Disposal Alternative.....5-1
5.1.3 Consequences of the Caretaker Status Alternative 5-3
5.1.4 Consequences of the No Action Alternative.....5-4
5.1.5 Consequences of the Intensity-based Probable Use Scenarios 5-4
5.2 Cumulative Effects 5-6
5.3 Mitigation 5-6
5.4 Conclusions.....5-6

SECTION 6.0 REFERENCES 6-1

SECTION 7.0 PERSONS CONSULTED 7-1

SECTION 8.0 LIST OF PREPARERS 8-1

SECTION 9.0 DISTRIBUTION LIST 9-1

Figures

Figure 2-1. Installation Location.....2-2
Figure 4-1. Land use Charles Wood Area.....4-4
Figure 4-2. Land use Main Post.....4-6
Figure 4-3. Future land use plans.....4-12
Figure 4-4. Surface water features, Charles Wood Area. 4-31
Figure 4-5. Surface water features, Main Post.....4-32
Figure 4-6. Transportation Network. 4-58

Tables

Table 3-1 Land use intensity parameters 3-8
Table 3-2 Reuse attributes 3-10
Table 4-1 Fort Monmouth land uses.....4-7
Table 4-2 MIR versus Fort Monmouth baseline.....4-10
Table 4-3 MLIR versus Fort Monmouth baseline 4-13
Table 4-4 LIR versus Fort Monmouth baseline.....4-14
Table 4-5 NAAQS and monitored air quality concentrations.....4-17
Table 4-6 2007 Air pollutant emissions at Fort Monmouth.....4-19
Table 4-7 Regional emissions of VOCs and NO_x in 2002, 2008, and 2009.....4-19
Table 4-8 Common sound levels 4-22
Table 4-9 Maximum permissible A-weighted sound levels for Eatontown Borough.....4-23
Table 4-10 Estimated existing noise levels at Fort Monmouth.....4-24
Table 4-11 Noise levels associated with outdoor construction.....4-24

Table 4-12 Estimated noise levels at Fort Monmouth for varying reuse intensities 4-26
Table 4-13 Archaeological sites at Fort Monmouth 4-40
Table 4-14 Historic buildings and structures on Fort Monmouth 4-41
Table 4-15 World War II temporary structures 4-43
Table 4-16 Fort Monmouth historic districts 4-43
Table 4-17 EIFS model input parameters for reuse scenarios 4-53
Table 4-18 EIFS model output—MIR 4-53
Table 4-19 EIFS model output—MLIR 4-55
Table 4-20 EIFS model output—LIR 4-56
Table 4-21 Description of traffic LOS 4-59
Table 4-22 Existing LOS at major intersections near Fort Monmouth 4-59
Table 4-23 LOS at major intersections near Fort Monmouth under MLIR 4-62
Table 4-24 LOS at major intersections near Fort Monmouth under LIR 4-63
Table 4-25 Estimates of C&D debris generated under the MIR reuse scenario 4-70
Table 5-1 Summary of potential environmental and socioeconomic consequences 5-2

Appendices

Appendix A BRAC Commission Recommendations A-1
Appendix B Record of Non-Applicability B-1
Appendix C Coastal Zone Management Act (CZMA) Consistency Determination For Fort Monmouth, New Jersey Proposed Implementation of BRAC 2005 ..... C-1
Appendix D List of Scientific and Common Names D-1
Appendix E Agency Coordination Letters E-1
Appendix F Economic Impact Forecast System (EIFS) Model Results for Fort Monmouth, New Jersey F-1

Acronyms and Abbreviations

SECTION 1.0
PURPOSE, NEED, AND SCOPE

1.1 PURPOSE AND NEED

The Department of the Army is realigning and closing installations to produce a more efficient and cost-effective base structure for achieving national military objectives. Recommendations of the Defense Base Closure and Realignment Commission (BRAC Commission) made in conformance with the provisions of the Defense Base Closure and Realignment Act of 1990 (Base Closure Act), Public Law 101-510, as amended, require the closure of Fort Monmouth, New Jersey. The installation is excess to Army needs and will be disposed of according to applicable laws, regulations, and national policy. Pursuant to the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations, the Army has prepared this environmental assessment (EA) to evaluate the environmental and socioeconomic effects of disposing of the property and reasonable, foreseeable reuse alternatives.

In accordance with the Base Closure and Realignment Act amendments contained in Title XXX of the National Defense Authorization Act for Fiscal Year 2002 (Public Law 107-107), the Secretary of Defense submitted a consolidated Department of Defense (DoD) list of recommended actions to an independent commission appointed by the President and confirmed by the Senate. The 2005 BRAC Commission evaluated the recommendations and on September 8, 2005, sent its findings to the President, who forwarded the recommendations to Congress on September 23, 2005. The Base Closure Act provides that, unless disapproved by Congress within a specified period, the recommendations are to be implemented. In the absence of congressional disapproval, the BRAC Commission's recommendations became binding on November 9, 2005. Action with respect to Fort Monmouth is being implemented as required by the BRAC Commission's recommendations.

In its report to the President, the BRAC Commission recommended closure of Fort Monmouth.[1] Pursuant to that recommendation, all Army missions at Fort Monmouth must cease or be relocated. Following closure, the property will be excess to Army needs. Accordingly, the Army proposes to dispose of its real property interests at Fort Monmouth. The proposed action of disposal is more fully described in Section 2.0. The purpose of the proposed action is to carry out the BRAC Commission's recommendations. The proposed action supports the Army's need to comply with the Base Closure Act and to transfer the excess property to new owners.

[1] The complete BRAC Commission recommendation for Fort Monmouth provides: "Close Fort Monmouth, NJ. Relocate the U.S. Army Military Academy Preparatory School to West Point, NY. Relocate the Joint Network Management System Program Office to Fort Meade, MD. Relocate the Budget/Funding, Contracting, Cataloging, Requisition Processing, Customer Services, Item Management, Stock Control, Weapon System Secondary Item Support, Requirements Determination, Integrated Materiel Management Technical Support Inventory Control Point functions for Consumable Items to Defense Supply Center Columbus, OH, and reestablish them as Defense Logistics Agency Inventory Control Point functions; relocate the procurement management and related support functions for depot level repairables to Aberdeen Proving Ground, MD, and designate them as Inventory Control Point functions, detachment of Defense Supply Center Columbus, OH, and relocate the remaining integrated materiel management, user, and related support functions to Aberdeen Proving Ground, MD. Relocate Information Systems, Sensors, Electronic Warfare, and Electronics Research and Development & Acquisition (RDA) to Aberdeen Proving Ground, MD. Relocate the elements of the Program Executive Office for Enterprise Information Systems and consolidate into the Program Executive Office, Enterprise Information Systems at Fort Belvoir, VA.

1.2 SCOPE

This EA has been developed in accordance with NEPA and implementing regulations issued by the Council on Environmental Quality (CEQ) (Title 40 of the *Code of Federal Regulations* [CFR] Parts 1500–1508) and the Army (32 CFR Part 651). Its purpose is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives. The EA identifies, documents, and evaluates the potential environmental effects of property disposal and future uses of Fort Monmouth. The Base Closure Act specifies that NEPA does not apply to actions of the President, the BRAC Commission, or DoD except, "(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated" (Public Law 101-510, Sec. 2905(c)(2)(A)).

The Base Closure Act further specifies in Section 2905(c)(2)(B) that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider (i) the need for closing or realigning the military installation that has been recommended for closure or realignment by the BRAC Commission, (ii) the need for transferring functions to any military installation, or (iii) military installation alternatives to those recommended or selected. NEPA analysis for all the installations to which current Fort Monmouth activities will go will be performed separately by those installations.

The BRAC Commission's deliberations and decision and the need for closing or realigning a military installation are also exempt from NEPA (Public Law 101-510, Section 2905(c)(2)). Accordingly, this EA does not address the need for closure or realignment. NEPA does, however, apply to disposal of excess property as a direct Army action and the reuse of such property as an indirect effect of disposal; therefore, those actions are addressed in this document.

Two disposal alternatives (accelerated and traditional) are identified in the EA, as well as a caretaker status alternative (which might arise before disposal) and the No Action Alternative. Three reuse scenarios, based on low, medium-low, and medium intensity uses, encompass the Fort Monmouth Economic Revitalization Planning Authority's (FMERPA's) *Fort Monmouth Reuse & Redevelopment Plan* (reuse plan) and are evaluated as secondary actions. (FMERPA is serving as the local redevelopment authority [LRA]). These alternatives and scenarios, and the rationale for their selection, are further described in Section 3.0.

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archeologists, historians, and military technicians performed the impact analysis. The team identified the affected resources and topical areas, analyzed the proposed action against the existing conditions, and determined the relevant beneficial and adverse affects associated with the action. Section 4.0, Environmental Conditions and Consequences, describes the baseline conditions of the affected resources and other areas of special interest at Fort Monmouth as of November 2005. The environmental consequences of disposal and reuse are also described in Section 4.0. Conclusions regarding potential environmental and socioeconomic effects of the proposed action are presented in Section 5.0.

1.3 PUBLIC INVOLVEMENT

The Army invites full public participation in the NEPA process to promote open communication and better decision making. All persons and organizations that have a potential interest in the

proposed action, including minority, low-income, disadvantaged, and Native American groups are urged to participate in the NEPA environmental analysis process.

Public participation opportunities with respect to the proposed action and this EA are guided by the provisions at 32 CFR Part 651, Environmental Analysis of Army Actions. The final EA and a draft finding of no significant impact (FNSI), if appropriate, will be made available for a 30-day comment period. During this time, the Army will consider any comments submitted by agencies, organizations, or members of the public on the proposed action, the EA, or the draft FNSI. At the conclusion of the comment period, the Army may, if appropriate, execute the FNSI and proceed with the proposed action. If it is determined that implementing the proposed action would result in significant impacts, the Army will either need to commit to mitigation measures designed to reduce the anticipated adverse impact(s) to a level below significant, or will publish in the *Federal Register* a notice of intent to prepare an environmental impact statement.

1.4 FRAMEWORK FOR DISPOSAL

Numerous factors contribute to Army decisions relating to disposal of installation property. The Base Closure Act triggers action under several other federal statutes and regulations. In addition, the Army must adhere to specific rules and procedures pertaining to transfer of federal property as well as executive branch policies. There are also practical concerns such as identifying base assets to allow for disposal in a manner most consistent with statutory and regulatory guidance. These matters are further discussed below.

1.4.1 BRAC Procedural Requirements

Statutory Provisions. The two laws that govern real property disposal in BRAC are the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, as amended) and the Federal Property and Administrative Services Act of 1949 (Title 40 of the United States Code [U.S.C.], Sections 471 and following, as amended). The latter is implemented by the Federal Property Management Regulations at 41 CFR, 101-47. The disposal process is also governed by 32 CFR Part 174 (Revitalizing Base Closure Communities and Addressing Impacts of Realignment) a regulation issued by DoD to implement BRAC law and matters known as the Pryor Amendment and the President's Program to Revitalize Base Closure Communities (see below).

Screening Process. Having been recommended for closure, the Fort Monmouth property has been determined to be excess to Army needs and, therefore, subject to specific procedures to identify potential subsequent public sector users. That is, the property has been offered to a hierarchy of potential users through procedures called the screening process. This process and its results to date are discussed in Section 2.3.4.

The President's Program to Revitalize Base Closure Communities. On July 2, 1993, the President announced a major new program to speed the economic recovery of communities near closing military installations. The President pledged to give top priority to early use of each closing installation's most valuable assets. A principal goal of the initiative was to provide for rapid redevelopment and creation of new jobs. In announcing the program, the President outlined the five parts of his community revitalization plan:

- Job-centered property disposal that puts local economic redevelopment first

- Fast-track environmental cleanup that removes delays while protecting human health and the environment[2]
- Appointment of transition coordinators at installations slated for closure
- Easy access to transition and redevelopment help for workers and communities
- Larger economic development planning grants to base closure communities

The Army is fully committed to the President's Program to Revitalize Base Closure Communities. A Base Transition Coordinator has been appointed for the Fort Monmouth property, and the Army has taken an active role in providing assistance to local officials in the community.

The Pryor Amendment. Congress endorsed the President's plan by enacting the Base Closure Communities Assistance Act (contained in Title XXVIII, Public Law 103-160), known as the Pryor Amendment. This act, as amended, provides legal authority to carry out the President's plan by granting conveyances of real and personal property at or below fair market value to LRAs. Specifically, the act created a new federal property conveyance mechanism, the economic development conveyance (EDC). An EDC can help induce a market for the property and thereby enhance economic recovery and generate jobs. Flexibility is given to the military departments and the communities to negotiate the terms and conditions of the EDC. A detailed application, including the approved community redevelopment plan, serves as the basis for determining an LRA's eligibility for an EDC. The DoD's regulations implementing the Pryor Amendment appear at 32 CFR Part 174. The EDC is further described in Section 2.3.4. Note, however, that a significant difference from the last round of base closures conducted in 1995 is that the military departments implementing a BRAC closure are now required by law to seek fair market value for property that is being transferred out of the DoD property inventory. There is still a means by which an LRA may seek to acquire property through a *no-cost* EDC; however, approval of such a request requires a demonstration of economic hardship in the community accompanied by documentation to show how the proposed reuse plan would generate jobs and other economic development activity to assist in the community's economic recovery.

1.4.2 Relevant Statutes and Executive Orders

The Army must decide whether to proceed with the proposed action, using numerous factors such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, the Army is guided by several relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act (CAA); Clean Water Act (CWA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Community Environmental Response Facilitation Act (CERFA); Noise Control Act; Endangered Species Act; National Historic Preservation Act (NHPA); Archaeological Resources Protection Act (ARPA); Native American Graves Protection and Repatriation Act (NAGPRA); Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); EO 11988 (*Floodplain Management*); EO 11990 (*Protection of Wetlands*); EO 12088 (*Federal Compliance with Pollution Control Standards*); EO 12580

[2] The Army is no longer exercising fast-track cleanup per the President's Program to Revitalize Base Closure Communities.

(*Superfund Implementation*); EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*); EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*); EO 13175 (*Consultation and Coordination with Indian Tribal Governments*); EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*); and EO 13423 (*Strengthening Federal Environmental, Energy, and Transportation Management*). Where useful to better understanding, key provisions of these statutes and EOs are described in more detail in the text of the EA.

1.4.3 Other Reuse Regulations and Guidance

DoD's Office of Economic Adjustment published its *Base Redevelopment Planning for BRAC Sites* in May 2006. The guide describes the base closure and reuse processes that have been designed to help with local economic recovery and summarizes the many assistance programs administered by DoD and other agencies. DoD published its *Base Redevelopment and Realignment Manual* (March 2006) to serve as a handbook for the successful execution of reuse plans.

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SECTION 2.0
DESCRIPTION OF THE PROPOSED ACTION

2.1 INTRODUCTION

The proposed action (Army primary action) is to dispose of the surplus property generated by the BRAC-mandated closure of Fort Monmouth. Redevelopment of Fort Monmouth by others is a secondary action resulting from disposal.

Fort Monmouth is in the east-central part of New Jersey in Monmouth County, approximately 50 miles south of New York City and 40 miles northeast of Trenton, New Jersey (Figure 2-1). The installation consists of the Main Post (637 acres) and the Charles Wood Area (489 acres). The major organizations at Fort Monmouth are the U.S. Army Communications–Electronics Command and three Army Program Executive Offices (PEOs). The installation has 431 buildings having nearly 5 million square feet (SF) of built space.

2.2 PROPOSAL IMPLEMENTATION

Army Disposal Action. The Army proposes to dispose of the 1,126 acres of improved lands of Fort Monmouth. Identification of recipients of the property being disposed of at Fort Monmouth is governed by expressions of interest submitted by potential recipients in response to the Army's Declaration of Excess Property and Determination of Surplus Property. As a result of the screening process (see Section 2.3.4), surplus property at the installation would be available for transfer or conveyance to and subsequent reuse by FMERPA or to other entities.

Community Reuse. On April 28, 2006, the New Jersey legislature approved the Fort Monmouth Economic Revitalization Planning Authority Act (52 R.S.C. 52:27I, *et seq*.). The act created FMERPA to

> … develop a comprehensive conversion and revitalization plan for the territory encompassed by Fort Monmouth in a manner that will promote, develop, encourage, and maintain employment, commerce, economic development, and the public welfare; conserve the natural resources of the State; and advance the general prosperity and economic welfare of the people in the affected communities and the entire State by cooperating and acting in conjunction with other organizations, public and private, to promote and advance the economic use of the facilities located at Fort Monmouth.

The act directs FMERPA to prepare a comprehensive conversion and revitalization plan for Fort Monmouth, which is to generally comprise a report or statement and land use and development proposals, including plans for the development, redevelopment, or rehabilitation of the project area. FMERPA is also tasked with preparing an economic revitalization study for the project area. This is to be a comprehensive study of all issues related to the closure, conversion, revitalization, and future use of Fort Monmouth, having as a primary concern the effect of the closure and revitalization of Fort Monmouth on the economies, workforce, environment, and quality of life in the affected communities of Eatontown, Oceanport, and Tinton Falls. Additionally, the study is to consider all aspects of economic development, including a comparison of the types of

LEGEND

- Installation Boundary
- Limited Access Highway
- Highway

Installation Location

Figure 2-1

employment anticipated in the plan and an analysis of the stability and diversity of the economic development to be promoted.

Implementation. Under the Base Closure Act, closure is required by no later than the end of the 6-year period beginning on September 15, 2005, the date on which the President transmitted his report to Congress containing the recommendations of the BRAC Commission.

The BRAC process of property disposal includes predisposal activities and real estate disposal, which in turn allow for subsequent reuse development. Predisposal activities include contaminated site cleanup and might include interim uses and caretaking of vacated facilities until disposal. In transferring or conveying property at Fort Monmouth, the Army would identify encumbrances consistent with requirements of law, agency negotiation, and protection of environmental values. Section 3.2.3 provides details on the encumbrances expected to exist at the time of transfer.

2.3 DISPOSAL PROCESS

2.3.1 Caretaking of Property until Disposal

Before disposal, the Army might find it necessary to place Fort Monmouth in caretaker status for an indefinite period. During such time, the Army would employ two levels of maintenance.

- *Initial maintenance.* From the time of operational closure until conveyance of the property, the Army would provide for maintenance procedures to preserve and protect those facilities and items of equipment needed for reuse in an economical manner that facilitates redevelopment. In consultation with FMERPA and consistent with available funding, the Army would determine required levels of maintenance of facilities and equipment for an initial period following operational closure. The levels of maintenance during this initial period would not exceed maintenance standards in effect before approval of the closure decision. Maintenance would not include any property improvements such as construction, alteration, or demolition. In an appropriate case, however, demolition could occur if required for health, safety, or environmental reasons or if it were economically justified in lieu of continued maintenance.

- *Long-term maintenance.* If property were not transferred within an agreed-to period of time and FMERPA were not actively seeking reuse opportunities for available facilities, the Army would reduce maintenance levels to the minimum level for surplus government property as required at 41 CFR 101-47.402, 41 CFR 101-47-4913, and Army Regulation (AR) 420-70 (Buildings and Structures). Long-term maintenance would not be focused on keeping the facilities in a state of repair to permit rapid reuse. Rather, maintenance during this period would consist of minimal activities intended primarily to ensure security and to avoid deterioration. This reduced level of maintenance would continue indefinitely until disposal. Activities that would occur during this maintenance period are identified in Section 3.2.

2.3.2 Cleanup of Contaminated Sites

Past operations at Fort Monmouth have resulted in the release of various types of contaminants to the environment. The primary contaminants of concern at Fort Monmouth are trichloroethene; petroleum, oil, and lubricants; lead; tetrachloroethene; polychlorinated biphenyls (PCBs);

chlorobenzene; pesticides; benzene; arsenic; 1,2-dichloroethene; and cadmium. The media of concern include groundwater, soils, and surface water. These are more specifically addressed in Section 4.0.

In preparing to dispose of surplus property at Fort Monmouth, the Army will follow the provisions of Section 120(h)(3) of CERCLA, which requires a covenant warranting that all remedial action necessary to protect human health and the environment with respect to any such substances remaining on the property has been taken before the date of transfer. All such remedial action is considered to have been taken if the construction and installation of an approved remedial design has been completed and the remedy has been demonstrated to be operating properly and successfully.[3]

Under CERFA, federal agencies are required to expeditiously identify real property that offers the greatest opportunity for immediate reuse and redevelopment. CERFA does not mandate that the Army transfer real property identified as available; rather, it is the first step in satisfying the objective of identifying real property where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). To these ends, the Army's Environmental Condition of Property (ECP) Phase I and Phase II report identifies areas at Fort Monmouth where release or disposal of hazardous substances or petroleum products or their derivatives has occurred. In addition, the ECP report identifies environmental and safety issues that, although not directly governed by the hazardous substance provisions of CERCLA, are nevertheless issues of concern, such as asbestos-containing materials (ACM), lead-based paint (LBP), radon, PCBs, radionuclides, and munitions and explosives of concern (MEC), which includes unexploded ordnance (UXO). The presence of these issues could limit or preclude the transfer of property for unrestricted use. Also addressed in the ECP report are the status of completed or ongoing removal or remedial actions at the installation and possible sources of contamination on adjacent properties that have the potential to migrate onto or toward real property within the installation boundaries of Fort Monmouth. The ECP report further serves as an information source to describe environmental conditions related to remediation activities. The ECP report is used to support property transfer documentation. In a letter dated April 17, 2007, the New Jersey Department of Environmental Protection (NJDEP) did not take issue with any of the parcels designated as uncontaminated.

2.3.3 Real Estate Disposal Process

Disposal as a Package or in Parcels. The Army's preference is that upon completion of necessary environmental remediation work, surplus BRAC property should ideally be disposed of through a property transfer transaction with a single entity. Alternatively, the Army may dispose of the Fort Monmouth property in parcels. After identifying parcels, disposal may occur to meet objectives related to reuse goals, tax revenue generation, and job creation.

[3] Section 334 of the National Defense Authorization Act for Fiscal Year 1997 enlarges authority for transfer of property before completion of all remedial action. To make such an earlier transfer, a federal agency must give public notice and provide the public the opportunity to submit written comments. Moreover, an agency must provide assurances that the deed or other agreement used to govern property transfer will provide that restrictions will be placed on use necessary to ensure required remedial investigations, actions, or oversight activities will not be disrupted; provide that all remedial action will be taken and will identify schedules for investigation and completion; and provide that the federal agency responsible for the property subject to transfer will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules, subject to congressional authorizations and appropriations.

Disposal Process. Methods available to the Army for property disposal include public benefit conveyance, EDC, conservation conveyance, exchanges for military construction, negotiated sale, and competitive sale.

- *Public benefit conveyance.* State or local government entities may obtain property at less than fair market value when sponsored by a federal agency for uses that would benefit the public such as education, parks and recreation, wildlife conservation, or public health.
- *Economic development conveyance.* An EDC is designed to promote economic development and job creation in the local community. An EDC is not intended to supplant other federal property disposal authorities and cannot be used if the proposed reuse can be accomplished through another authority. To qualify for an EDC, the LRA must submit a request to the Department of the Army describing its proposed economic development and job creation program. In disposing of property through an EDC, the Army must seek to obtain fair market value.
- *Conservation conveyance.* 10 U.S.C. 2694a allows the military to convey property to state or local government agencies, as well as nonprofit organizations, to conserve natural resources. The deed of the property must include a reversion clause if the property is no longer used for conservation purposes.
- *Exchanges for military construction.* 10 U.S.C. 2869 provides an alternative authority for disposal of real property at a closing or realigning installation. This authority allows any real federal property not subject to reversion at such an installation to be exchanged for military construction on that or another location. The military department may seek offers of military construction in exchange for real property.
- *Negotiated sale.* The Army would negotiate the sale of the property to state or local governmental entities including tribal governments or private parties at fair market value.
- *Competitive sale.* Sale to the public would occur through either an invitation for bids or an auction.

DoD and Federal Agency Screening. The Army began the screening process by offering its excess property to other DoD agencies and federal agencies for their potential use. The screening process resulted in a request by the Federal Emergency Management Agency (FEMA) for the post headquarters, Building 286, and approximately 8 adjacent acres (including the helicopter landing pad). A second request for facilities, submitted by the Federal Bureau of Investigation, was subsequently withdrawn.

LRA Screening. Pursuant to the Base Closure Community Redevelopment and Homeless Assistance Act of 1994 (Public Law 103-421), property that is surplus to the federal government's needs is to be screened through an LRA's soliciting notices of interest from state and local governments, representatives of the homeless, and other interested parties. An LRA's outreach efforts to potential users or recipients of the property include working with the U.S. Department of Housing and Urban Development (HUD) and other federal agencies that sponsor public benefit transfers under the Federal Property and Administrative Services Act. FMERPA's reuse plan incorporates the notices of interest submitted to FMERPA and reflects an overall reuse strategy for the installation. Screening by FMERPA closed on March 8, 2007, resulting in the submittal of notices of interest by 44 entities.

FMERPA's reuse plan was submitted to HUD for review in September 2008. FMERPA proposed creating a *bank* of permanent supportive housing units that would be scattered throughout the various development areas outlined in the reuse plan (FMERPA 2008d). According to the application submitted to HUD, these housing units would be accommodated in existing buildings and facilities targeted for reuse or in newly constructed buildings or facilities and would provide flexibility and maximum usage of available permanent supportive housing by all subpopulations, including the chronic homeless.

Public Agency Screening. Consistent with the Federal Property and Administrative Services Act (as amended through Public Law 106-580), screening notices have been sent to federal agencies that approve or sponsor public benefit conveyance and appropriate state and local agencies in the vicinity of Fort Monmouth. The Army initiated this screening after coordination with FMERPA. Results of this screening are pending.

SECTION 3.0
ALTERNATIVES

3.1 INTRODUCTION

This section addresses alternatives to the Army's primary action of property disposal and to the secondary action of property reuse by other entities.

The Army has identified two disposal alternatives (accelerated and traditional), a caretaker status alternative, and the No Action Alternative. Three reuse scenarios, based on medium, medium-low, and low intensity uses, encompass the community's reuse plan and are evaluated as secondary actions. Future reuse of surplus Fort Monmouth property is analyzed in the context of land use intensity categories, as described in Section 3.5.2. The land use intensity-based scenarios are used to inform Army decision makers and the public of environmental effects expected to occur given the reasonable range of reuses that future property owners might implement. FMERPA's reuse plan serves as a guiding document for the consideration of potential reuse alternatives and effects within the context of this EA; however, it should be understood that the Army's NEPA analysis is independent from FMERPA or any other entity's ultimate reuse implementation after the surplus property is transferred out of the Army property inventory. Consideration of the community reuse plan as part of the analysis of the proposed federal action, i.e., closure of Fort Monmouth and disposal of surplus property, is meant to aid both the Army and the community in reaching informed decisions with respect to the disposal and redevelopment of surplus property at Fort Monmouth.

The Army's preference is the accelerated disposal alternative. The Army expresses no preference with respect to reuse scenarios because decisions implementing reuse will be made by other entities.

3.2 DISPOSAL ALTERNATIVES

Pursuant to the Base Closure Act and the 2005 BRAC Commission's recommendation pertaining to Fort Monmouth, continuing operations at Fort Monmouth is not feasible. There is no alternative to closure without further legislative action. As discussed in Section 2.0, the Army is acting to implement BRAC 2005 by disposing of surplus property. Interim actions include remediation of hazardous substance contamination, caring for vacated facilities, and, as circumstances arise, making interim leasing arrangements. Disposal alternatives available for analysis in this EA are accelerated disposal and traditional disposal. This subsection describes these alternatives.

3.2.1 Accelerated Disposal Alternative

Under this alternative, the Army would take advantage of various property transfer and disposal methods that allow the reuse of the property to occur before environmental remedial action has been taken. One of these methods would be to lease the property to a non-Army entity. Another method would be to transfer the property to another federal agency and arrange for it to be responsible for all environmental response. Another possibility would be to defer the requirement to complete environmental cleanup and allow an early transfer of the property. Such deferral would require the concurrence of environmental authorities and the governor of New Jersey. The

property must be suitable for the protection of human health and the environment. Another method would be to transfer the property to a new owner who agrees to perform all environmental remediation, waste management, and environmental compliance activities that are required for the property under federal and state requirements.

3.2.2 Traditional Disposal Alternative

Under the BRAC law, the Army is required to close all military installations recommended for closure by the BRAC Commission. The Army is also given broad authority to transfer the property to other government agencies or to dispose of it to nongovernment organizations. Under this alternative, the Army would transfer or dispose of property after environmental remediation is complete for individual parcels of the installation. The Army is required under CERFA to expeditiously identify uncontaminated property. Uncontaminated property is defined as areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). Such property would be available for transfer or disposal fairly quickly. For property on which hazardous substances were stored for one year or more, known to have been released, or disposed of, other provisions apply. The Army must be able to certify that all required environmental action necessary to protect human health or the environment has been taken before the transfer or disposal. Transfer of property is allowed if a long-term environmental remedy is shown to be operating properly and successfully. Some environmental remedial actions can take a long time to be selected, approved, and implemented. Because of that, there could be a prolonged period under this alternative during which parcels are not available for transfer or disposal.

3.2.3 Encumbrances Applicable to Either Disposal Alternative

The Army's methodology to ensure environmentally sustainable redevelopment of BRAC disposal property identifies natural and man-made resources that must be used wisely or protected after ownership transfers out of federal control. The Army develops this information from the environmental baseline information early in the NEPA process and provides it to the LRA with the recommendation that the LRA consider protecting these resources as it develops the reuse plan. This methodology describes these valuable resources plus any other conditions that might influence reuse. Using this methodology, the LRA develops a reuse plan that satisfies community redevelopment goals and objectives while achieving a high environmental standard.

Consistent with this methodology and as part of the disposal process, the Army might find it necessary to impose legal constraints, as part of disposal, to protect environmental values, to meet requirements of federal law, to carry out agreements reached in negotiations with regulatory agencies, or to address specific Army needs. The following are examples of some encumbrances that could have relevance to the transfer or conveyance of surplus property at Fort Monmouth: the protection and preservation of threatened and endangered species, jurisdictional wetlands, critical habitat, historic properties and sites, archaeological sites, legacy resources, access to remediation sites, and retention of easements and utility/infrastructure rights-of-way.[4] Conditions of special hazardous materials, such as ACM, LBP, radon, PCBs, and radiological material, require specific handling. Such conditions could result in encumbrances, but usually can be handled without limiting redevelopment. In some instances, land use controls or institutional controls may be employed, in consultation with environmental regulatory authorities, to safeguard the public from

[4] Some of these examples involve issues that could require the concurrence of regulatory oversight agencies.

a particular concern, for example, a prohibition on the use of contaminated groundwater. Other types of conditions that might be identified to the LRA as potentially limiting use—but are not identified as legal encumbrances—include such matters as excessive slope areas, poor construction soil conditions, a high water table, overflow easements, and heavy rock outcrops. Either of the preceding disposal alternatives would be accompanied by identification of encumbrances.

Types of Encumbrances. Five major categories of encumbrances can be identified:

- *Easements and rights-of-way.* Real estate may be burdened with utility system, other infrastructure-related, roadway, or access easements and rights-of-way.
- *Use restrictions.* Activities on property may be limited by existing conditions or in recognition of adjacent land uses. For example, use of a former landfill site would preclude ground disturbance of a clay cap but could otherwise permit passive uses such as recreation. The presence of MEC would preclude many uses of a parcel because of the potential safety hazards. In other instances, restrictive covenants could impose or maintain buffer zones between incompatible uses. Use restrictions may also require that transferees of property take certain actions (e.g., remove or encapsulate friable asbestos or LBP posing a risk to human health, before using buildings for residential purposes) or refrain from certain actions (e.g., prohibit use of on-site groundwater pending completion of cleanup activities).
- *Habitat and wetlands protection.* The presence of federally listed threatened or endangered species of wildlife, plants, or wetlands may constrain unlimited use of property.
- *Historic building or archaeological site protection.* Negotiated terms of transfer or conveyance may result in requirements for new owners to maintain the status quo of historic buildings or archaeological sites or may impose a requirement for consultation with the State Historic Preservation Office (SHPO) before any actions affecting such resources.
- *Water rights.* Protective covenants may be required to protect existing well fields or aquifers.

The Army's identification and imposition of encumbrances takes into consideration opportunities for the protection and preservation of environmental values, as well as the requirements of federal law and specific Army requirements. Consistent with the stewardship principles by which it operates its installations, the Army has a vital interest in perpetuating important resource protections, which in some cases the Army is able to do by use of encumbrances. Identification of encumbrances reflects the Army's objective of returning property to public and private sector use as soon as possible in a manner that will result in continued stewardship of environmental resources, protection of public health and safety, and promotion of Army and reuse interests.

Encumbrances Identified at Fort Monmouth. The following are examples of some encumbrances that could have relevance to the transfer or conveyance of surplus property at Fort Monmouth:[5]

- *Asbestos-containing material.* Surveys at Fort Monmouth have revealed the use of ACM in facilities. Before transfer or conveyance, the Army would remove or encapsulate all friable asbestos posing a risk to human health. Transfer or conveyance documents would notify new owners or lessees of the property that they would be responsible for any future remediation of asbestos found to be necessary.
- *Easements and rights-of-way.* Existing easements and rights-of-way benefiting or burdening Fort Monmouth property would continue after transfer or conveyance.
- *Floodplains.* Portions of the Fort Monmouth property adjacent to Parkers Creek and Oceanport Creek lie within the 100-year floodplain. In consideration of EO 11988, Army property conveyance documents will notify property transferees of their obligations to adhere to applicable restrictions on the property imposed by federal, state, or local floodplain regulations.
- *Groundwater use prohibition.* Groundwater contamination has been found below several parcels of Fort Monmouth. There is no on-post use of groundwater. Transfer or conveyance of the Fort Monmouth property would include a prohibition of groundwater areas identified in the Classification Exception Areas sites. This encumbrance on the property would extend until appropriate regulatory agencies certify the completion of remedial action pertaining to the groundwater.
- *Historic resources.* A historic district flanks the parade field on Main Post, and other historic structures are on both Main Post and Charles Wood Area. In conjunction with disposal of the post, the Army intends to enter into a Programmatic Agreement (PA) with the New Jersey SHPO and the Advisory Council on Historic Preservation (ACHP) concerning the historic structures. The PA will provide deed restrictions on a case-by-case basis requiring that protection of the historic properties would be passed on to the new owners as a condition of the sale or transfer of installation property. If the new owners desire to lessen or remove the deed restrictions requiring preservation, the deed will delineate a process for the new owners to consult with the SHPO to arrive at mutually agreeable and appropriate measures for mitigating the adverse effects of their proposed undertaking.
- *Land use restrictions.* The Army may restrict certain types of future land use (e.g., residential use), impose institutional controls, or take other actions affecting land use to protect human health and the environment. Such restrictions would be included in conveyance documents as restrictions on future land use.
- *Lead-based paint.* Paints used at Fort Monmouth between 1930 and 1970 contained lead. LBP is assumed to be present in buildings constructed before 1978. Consistent with the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Public Law 102-550), the Army would provide notice in transfer and conveyance documents that buildings containing LBP would be restricted from residential use unless the recipient of the property abated or encapsulated any LBP posing a risk to human health.

[5] Some of these examples involve issues that could require the concurrence of regulatory oversight agencies.

- *Remedial activities.* Operations at Fort Monmouth over several decades have resulted in localized hazardous waste contamination. As indicated in Section 4.13, several sites at Fort Monmouth could be subject to some level of continuing cleanup activity. In conjunction with remedial activities that might be required during an interim lease or upon conveyance, the Army would retain a right to conduct investigations and surveys; to have government personnel and contractors conduct field activities; and to construct, operate, maintain, or undertake any other response or remedial action as required.

- *Wetlands.* Portions of land along Parkers Creek and Oceanport Creek are classified as wetlands and regulated under the CWA and New Jersey law. To assist future transferees in understanding their obligations under section 404 of the CWA with respect to activities that might affect wetlands, the Army would notify prospective transferees of their requirement to adhere to section 404 permitting requirements for activities in or related to wetlands. Section 4 of EO 11990 authorizes the Army to impose other appropriate restrictions on the uses of property to protect wetland areas.

3.3 CARETAKER STATUS ALTERNATIVE

The caretaker status alternative would arise if the Army is unable to dispose of all or portions of its surplus BRAC property within the period of time defined for initial caretaking of the property (see Section 2.3.1). If the Army is unable to successfully dispose of its surplus property before the specified time for the initial level of maintenance lapses, the Army would reduce maintenance to levels consistent with federal government standards for excess and surplus properties (i.e., 41 CFR 101–47.402 and 101–47.4913) and with AR 420–70 (Buildings and Structures). This latter stage of caretaker status would not be focused on keeping the facilities in a state of repair to facilitate rapid reuse. Rather, maintenance during this period would consist of minimal activities intended primarily to ensure security, health, and safety and to avoid physical deterioration. Maintenance activities would occur on those portions of the BRAC property not yet transferred or conveyed, and they would include the following:

- Inspection, maintenance, and use of utility systems, telecommunications, and roads to the extent necessary to avoid their irreparable deterioration

- Periodic maintenance of landscaping around unoccupied structures, as necessary, to protect them from fires or nuisance conditions

- Allowance of access to permit servicing of publicly owned or privately owned utility or infrastructure systems

- Maintenance of security patrols, security systems, fire prevention, and protection services

- Reduction in the level of natural resources management programs including land management, pest control, and erosion control

3.4 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Army would continue operations at Fort Monmouth at levels similar to those occurring before the BRAC Commission's recommendation for closure. This alternative cannot be implemented because the BRAC Commission recommendations have the force of law. Inclusion of the No Action Alternative is prescribed by the CEQ regulations and serves as a benchmark against which federal actions can be evaluated. The No Action Alternative

is not evaluated in detail in this EA, although it is carried forward for comparison to the other action alternatives throughout.

3.5 REUSE SCENARIOS

Consistent with Congress' mandate, the Army must cease performance of its active missions at Fort Monmouth no later than September 15, 2011. Depending on numerous factors, including information presented in this EA, disposal might occur as a single event involving transfer of the entire facility to one or more subsequent owners, or it might occur over time with multiple transactions involving the same or several new owners. Regardless of the method of disposal, timing, or identity of new owners, reuse of Fort Monmouth is reasonably foreseeable. Consistent with statutory requirements, this EA treats FMERPA's reuse plan as a guiding document in developing the reuse alternatives.

This EA analyzes reuse of Fort Monmouth, which is expected to occur. CEQ regulations require evaluation of reasonably foreseeable actions, without limitation on the party conducting them, and evaluation of consequent environmental effects. Accordingly, reuse of the property is evaluated as an action secondary in time, following the Army's primary action of disposal. The following subsections discuss the methodology used to define the reuse scenarios to be considered. Because of the often speculative and changeable nature of reuse planning, specific activities cannot be precisely identified. The Army considers the FMERPA reuse plan a useful guide in defining the reuse scenarios to be considered and evaluates that reuse plan for potential environmental effects.

3.5.1 Development of Reuse Scenarios

Reuse planning for Fort Monmouth consists of establishing reuse objectives, planning for compatible land uses that support environmentally sustainable reuse and the community's needs, and marketing among potential public and private sector entities to obtain interest in using the property. The reuse planning process is dynamic and often dependent on market and general economic conditions beyond the control of the reuse planning authority.

In recognition of the dynamics attending reuse planning, in developing the EA the Army uses intensity-based, probable reuse scenarios to identify the range of reuse that might reasonably occur at a site, as required by NEPA and by DoD implementing directives. That is, instead of speculatively predicting exactly what will occur at a site, the Army establishes levels or intensities of activity that reasonably might occur on a site. These levels of activity, referred to as reuse intensities, provide a flexible framework capable of reflecting the different kinds and levels of uses that could result at a location. Reuse intensity levels also take into account the effects that encumbrances exert on reuse.

3.5.2 Land Use Intensity Categories Described

Five intensity-based levels of redevelopment can be evaluated for their potential environmental and socioeconomic impacts. These are high-intensity reuse (HIR), medium-high-intensity reuse (MHIR), medium-intensity reuse (MIR), medium-low-intensity reuse (MLIR), and low-intensity reuse (LIR). At any given installation, however, analysis of all five levels of intensity might not be appropriate because of historical use, physical limitations, or other cogent reasons.

Levels of reuse intensity represent a continuum of land use and associated activities for a site. An MIR represents the approximate midpoint of reuse intensity that could occur at a site. In the context of Fort Monmouth, an MIR would be represented by use of existing facilities in the same way as they have been used in the recent past. An MLIR in the context of Fort Monmouth would represent the next lower level of use intensity. For example, decreased use of existing facilities from present levels could represent a MLIR. At Fort Monmouth, LIR could represent a level of activity that might be found in uses requiring only minimal numbers of buildings, with park or recreation functions occurring over substantial portions of the installation. At a site such as Fort Monmouth, an MHIR and HIR might be achievable by increases in facilities and population and reducing the amount of lands used for passive purposes (e.g., parking). At Fort Monmouth, these levels of intensity might involve converting or replacing existing structures and constructing additional buildings for housing, commercial, institutional, or industrial uses on greater amounts of acreage at the installation. MHIR and HIR would be impractical, however, because such intensity of use would be essentially incompatible with the character of the adjoining areas.

Indicators of levels of intensity can be quantified by counting the number of people at a location (employees or residents), the potential number of vehicle trips generated as a result of the nature of the activity, or the number of dwelling units. Other indicators of the intensity of use are the rates of resource consumption (electricity, natural gas, water) and the amount of building floor space per acre (identified as the floor-to-area ratio [FAR], expressed as the amount of SF of built space per acre).

Development of intensity parameters is based on several sources, including existing land use plans for various types of projects and planning jurisdictions, land use planning reference materials, and prior Army BRAC land use planning experience. Private sector redevelopment of property subject to BRAC action, on the other hand, seeks different objectives and uses somewhat different planning concepts in that it focuses on creating jobs and capital investment costs, and it typically uses traditional community zoning categories (e.g., residential, industrial).[6] Upon evaluation of various types of indicators in light of their applicability to Army lands subject to BRAC action, the Army has selected three representative, illustrative intensity parameters. These are residential density, employee density (general spaces), and FAR. These intensity parameters aid in evaluation of environmental effects at various levels of redevelopment (see Table 3-1). The following discusses these parameters.

- *Residential density.* This parameter identifies the number of dwelling units per acre. It indicates the number of people who might reside or work in an area.
- *Square feet per employee (general space).* This parameter indicates the number of SF available per employee in all types of facilities at an installation except housing.
- *Floor area ratio.* This ratio reflects how much building development occurs at a site or across an area. For example, a three-story building having a 7,500-SF footprint on a 4-acre site would represent a FAR of 0.13 (22,500 SF of floor space over 4 acres [174,240 SF]).

[6] Under AR 210-20 *(Real Property Master Planning for Army Installations)*, land use planning for Army installations is based on developing facilities and physical plants that support an overall environment of quality for the force and that provide the basis for projecting power assets (trained personnel, equipment, and supplies) necessary for national security. In contrast to the wide variety of zoning classifications used by local jurisdictions, Army planning relies on 12 land use classifications—airfields, maintenance, industrial, supply/storage, administration, training/ranges, unaccompanied personnel housing, family housing, community facilities, medical, outdoor recreation, and open space.

Table 3-1
Land use intensity parameters

Intensity level	Residential intensity[a]	SF per employee (general space)[b]	FAR
Low	< 2	> 800	< 0.05
Medium-low	2–6	601–800	0.05–0.10
Medium	6–12	401–600	0.10–0.30
Medium-high	12–20	200–400	0.30–0.70
High	> 20	< 200	> 0.70

[a] Dwelling units (family housing) per acre.
[b] *General space* includes operational and training; maintenance and production; research, development, test, and evaluation; hospital and medical; administrative; and community facilities.

Residential density, employee density, and FAR considerations shown in Table 3-1 are appropriate to describe intensity levels for reuse planning at Fort Monmouth. The intensity parameters shown in Table 3-1 reflect generalized values or ranges appropriate to describe the variety of installations subject to Army management, as well as the variety of redevelopment situations. The intensity parameters should be considered together in evaluating the intensity of reuse of a site so as to provide full context. Use of any single parameter in isolation might unduly emphasize certain aspects of a site or preclude broader consideration. As applied to any parcel or area, or the whole of the installation, the values given might require some adjustment to account for the context in which an activity is located. For example, the size of a redevelopment project might result in distorting effects on the generalized values for the parameters provided.

3.5.3 Baseline Land Use Intensity

Taken together, the land use intensity factors indicate that the present use of Fort Monmouth is characterized as medium intensity.

- Residential intensity is medium-low. There are 667 family housing units built on 148 acres, resulting in 4.5 dwelling units per acre.
- The use intensity of general space is medium-high. There are 11,933 personnel occupying 3,175,877 SF, resulting in there being 266 SF of general space per employee.
- The floor area ratio is medium. There is a total of 4,999,865 SF of built space on 1,126 acres (49,048,560 SF), resulting in a FAR of 0.102.

3.5.4 Local Reuse Plan

FMERPA has prepared its reuse plan for Fort Monmouth. The reuse plan has not been approved by HUD. HUD has until March to June 2009 to approve the plan. Among other things, the plan focuses on employment, commerce, economic development, and the public welfare to promote the economic use of Fort Monmouth's facilities. In light of the variety of Fort Monmouth's facilities resources—administrative space, housing, and medical, industrial, community, and recreational facilities—plans for redevelopment of the post are likely to involve mixed uses. Some facilities, deemed inappropriate for redevelopment because of age, location, or configuration, would be removed, and other types of facilities such as retail and hotel space could be built. While such changes might alter the variety of facilities, it is unlikely that the post in the future would be of only one or two principal uses (e.g., entirely administrative).

The reuse plan recognizes seven key principles for redevelopment of Fort Monmouth:

- Decrease density west to east and create mixed-use live/work/leisure centers
- Link centers and increase mobility with connected transit infrastructure serving the region and the site
- Enhance auto mobility and redevelopment capacity with targeted roadway infrastructure improvements
- Combine open space, habitat, and water resources to establish a continuous Blue-Greenbelt
- Use the Blue-Greenbelt as an armature for enhanced bicycle and pedestrian mobility throughout the site
- Remove fort boundaries and extend existing land uses to reconnect the site to the communities
- Incorporate the fort's assets (people, infrastructure, location) to leverage redevelopment

At build-out in 2028, the reuse plan would be expected to result in the following types and magnitudes of redevelopment:

- Office and research and development—2,078,541 SF
- Retail space—448,344 SF
- Mixed income residential—1,605 dwelling units
- Hotels and conference center—310,000 SF in 195 rooms
- Medical office space—20,000 SF
- Community facilities—464,594 SF
- Veteran's Administration Community Medical Center—60,000 SF
- Greenbelt parks and other open space—615 acres
- Golf course—152 acres

Intensity-based probable reuse scenarios based on the reuse plan can be described. Realization of these scenarios might require several years because of impediments such as encumbrances, fluctuation in the availability of capital and general market conditions, and competition among regional development authorities to attract businesses and jobs to their locations. There would likely be a preference for adaptive reuse, vice immediate demolition of the site to make way for new construction, resulting in the possibility of a lengthy redevelopment transition. Consistent with the reuse plan, it is assumed that redevelopment would occur over a 20-year period.

Achieving conversion and redevelopment goals would, at build-out, most closely resemble an MIR scenario. The reuse plan foresees construction of more than 1,400 new dwelling units, most of which would be townhouse/rowhouse units and apartments (with 25 percent set aside for serving those eligible under the Council on Affordable Housing program). On balance, it is expected that residential density would be at a medium level. Assuming use of approximately 2,000,000 SF of existing general space and potential construction of an additional 735,000 SF of space to accommodate a workforce of approximately 5,400 people, there would be an average of 506 SF of space per employee. Using existing facilities and housing, new construction (office space, retail space, apartment housing, hotel, and medical facilities) and demolition of facilities

not suitable for continued use would result in an estimated 5,789,000 SF of space, resulting in a medium intensity FAR of 0.118.

Table 3-2 identifies major indicators associated with reuse of Fort Monmouth at the LIR, MLIR, and MIR levels that could occur as a result of Fort Monmouth redevelopment. The types and numbers of activities that will occupy the property during reuse and the growth patterns associated with redevelopment will vary from the inception of reuse to full reuse. It is probable that reuse would reflect each of the LIR, MLIR, and MIR intensities as FMERPA progresses from initialization of reuse (adaptive reuse) to achieving complete redevelopment objectives. The later stages of reuse would likely involve broader-scale demolition and new construction.

Table 3-2
Reuse attributes

Reuse intensity	Residential population[a]	SF per employee (general space)	FAR	General space SF in use[b]	Employee population
LIR	2,000	> 800	0.025	800,000	1,000
MLIR	3,500	700	0.075	2,100,000	3,000
MIR	4,500	460	0.15	2,500,000	5,400

[a] This estimate assumes complete reuse of the existing 667 family housing, with there being an average of three persons per residence.
[b] This calculation is based on developing 978 acres, the nonresidential portion of Fort Monmouth.

3.6 ALTERNATIVES NOT TO BE EVALUATED IN DETAIL

3.6.1 Medium-High-Intensity Reuse

Assuming a midpoint FAR of 0.5, redevelopment of the nonresidential portion (978 acres) of the Fort Monmouth site to a medium-high-intensity level would involve using 21,300,840 SF of space. If all the space were used for office and research and development purposes, with each employee having an average of 300 SF available, the site would have an employee population of 71,003. This magnitude of redevelopment would represent an unrealistic outcome of reuse and, upon comparison to and compatibility with surrounding land uses, would place a disproportionate number of employees at a single location. Such an outcome would be unreasonable and, therefore, is not further evaluated.

3.6.2 High-Intensity Reuse

High-intensity reuse of the Fort Monmouth site would result in there being even more employees than in the MHIR scenario. For reasons similar to those regarding MHIR, this scenario represents an unrealistic outcome of reuse and is not further evaluated.

SECTION 4.0
AFFECTED ENVIRONMENT AND CONSEQUENCES

4.1 INTRODUCTION

This section describes the environmental and socioeconomic consequences of implementing the primary, Army-proposed action (disposal of excess property) and the secondary action to be taken by other parties (property reuse). The actions are evaluated in the context of the disposal alternatives and reuse scenarios presented in Section 3.0.

The discussions of consequences consider separately the consequences of each of the alternatives and reuse scenarios for each resource area. Cumulative effects and mitigation are separate discussions.

- *Disposal alternatives*: This is the analysis of effects on resource areas associated with implementation of the accelerated disposal alternative, the traditional disposal alternative, and the caretaker status alternative. Because how the property will be parceled for disposal and when the separate parcels will be disposed of is speculative, it is not possible to analyze the environmental effects of the disposal alternatives separately without making some assumptions about how each disposal alternative would unfold. For the sake of analysis, therefore, and to cover the possible range of effects that might occur as a result of disposal of the Fort Monmouth property, the following assumptions are made with respect to the three disposal alternatives. No reuse activities—including facility demolition, infrastructure changes or improvements, or preparation of land or facilities for reuse—are included within the analysis of any of the disposal alternatives.
    - *Accelerated disposal* is analyzed as if all Fort Monmouth property is disposed of soon after closure, such as through the use of the early transfer provisions under CERCLA 120(h)(3)(c), which defers the requirement to complete all necessary environmental cleanup prior to the transfer of the property. Under this approach, remediation activities would be completed expeditiously.
    - *Traditional disposal* is analyzed as if all non-contaminated land at Fort Monmouth is disposed of soon after closure and all parcels on which environmental remediation activities are necessary are retained by the Army for 1 year or longer while those activities are completed. In the context of the EA, 1 year or longer is considered to be *long term*.
    - *Caretaker status* is analyzed as if all property at Fort Monmouth is retained by the Army for longer than 1 year. No reuse development would occur while the property is in caretaker status. The Army would perform environmental remediation activities on all affected installation property under caretaker status.
- *No Action Alternative:* This is the analysis of effects on resource areas associated with maintaining the installation in an active status as a continuation of baseline (November 2005) conditions.
- *Reuse scenarios*: This is the analysis of effects on resource areas associated with reuse scenarios of various levels of reuse intensity. FMERPA's reuse plan (available on the Internet at http://www.state.nj.us/fmerpa/), considered by the Army as a guiding

document in the development of reuse scenarios, envisions several uses of the property, including residential, commercial, office, research and development (R&D), institutional, light industrial, recreational/open space, and mixed uses. MIR, MLIR, and LIR (see Section 3.5) scenarios are evaluated to account for variations in reuse that might occur.

- *Cumulative effects*: This is the analysis of effects on all resource areas to evaluate cumulative effects likely to occur given the disposal and reuse of installation property along with other reasonably foreseeable actions within the affected environment (Section 4.14). Cumulative effects take into consideration the past, present, and reasonably foreseeable near-future activities.
- *Mitigation*: This is a summary of actions or management practices to be taken or recommended to avoid, reduce, or compensate for any predicted significant adverse effects on resource areas (Section 4.15).

Army disposal of Fort Monmouth would result in management of the property by other federal agencies or ownership by public- and private-sector entities. Except as encumbrances might affect reuse, upon transfer or conveyance, the Army would no longer manage or control activities that would occur on the property. Elimination of the Army from land use decisionmaking would have several ramifications.

4.1.1 Proponency

The Army would not be the proponent for future activities on Fort Monmouth lands. Proponency responsibilities and obligations would transfer to FMERPA. The range of possible outcomes that could follow, including land use planning, economic development, managing facilities, capital improvements, and further transfer or conveyance, would be at the discretion of future managers and owners working with applicable federal, state, and local authorities.

4.1.2 Applicable Controls

Transfer or conveyance of Fort Monmouth lands to nonfederal entities would result in the loss of applicability of some federal policies and the addition of the applicability of state laws and regulations for the management of lands and facilities under the ownership of successor entities.

4.1.3 Magnitude of Redevelopment

Upon transfer or conveyance, FMERPA would be solely responsible for planning the redevelopment of the Fort Monmouth property. The magnitude of redevelopment would be a function of several factors, all of which (with the exception of appropriate encumbrances) would be beyond the Army's control.

4.1.4 Mitigation

Examining the potential effects resulting from disposal and reuse of Fort Monmouth includes identifying mitigation actions that could avoid, reduce, or compensate for any predicted significant adverse effects. Upon disposal, and except as restricted by encumbrances, responsibility for implementing mitigation, actions would rest with the agencies or entities receiving the property. Where appropriate, this EA identifies mitigation actions that subsequent managers or owners could implement to ameliorate adverse effects. Whether such mitigation would be implemented, however, rests in the discretion of those future managers and owners. The

Army's listing of mitigation actions that could be taken represents a beginning point for future managers and owners to consider as they assume stewardship of the property.

4.2 LAND USE

4.2.1 Affected Environment

4.2.1.1 Regional Setting

Fort Monmouth is in the east-central portion of New Jersey near the state's eastern shore, about 50 miles south of New York city and 40 miles northeast of Trenton, New Jersey (Figure 2-1). It occupies approximately 1,126 acres within the coastal region of Monmouth County, and it is contained within three municipalities—the boroughs of Tinton Falls, Eatontown, and Oceanport. It is adjacent to the boroughs of Shrewsbury and Little Silver.

Fort Monmouth consists of two noncontiguous units of land totaling 1,126 acres—the Main Post (637 acres) and the Charles Wood Area (489 acres) (FMERPA 2008a), about 2 miles southwest of the Main Post. The Main Post is bounded by State Highway 35 to the west, Parkers Creek to the north, the New Jersey Transit railroad to the east, and residential neighborhoods to the south. The Charles Wood Area is bounded by the Garden State Parkway to the west and residential neighborhoods to the north, east, and south. Hope Road runs north to south through the Charles Wood Area, nearly bisecting it.

Development limitations are imposed through zoning laws and New Jersey's Coastal Zone Management Program laws and regulations. Fort Monmouth's Main Post is within the area regulated by the Coastal Area Facility Review Act (N.J.S.A. 13:19) (CAFRA). CAFRA imposes restrictions on development in terms of the amount of land that can be made impervious, depending on the type of planning zone in which the land is located. Military installations in the CAFRA planning area (such as Fort Monmouth's Main Post) are limited to 70 percent impervious land. Fort Monmouth is also within a Coastal Metropolitan planning area, which are limited to 80 percent impervious land.

4.2.1.2 Surrounding Land Use

The western half of the Charles Wood Area is in the borough of Tinton Falls. Land use in Tinton Falls is predominantly public land and residential areas (EDAW 2007c) (Figure 4-1). Public land—including military land, schools, a landfill, and open areas—accounts for one-third of the borough's land use, and residential areas account for one-quarter of the land. Most residences in Tinton Falls are single-family homes. Industrial, commercial, and agricultural land uses make up the rest of the areas in Tinton Falls.

LEGEND

- Installation Boundary
- Buildings
- Roads
- Surface Water

Fort Monmouth Land Use
Charles Wood Area

Figure 4-1

Source: Fort Monmouth GIS, 2003.

Land uses immediately surrounding the Charles Wood Area in Tinton Falls are the following:

- To the north: Mostly residential land, with one farm plot
- To the west: The Garden State Parkway
- To the south: Industrial, agricultural, public property (a park area and stream near a Conrail corridor), some vacant land, and commercial land
- To the east: Hope Road and the eastern half of the Charles Wood Area (in Eatontown)

The eastern half of the Charles Wood Area is within the borough of Eatontown. Land use in Eatontown is similar to that in Tinton Falls, except the quantities of residential and public uses are reversed: residential land use accounts for just more than one-third of the land, and public uses account for one-quarter of the land (EDAW 2007c). Commercial land accounts for most of the rest of the borough's land use, with infrastructure, industrial use, vacant land, and agricultural land accounting for the remaining land uses.

Land uses immediately surrounding the Charles Wood Area in Eatontown are the following:

- To the north: A residential area with single-family homes
- To the west: Hope Road and the western half of the Charles Wood Area
- To the south: A Conrail train corridor along the southern boundary of the Charles Wood Area; south of the train track is the Fort Monmouth residential community of Pine Brook, beyond which is more residential land and public land (school)
- To the east: Residential and open (wooded) land

The Main Post is surrounded by the boroughs of Eatontown (to the north and west, and south of the western half of the Main Post) and Oceanport (south of the eastern half of the Main Post). Both boroughs are predominantly residential, and residential land use is also the predominant land use immediately adjacent to the Main Post (Figure 4-2).

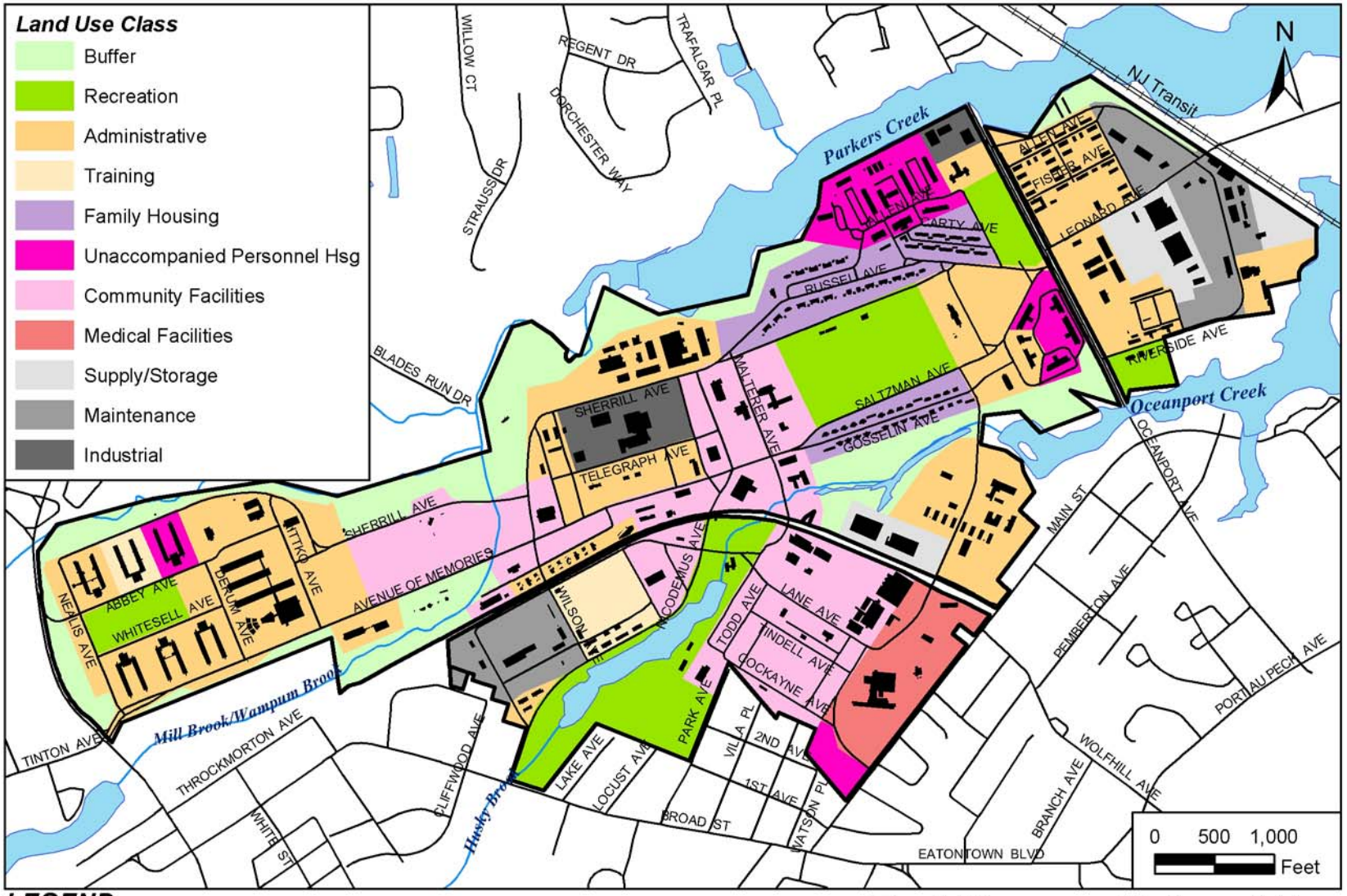
Land uses immediately surrounding the Main Post are the following:

- To the north: Parkers Creek lies along the northern boundary of the Main Post. The New Jersey Transit Line rail tracks pass east of the installation, and some commercial land lies along the tracks northeast of the installation across Parkers Creek. Wetlands and forested areas surrounding residential land lie along most of the northern boundary. Near Route 35/Broad Street is a residential/office complex, and there is a shopping center along Avenue of the Commons.

- To the west: Route 35 is lined with residences and commercial properties.

- To the south: Near the installation entrance along the installation boundary is commercial land. A mix of commercial/residential land is at the western end along the southern boundary. Residential land and a marina/residential area on Oceanport Creek border the installation along the southern boundary to the east.

- To the east: The Horseneck Point residential area lies across the New Jersey Transit Line train tracks east of the installation.



Fort Monmouth Land Use
Main Post

Figure 4-2

Source: Fort Monmouth GIS, 2003.

4.2.1.3 Installation Land Use

Fort Monmouth is the primary center for developing the Army's Command and Control, Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) systems. The major tenant organizations at Fort Monmouth form the core of Team C4ISR: the Army's Communications and Electronics Command (CECOM), the Communications and Electronics Research and Development Center (CERDEC), and three of the Army's PEOs—the PEO for Command, Control, Communications Tactical (PEO C3T); the PEO for Intelligence, Electronic Warfare and Sensors (PEO IEWS); and the PEO for Enterprise Information Systems (PEO EIS). PEO C3T and PEO IEWS are headquartered at Fort Monmouth, and PEO EIS is headquartered at Fort Belvoir, Virginia, with program managers at Fort Monmouth. Other Fort Monmouth tenants include the Defense Information Systems Agency (DISA), the Joint Interoperability Engineering Organization, a jointly staffed Commanders in Chief Interoperability Program Office (CIPO), the United States Military Academy Preparatory School (USMAPS), and the 754th Explosive Ordnance Disposal, which provides emergency response to military and federal civilian agencies throughout the Northeast.

Headquarters, U.S. Army Garrison Fort Monmouth, supports these on-post tenant organizations by providing civilian and military personnel, quality-of-life programs, legal services, housing management, engineering, construction, building and grounds maintenance, and logistical support (USACE, Mobile District 2003).

Land use and facilities are focused mainly on administrative functions and direct support to these missions. The Main Post has about 400 buildings and structures, and the Charles Wood Area has about 240 buildings and structures. Land use on Fort Monmouth is generally categorized into 12 land use types, as shown in Figures 4-1 and 4-2 and Table 4-1. The Main Post provides supporting administrative, training, and housing functions, as well as community and industrial facilities for Fort Monmouth. The Charles Wood Area is used primarily for research and development, housing, and recreation (USACE, Mobile District 1999).

Table 4-1
Fort Monmouth land uses

Land use type	Total acreage	Percentage of total
Administrative	185	16.4%
Airfield	3	0.3%
Buffer	99	8.8%
Community facilities	153	13.6%
Family housing	148	13.1%
Industrial	181	16.1%
Maintenance	55	4.9%
Medical/dental	23	2.0%
Recreation	228	20.3%
Supply/storage	22	1.9%
Training	4	0.3%
Unaccompanied personnel housing	25	2.2%
Total	1,126	100.0%

Source: Fort Monmouth 2006a

Easements for utilities and other infrastructure, such as water mains and electrical power lines, are present on the installation property. The easements are primarily for utility service providers to supply utilities to the installation.

4.2.1.4 Land Use Compatibility

Land uses at Fort Monmouth are generally compatible internally because the installation does not support training ranges, an airfield, or other land uses that would create incompatibilities with the installation's open space, recreational areas, community facilities, administrative facilities, and housing areas. A heliport is adjacent to the Russel/Allen/Carty housing area on the Main Post, but it is not used often. The North Pine Brook housing area in the Charles Wood Area is near the Conrail railroad corridor, but rail traffic along the route is infrequent (four times a week) and usually limited to a speed of 25 miles per hour (Orlando, personal communication, 2007). Other than these minor instances, there are no land use incompatibilities on the installation.

Existing installation land uses and surrounding land uses are compatible as well. The predominant surrounding land use is residential, and there are no land use conflicts between the surrounding residential areas and the office, administrative, and residential land uses of Fort Monmouth.

4.2.2 Environmental Consequences

4.2.2.1 Accelerated Disposal Alternative

Long-term minor beneficial effects on land use would be expected from accelerated disposal of the Fort Monmouth property. Disposal of the property—as a transference of ownership—would not alter land uses or create any land use conflicts, but remediation of some contaminated parcels is assumed to be accomplished expeditiously under the accelerated disposal alternative. On those parcels of the property where remediation would occur, the environmental cleanup would have a beneficial effect for land use of the remediated parcel and on surrounding land uses.

4.2.2.2 Traditional Disposal Alternative

Long-term minor beneficial effects on land use would be expected from traditional disposal of the Fort Monmouth property. Similar to accelerated disposal, traditional disposal—as a transference of ownership—would not alter land uses or create any land use conflicts, and remediation of contaminated parcels retained by the U.S. government would have a beneficial effect on land use.

The traditional disposal option, as explained in Section 3.2.2, implies that the Army would transfer property in need of environmental cleanup once all required environmental activities necessary to protect human health and the environmental had been taken. The Army would retain all property still in need of further investigation or remediation until such investigations or remedial activities had been completed. Upon completion of a site investigation conducted in July 2008 (Shaw Environmental 2008), further investigations or remedial actions were proposed to be necessary on about 107 acres (about 22 percent) of the Charles Wood Area and on about 162 acres (about 25 percent) of the Main Post. The Army would conduct investigations or remedial activities on these parcels before disposing of them, and these parcels would be suitable for transfer once an environmental remedy was determined to be operating properly and successfully. The rest of the property could be disposed of immediately upon closure. Property transferred to non-Army ownership would be limited by any applicable natural and man-made encumbrances, as discussed in Section 3.2.3.

Traditional disposal of the property, therefore, would still allow for a rapid transfer of most of the installation property for reuse. Similar to the accelerated disposal alternative, under the traditional disposal alternative, the property would be transformed quickly from single to multiple ownership. The effects on land use of activities associated with preparing the parcels of land for reuse are discussed below in Section 4.2.2.5.

4.2.2.3 Caretaker Status Alternative

Long-term minor adverse and beneficial effects on land use would be expected under caretaker status. The caretaker status alternative assumes that the Fort Monmouth property would not transfer within the first year after closure and that the level of maintenance that the Army would perform on the property would be reduced a year after closure. Some maintenance would continue, consistent with applicable guidance in the *Base Redevelopment and Realignment Manual,* DoD 4165.66-M, Chapter 7, as well as the minimum levels of maintenance for surplus federal property as set forth at 41 CFR 102-75.945, 41 CFR 102-75.965, and AR 420-1, *Army Facilities Management.* Necessary environmental remediation activities would be performed, and a reduced garrison staff consisting of Department of the Army civilian employees and contractors would be involved in managing the property to prepare it for transfer out of DoD's property inventory.

Security patrols would be present on the Fort Monmouth property. Nevertheless, it is reasonable to expect that the vacant property and facilities would be more susceptible to vandalism, especially if there is an extended period of inactivity. The longer the period of inactivity, the more the grounds and facilities would deteriorate. Assuming some period of time at a lowered level of maintenance, a long-term minor adverse effect on the surrounding property would result from the presence of vacant, unmaintained property. Additionally, the land, most of which is situated in a well-established residential and commercial area, would be underutilized and would not contribute to tax revenues that are otherwise anticipated to flow from redevelopment activities.

4.2.2.4 No Action Alternative

No effect on land use would occur under the No Action Alternative. Land use would continue as it was in November 2005. There would be no change in land use, and the property would continue to be used as an active military installation. Implementation of the No Action Alternative is not possible without congressional action.

4.2.2.5 Reuse Scenarios

4.2.2.5.1 Medium-Intensity Reuse

No adverse effects on land use would be expected under the MIR scenario. No land use incompatibilities would be expected internally or with surrounding land uses, on the basis of an analysis of the final reuse plan (FMERPA 2008c). The MIR scenario would be the most similar to baseline conditions and, therefore, would create the least amount of change in land use conditions on the property. The baseline conditions are characterized overall as a medium intensity of land use and are composed of a medium-low residential density, a medium-high square-feet-per-employee metric, and a medium-intensity FAR. The metrics for MIR are a residential density of 6 to 12 residences per acre, office or commercial/retail use with an employee density of 401 to 600 SF per employee, and an overall FAR of 0.1 to 0.3 (Table 4-2 and Table 3-1 in Section 3.5.2). Reuse of the property at a medium intensity could result in any one of these metrics being higher

or lower than these *medium* values (e.g., the MIR FAR could be greater than 0.3 or less than 0.1, the residential intensity could be less than six dwelling units per acre or more than 12 dwelling units per acre, and the SF per employee could be more than 600 or less than 401). Taken together, however, under MIR the three metrics would describe a medium intensity of land use, as they do under baseline conditions.

Table 4-2
MIR versus Fort Monmouth baseline

	Residential intensity (dwelling units per acre)	SF per employee	FAR
Baseline	4.5	266	0.102
MIR	6–12	401–600	0.1–0.3

The land use changes particular to the Charles Wood Area and Main Post and to the three affected boroughs in Monmouth County, as presented in the reuse plan (FMERPA 2008d) are discussed below in the context of their effects on local land use.

Charles Wood Area. The Charles Wood Area is divided between the Tinton Falls reuse area west of Hope Road and the Eatontown reuse area east of Hope Road (Figure 4-3).

Tinton Falls Reuse Area. The Tinton Falls half of the Charles Wood Area at Fort Monmouth supports housing, community facilities, and the Myer Center R&D space. Natural areas of forest and wetlands form a natural southern boundary. Planned reuse of the area includes a mixed-use, high-tech business center with a town center containing retail space, residential space, office space, and institutional uses such as a library (FMERPA 2008a). The northern part of the Tinton Falls reuse area on the Charles Wood Area would be converted from its former residential use to a town center area at the western edge and a residential area along most of Tinton Avenue. The 22 units of Hemphill housing along Hope Road would be reused, and a total of 288 residential units would occupy the reuse area. The other major reuse for the Tinton Falls reuse area is the Myer Center. The reuse plan would maintain this as office/R&D use, and a business campus would be centered around reuse of the Myer Center. The Tinton Falls reuse area would also have a community recreation center, a library, reuse of the existing fire training facility and fire station, and about 99 acres of open space.

Existing residences along Tinton Avenue would face new single-family houses on the northern part of the Tinton Falls reuse area. Residential and commercial surrounding land uses at the northwest corner of the existing Charles Wood Area would be closest to the planned mixed town center/residential area. The planned business campus would be buffered from surrounding land uses in the same way the Myer Center is, and natural areas bordering the Charles Wood Area to the south would remain undisturbed by preserving the natural forest and wetland areas along the southern boundary of the Charles Wood Area. No land use incompatibilities are noted either internally or with surrounding land uses, on the basis of the reuse plan.

Eatontown/Charles Wood Area Reuse Area. The eastern half of the Charles Wood Area is primarily occupied by the Suneagles Golf Course. The Pinebrook housing area borders this part of the Charles Wood Area on the south. The reuse plan calls for reuse of the golf course, Gibbs Hall, and associated facilities, as well as the Megill housing, with expansion of the last to make room for a hotel/conference center. A retail facility would be constructed at the intersection of

Hope Road and Pinebrook Road. Trails would extend along the Conrail right-of-way, and the Eatontown reuse area would have a total of 314 acres of public open space.

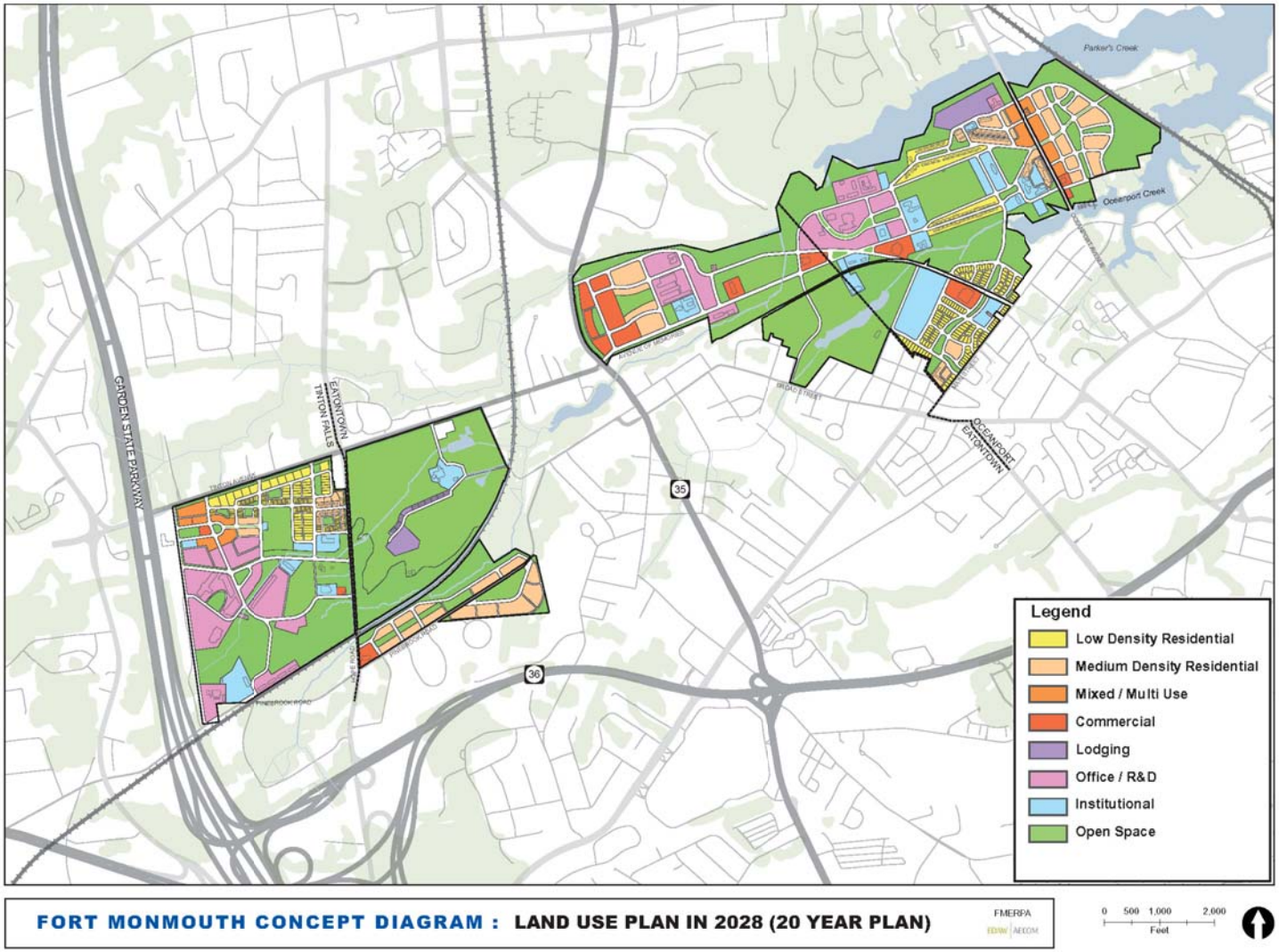
Because reuse of the Eatontown area of the Charles Wood Area would largely entail continuing to use the area in the same manner that it is now used as part of Fort Monmouth (recreation and housing), areas surrounding the Eatontown half of the Charles Wood Area would border property uses essentially the same as those they now border. Residents of the refurbished Hemphill housing area would also still border a golf course. No land use incompatibilities are noted either internally or with surrounding land uses, on the basis of the reuse plan.

Eatontown/Main Post Reuse Area. The existing Eatontown part of the Main Post is roughly divided between a western administrative/R&D area and an eastern community facilities/open space area (Figure 4-3). The proposed reuse plan mimics this plan with a town center area with an office and municipal complex where the existing administrative/R&D area is and a recreation/community area to replace the existing open space/community facilities.

The reuse plan nearly duplicates the existing land use for the Eatontown half of the Main Post, and the result is that surrounding land uses would be bordered by many of the same land uses currently present. No land use incompatibilities are noted either internally or with surrounding land uses, on the basis of the reuse plan. Because of CAFRA restrictions mentioned in Section 4.2.1.1, the property's location within a Coastal Metropolitan planning area would limit future development to a maximum imperviousness of 80 percent.

Oceanport/Main Post Reuse Area. The Oceanport half of the Main Post has a mixture of administration/R&D, community/recreational facilities, housing, and public works/utility areas. The proposed reuse plan has three major nodes within the Oceanport reuse area: an industry area, an education campus, and a neighborhood center. The existing historic housing would be retained, and a boutique hotel and spa are planned as amenities for the area. The northwestern part of the Oceanport reuse area would be converted from administration/R&D and public works/utilities land uses to an industry, technology, and communications business campus. The southwestern part of the reuse area would be converted from a mixture of commercial, medical, public works, administration, and residential land uses to an education/medical campus with mixed-income housing. The commissary (grocery store) would be reused as retail space. This area and the business campus to the north would be separated by a greenway bordering Husky Brook Lake and Husky Brook.

The centrally located parade field would remain as a historic open space. Residential areas north, east, and south of the parade field would remain largely as residential use, including reuse of the historic housing north of the parade field. A boutique hotel and spa would border Parkers Creek north of the historic residences. Russel Hall, immediately east of the parade field and currently serving as the Garrison headquarters, would be converted to office space for use by FEMA.



Source: EDAW, 2008.

Future Land Use Plan

Figure 4-3

Along Oceanport Avenue the reuse plan calls for replacing existing residential and public works/utility areas for creating mixed-use development—including retail, food and beverage amenities, and combined professional offices and residential units—to serve the nearby residential developments. Bordering this retail space along Oceanport Avenue to the east, the existing public works/supply/utility land use area would be converted to a residential area. Existing amenities that would remain in the Oceanport reuse area are the bowling alley, fitness center, and commissary.

Existing forested areas along streams and creeks at the perimeter of the area would be retained as open area. The reuse plan includes about 229 acres of open space and greenbelt parks for the Oceanport reuse area. The existing marina would be improved and expanded to provide more public access to the water, a café/restaurant, and pedestrian space.

Land uses north of the Main Post are buffered from land uses on Fort Monmouth by Lafetra and Parkers creeks, and this buffer would be enhanced under the planned reuse by including a greenway along the northern border of the Main Post reuse area. South of the Main Post, land use is almost exclusively residential. Similar to the northern border, a continuous greenway would be preserved along Mill Creek and Husky Brook. Oceanport Creek at the southeastern corner of the Main Post reuse area would provide a buffer between the expanded marina and the facing residences. The education/medical campus south of Husky Brook and the residential area east of Oceanport Avenue would be the only parts of the Oceanport reuse area directly abutting surrounding land uses. Both areas would provide land uses and activity levels similar to existing uses. No land use incompatibilities are noted either internally or with surrounding land uses, on the basis of the reuse plan. The CAFRA restriction on imperviousness mentioned above under the discussion of the Eatontown reuse area would apply equally to the Oceanport area.

4.2.2.5.2 Medium-Low-Intensity Reuse

No adverse effects on land use would be expected under MLIR. No land use incompatibilities would be expected internally or with surrounding land uses. The MLIR scenario analyzed here assumes that development would occur in much the same manner as conceived of in the final reuse plan (FMERPA 2008d) but at a lesser level of development, resulting in a combination of one or more of the following characteristics compared to the MIR scenario: more open space, fewer residences, larger residential lots, smaller commercial areas, and less office and R&D space.

The metrics for MLIR are a residential density of two to six residences per acre, office or commercial/retail use with an employee density of 601 to 800 SF per employee, and an overall FAR of 0.05 to 0.1 (Table 4-3 and Table 3-1 in Section 3.5.2). Just as with the MIR scenario, any one of these metrics could be higher or lower than these *medium* values, but taken together, the three metrics would describe an MLIR land use scenario.

Table 4-3
MLIR versus Fort Monmouth baseline

	Residential intensity (dwelling units per acre)	SF per employee	FAR
Baseline	4.5 (ML)	266 (MH)	0.102 (M)
MLIR	2–6	601–800	0.05–0.1

M=medium, MH=medium high, ML=medium low

4.2.2.5.3 Low-Intensity Reuse

No adverse effects on land use would be expected under LIR. No land use incompatibilities would be expected internally or with surrounding land uses. The LIR scenario analyzed here assumes that development would occur in much the same manner as conceived of in the final reuse plan (FMERPA 2008d) but at a much lower level of development, resulting in a combination of one or more of the following characteristics compared to the MIR scenario: far more open space, far fewer residences, much larger residential lots, very little commercial space, and very little office and R&D space.

The metrics for LIR are a residential density of less than two residences per acre, office or commercial/retail use with an employee density of more than 800 SF per employee, and an overall FAR of less than 0.05 (Table 4-4 and Table 3-1 in Section 3.5.2). Just as with the MLIR scenario, any one of these metrics could be higher or lower than these *medium* values, but taken together, the three metrics would describe an LIR land use scenario.

Table 4-4
LIR versus Fort Monmouth baseline

	Residential intensity (dwelling units per acre)	SF per employee	FAR
Baseline	4.5 (ML)	266 (MH)	0.102 (M)
LIR	< 2	> 800	< 0.05

M=medium, MH=medium high, ML=medium low

4.3 AESTHETICS AND VISUAL RESOURCES

4.3.1 Affected Environment

The aesthetics and visual resources at Fort Monmouth consist of the natural and man-made features on the installation, including cultural and historic resources, areas of particular beauty or significance, surface waters, vegetation, and the areas immediately surrounding the installation. Together, these features create the overall visual and aesthetic impression of the area.

Fort Monmouth, with its focus on R&D, resembles an aging business complex. The installation is laid out efficiently in accordance with a master plan that has resulted in similar land uses and activities being grouped geographically. Work areas are generally separated from housing areas, community facilities are interspersed throughout the area, and maintenance and utility areas are at the fringes of the property. The area is mostly flat, with streams and ponds breaking up the landscape. The Suneagles Golf Course is a major landscape feature on the Charles Wood Area. Buildings vary in size and style, having been constructed from the period before the 1930s to the present. Daily activities largely occur within office buildings; the minimal outdoor activity is mostly related to building and grounds maintenance. Like most business-oriented areas, two periods of greater activity occur at the beginning and end of the workday, with a lesser period of activity at lunchtime. Because the installation is surrounded by commercial and residential areas and transportation facilities and is isolated from those surroundings by virtue of access being available only at a few guarded entry points, movement onto and out of the installation gives a

feeling of having moved between distinct zones, similar to the feeling of entering or leaving a gated residential community off a busy parkway.

4.3.2 Environmental Consequences

4.3.2.1 Accelerated Disposal Alternative

No effects on the aesthetic and visual environment would be expected from accelerated disposal of the Fort Monmouth property. Ownership of the property would change under the accelerated disposal alternative, but the change of ownership would have no effect on the property's aesthetics. The conduct and completion of remedial actions and investigations on those parcels in need of them would not be expected to noticeably affect the aesthetics of the property. Activities associated with subsequent reuse of the property are discussed below in Section 4.3.2.5.

4.3.2.2 Traditional Disposal Alternative

No effects on the aesthetic and visual environment would be expected from traditional disposal of the Fort Monmouth property. Non-contaminated parcels would be transferred to other owners, and the Army would retain ownership and responsibility of those parcels in need of environmental remediation or investigation. Transference of ownership would have no effect on the aesthetics of the property. Remediation of contaminated parcels, given the nature of most of the contamination left on the property (indoor air, groundwater, and soil concerns), would not have a noticeable effect on the aesthetics of the property. Aesthetic effects due to reuse are analyzed in Section 4.3.2.5.

4.3.2.3 Caretaker Status Alternative

Long-term minor adverse effects on the aesthetic and visual environment would be expected under caretaker status. The Fort Monmouth property would remain in Army ownership for 1 year or longer. After a year, the reduction in maintenance on the property (in accordance with federal government and Army policy) until it could be transferred to another entity would have an adverse effect on aesthetics. Environmental remediation activities on contaminated parcels would be completed under this alternative. Once transferred, the property would be readied for reuse, the effects of which on the aesthetic and visual environment are discussed in Section 4.3.2.5.

4.3.2.4 No Action Alternative

No effects on the aesthetic and visual environment would be expected. No changes to property use or landscaping would occur under the No Action Alternative. The installation would continue to operate under military ownership, and daily activities would remain unchanged.

4.3.2.5 Reuse Scenarios

4.3.2.5.1 Medium-Intensity Reuse

Long-term minor beneficial effects on the aesthetic and visual environment would be expected under MIR. On the basis of the final reuse plan (FMERPA 2008d), the Fort Monmouth property would be developed to blend well with the surrounding area to provide a varied landscape with uses placed near like uses. Some older, military-style buildings and homes would be replaced

with modern structures, and landscaping throughout the area would be revived. The property would become integrated into the surroundings.

4.3.2.5.2 Medium-Low-Intensity Reuse

Long-term minor beneficial effects on the aesthetic and visual environment would be expected under MLIR. As under the MIR scenario, reuse of the property would lead to improvements in facilities and the landscape under MLIR, but with more open space, facilities more spread out, and a lower level of activity.

4.3.2.5.3 Low-Intensity Reuse

Long-term minor beneficial effects on the aesthetic and visual environment would be expected under LIR. Just as with the MIR and MLIR scenarios, improvements to the facilities and grounds would occur with reuse of the property. Under LIR, more of the property would be left in or returned to a natural state, or the density of reuse would be low enough to permit larger expanses of open land surrounding developed areas. The natural appearance or openness of reuse at a low intensity would be considered a beneficial effect on the aesthetic and visual environment.

4.4 AIR QUALITY

4.4.1 Affected Environment

4.4.1.1 National Ambient Air Quality Standards and Ambient Air Quality

The U.S. Environmental Protection Agency (EPA), Region 2, and NJDEP regulate air quality in New Jersey. The CAA (42 U.S.C. 7401–7671q), as amended, gives EPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS; 40 CFR Part 50), which set acceptable concentration levels for seven criteria pollutants: particle matter (PM_{10}), fine particles ($PM_{2.5}$), sulfur dioxide (SO_2), carbon monoxide (CO), nitrous oxides (NO_x), ozone (O_3), and lead. Short-term standards (for 1-, 8-, and 24-hour periods) have been established for pollutants that contribute to acute health effects, while long-term standards (annual averages) have been established for pollutants that contribute to chronic health effects. Each state has the authority to adopt standards stricter than those established under the federal program; however, New Jersey accepts the federal standards. Federal regulations designate Air-Quality Control Regions (AQCRs) that are in violation of the NAAQS as nonattainment areas and those in accordance with the NAAQS as attainment areas. Monmouth County (and therefore Fort Monmouth) is in the New York-New Jersey-Connecticut AQCR, AQCR 043 (40 CFR 81.125). In addition, AQCR 043 is in the ozone transport region, which includes 12 states and Washington, D.C. EPA has designated Monmouth County as the following:

- Moderate nonattainment for the 8-hour ozone NAAQS
- Nonattainment for the $PM_{2.5}$ NAAQS
- Attainment for all other criteria pollutants (40 CFR 81.331)

NJDEP monitors levels of criteria pollutants at representative sites in each region throughout New Jersey. It has several monitoring stations in the Fort Monmouth region. Table 4-5 tabulates the highest monitored concentrations of criteria pollutants in the region. These are a conservative estimate of the air-quality conditions at Fort Monmouth.

Table 4-5
NAAQS and monitored air quality concentrations

Pollutant and averaging time	Primary NAAQS[a]	Secondary NAAQS[a]	Monitored data[b]	Monitoring station location
CO				
8-hour maximum[c] (ppm)	9	(None)	1.5	Monmouth County
1-hour maximum[c] (ppm)	35	(None)	3.3	Monmouth County
NO_2				
Annual arithmetic mean (ppm)	0.053	0.053	0.014	Middlesex County
Ozone				
8-hour maximum[d] (ppm)	0.08	0.12	0.102	Monmouth County
$PM_{2.5}$				
Annual arithmetic mean[e] ($\mu g/m^3$)	15	15	10.8	Middlesex County
24-hour maximum[f] ($\mu g/m^3$)	65	65	36	Middlesex County
PM_{10}				
Annual arithmetic mean[g] ($\mu g/m^3$)	50	50	25	Hudson County
24-hour maximum[c] ($\mu g/m^3$)	150	150	54	Hudson County
SO_2				
Annual arithmetic mean (ppm)	0.03	(None)	0.003	Middlesex County
24-hour maximum[c] (ppm)	0.14	(None)	0.015	Middlesex County
3-hour maximum[c] (ppm)		0.5	0.03	Middlesex County

$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million
NO_2 = nitrogen dioxide
Notes:
[a] Source: 40 CFR 50.1-50.12.
[b] Source: USEPA 2007.
[c] Not to be exceeded more than once per year.
[d] The 3-year average of the fourth-highest daily maximum 8-hour average O_3 concentrations over each year must not exceed 0.08 ppm.
[e] The 3-year average of the weighted annual mean $PM_{2.5}$ concentrations must not exceed 15.0 $\mu g/m^3$.
[f] The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor must not exceed 65 $\mu g/m^3$.
[g] The 3-year average of the weighted annual mean PM_{10} concentration at each monitor in an area must not exceed 50 $\mu g/m^3$.

4.4.1.2 General Conformity

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the State Implementation Plan (SIP) in a nonattainment area. EPA has developed two distinctive sets of conformity regulations—one for transportation projects and one for non-transportation projects. Non-transportation projects are governed by general conformity regulations (40 CFR Parts 6, 51, and 93), which are described in the final rule requirements for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*, published in the *Federal Register* on November 30, 1993. The General Conformity Rule requirements became effective January 31, 1994. Under section 176(c) of CAA, the General Conformity Rule became applicable 1 year after the O_3 and the $PM_{2.5}$ nonattainment designations became effective. The requirements of the General Conformity Rule do not apply to federal actions that would result in

no emissions increase or in an increase that is clearly *de minimis* (of minimal importance), including the following:

- Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer (40 CFR 93.153(c)(2)(xiv)).
- Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties (40 CFR 93.153(c)(2)(xix)) .
- Transfers of real property, including land, facilities, and related personal property from a federal entity to another federal entity and assignments of real property, including land, facilities, and related personal property from a federal entity to another federal entity for subsequent deeding to eligible applicants (40 CFR 93.153(c)(2)(xx)) .
- Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities (40 CFR 93.153(c)(2)(iv)) .
- Direct emissions from remedial and removal actions carried out under CERCLA and associated regulations to the extent such emissions either comply with the substantive requirements of the Prevention of Significant Deterioration (PSD)/New Source Review (NSR) permitting program or are exempted from other environmental regulation under the provisions of CERCLA and applicable regulations issued under CERCLA (40 CFR 93.153(c)(5)).

4.4.1.3 Permitting Requirements and Existing Emissions

NJDEP oversees programs for permitting the construction and operation of new or modified stationary-source air emissions in New Jersey. NJDEP air permitting is required for many industries and facilities that emit regulated pollutants. On the basis of the size of the emission units and types of pollutants emitted (criteria pollutants or Hazardous Air Pollutants), NJDEP sets permit rules and standards for emission sources. The air quality permitting process begins with the application for a construction permit. Three types of construction permits are available through NJDEP for the construction and temporary operation of new emission sources: Major New or Modified Source Construction Permits in nonattainment areas (Non-attainment New Source Review [NNSR]); PSD permits in attainment areas; and Minor New Source Construction Permits (Minor NSR).

An EPA Title V Operating Permit is required for facilities whose potential emissions exceed major source thresholds for nonattainment pollutants. A minor permit would be required if a facility's emissions were below the major source thresholds. An enforceable limit can be established to ensure that emissions will not exceed the threshold. An operating permit must be obtained within 1 year of the first operation of a new facility with emissions.

Both the Main Post and Charles Wood Area are existing major sources of air emissions, and each has a Title V permit (permit numbers 21140 [Main Post] and 21141 [Charles Wood Area]) (Fort Monmouth 2003b). Permitted stationary sources on the installation include primarily heating units, diesel-powered emergency generators, and natural gas-operated equipment. The installation

conducts comprehensive annual air emission inventories. Fort Monmouth's 2000–2002 installation-wide air emissions for significant stationary sources are tabulated below (Table 4-6). In addition, there are emissions from insignificant stationary sources, mobile sources such as commuter and fleet vehicles, non-road sources such as heavy construction equipment, and area sources such as the use of consumer products.

Table 4-6
2007 Air pollutant emissions at Fort Monmouth

	Annual emissions (tons/year)		
Air pollutant	**Main Post**	**Charles Wood Area**	**Total**
CO	7.08	1.92	9.00
NO_x	11.76	2.48	14.24
Lead	0.00	0.00	0.00
PM_{10} ($PM_{2.5}$)	0.62	0.18	0.80
SO_2	0.36	0.03	0.39
Volatile organic compounds (VOC)	0.89	0.56	1.45

Source: Fort Monmouth 2008a, 2008b.
Note: Assumes PM_{10} = $PM_{2.5}$

In addition, as part of the SIP process, the state compiles a regional inventory of pollutants of concern. Emissions of volatile organic compounds (VOCs) and NO_x for the New Jersey portions of AQCR 043 from 2002, and those projected for 2008 and 2009, are listed in Table 4-7.

Table 4-7
Regional emissions of VOCs and NO_X in 2002, 2008, and 2009

	Emissions (tons/day)		
Pollutant	**2002**	**2008**	**2009**
NO_X	717.0	340.6	326.5
VOC	616.2	442.3	420.9

Source: NJDEP 2007.

4.4.2 Environmental Consequences

4.4.2.1 Accelerated Disposal Alternative

Short-term minor beneficial effects on air quality would be expected from implementing the accelerated disposal alternative. Conveying the property away from the Army would not generate any air emissions and would have no effect on air quality. The short-term effects would be primarily from decreases of stationary, area, and mobile emissions associated with the cessation of most operations at the installation and former Fort Monmouth employees commuting to work. This alternative would not contribute to the violation of any federal, state, or local air regulations. An evaluation of the long-term effects based on the ultimate reuse of the installation is presented in Section 4.4.2.5.

All direct and indirect emissions generated by Army activities would dramatically decrease with the implementation of this alternative. These would include the use of non-road equipment (e.g., bulldozers, backhoes), worker vehicles, the use of VOC paints, paving off-gasses, fugitive particles from surface disturbances, emissions from emergency generators and heating boilers, and the use of private motor vehicles. Both Title V operating permits would be dissolved, and all existing stationary sources of air emissions would be decommissioned under this alternative. Under the NSR program, emission credits from the decommissioning of these sources would become the property of the U.S. Army for use or sale at a later date. For example, if there are other Army or DoD facilities in the New York-New Jersey-Connecticut ACQR that need emission credits because they are *gaining* installations under the current BRAC round, the credits associated with the decommissioning of Fort Monmouth's Title V permits might be able to be applied to those facilities.

In addition, the requirements of the General Conformity Rule do not apply to any actions associated with the accelerated disposal alternative. This alternative would result in no emissions increase or in an increase in emissions that is clearly *de minimis*, including transfers of ownership, interests, and titles in land, facilities, and real and personal properties (40 CFR 93.153(c)(2)(xiv)). A Record of Non-Applicability of the General Conformity Rule is provided in Appendix B.

4.4.2.2 Traditional Disposal Alternative

Short-term minor beneficial effects on air quality would be expected from implementing the traditional disposal alternative. Although the process of transferring some of the property might be protracted under this alternative, the short-term effects would be similar in both type and level to those outlined under the accelerated disposal alternative, and they would be attributable to the same source reductions in air pollutant generation. The discussion above concerning the Title V permits, the NSR program, and the General Conformity Rule under the accelerated disposal alternative apply equally to the traditional disposal alternative. An evaluation of the long-term effects based on the ultimate reuse of the installation is presented in Section 4.4.2.5.

4.4.2.3 Caretaker Status Alternative

Long-term minor beneficial effects on air quality would be expected with implementing the caretaker status alternative. The effects would be attributable to the same changes and causes as discussed above for the other alternatives, but under the caretaker status alternative, the reductions in air pollutant emissions from post operations would last 1 year or longer. Changes to the Title V operating permits and applicability of the NSR program and General Conformity Rule are the same as for the other alternatives.

4.4.2.4 No Action Alternative

No effects on air quality would be expected from implementing the No Action Alternative. Under the No Action Alternative, Fort Monmouth would not be closed and no remediation, changes in operations, or maintenance would take place. Therefore, the changes in ambient air quality conditions from these activities would not occur. Air quality would remain as described in Section 4.4.1.

4.4.2.5 Reuse Scenarios

4.4.2.5.1 Medium-Intensity Reuse

Long-term minor adverse effects on air quality would be expected under MIR. The level of use would be slightly more than the levels outlined under the existing conditions, and the overall quantity of air emissions would be slightly higher. There would be no direct or indirect emissions associated with this scenario for which the Army would maintain an ongoing program of control; therefore, the requirements of the General Conformity Rule do not apply.

Under MIR, future sources of air emissions would likely include construction equipment; vehicular traffic; heating, ventilation, and air conditioning (HVAC) systems; and the use of lawn maintenance equipment and consumer products. The total number of these stationary, mobile, and areas sources would decrease with implementation of this scenario. Direct and indirect emission would include both (1) demolition and construction activities, including the use of non-road equipment (e.g., bulldozers, backhoes), worker vehicles, the use of VOC paints, paving off-gasses, and fugitive particles from surface disturbances, and (2) operational activities, including emergency generators and heating boilers, and the use of private motor vehicles.

Predicting the air emissions that would result from any reuse scenario with any certainty is extremely speculative. New facilities would be owned, operated, and maintained by public or private entities, and they would no longer be under the direct control of the Army. New owners and operators of new stationary sources of air emissions would need to perform a regulatory analysis to determine whether any permitting is required for their operation. When a firm reuse plan is devised and moves toward implementation, the state and federal regulators responsible for monitoring air emissions will provide the necessary oversight to ensure that air emissions are in compliance with all applicable laws and regulations. Future permitting could vary according to the sizes and types of emission units, the timing of the projects, and the types of controls ultimately selected. However, during the final design stage of any facilities associated with the reuse of the property and the permitting process either (1) the actual equipment, controls, or operating limitations would be selected to reduce emissions below the major source thresholds or (2) additional controls would be required to ensure that new emissions would not threaten the attainment status of the region. This cap-and-trade system is inherent to federal and state air regulations, and it leads to a forced reduction in regional emissions. Therefore, regardless of the ultimate permitting under any reuse scenario, these impacts would be considered minor under NEPA.

4.4.2.5.2 Medium-Low-Intensity Reuse

Long-term minor beneficial effects on air quality would be expected under MLIR. The level of use would be comparable to the levels outlined under the existing conditions, and the overall amount of air emissions would be approximately the same (Table 4-5). There would be no direct or indirect emissions associated with this scenario for which the Army would maintain an ongoing program of control; therefore, the requirements of the General Conformity Rule do not apply.

Under MLIR, future sources of air emissions would be similar to those outlined under the MIR scenario but somewhat less prevalent. Specific air emission sources and their locations might vary when compared to existing conditions. Permitting requirements would be similar to those outlined under the MIR scenario.

4.4.2.5.3 Low-Intensity Reuse

Long-term minor beneficial effects on air quality would be expected with implementing LIR. These effects would be from the general decrease in the intensity of use at the installation. There would be no direct or indirect emissions associated with this scenario for which the Army would maintain an ongoing program of control; therefore, the requirements of the General Conformity Rule do not apply.

Under LIR, future sources of air emissions would be similar to those outlined under the MIR scenario but less prevalent. Specific air emission sources and their locations might vary when compared to existing conditions. Permitting requirements would be similar to those outlined under the MIR scenario.

4.5 NOISE

4.5.1 Affected Environment

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. *Noise* is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. The human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. The Hertz is the unit used to quantify sound frequency. The human ear responds differently to different frequencies. *A-weighing*, expressed in A-weighted dBs (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are listed in Table 4-8.

Table 4-8
Common sound levels

Outdoor	Sound level (dBA)	Indoor
Snowmobile	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringing telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: Harris 1998.

Note: Sound level provided is that generally perceived by an operator or a close observer of the equipment or situation listed.

The dBA noise metric describes steady noise levels, although very few noises are, in fact, constant. Therefore, the Day-Night Sound Level (DNL) has been developed. The DNL is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). DNL is a useful descriptor for noise because (1) it averages ongoing yet intermittent noise and (2) it measures total sound energy over a 24-hour period. In addition, the Equivalent Sound Level (L_{eq}) is often used to describe the overall noise environment. The L_{eq} is the average sound level in dBs.

The Noise Control Act of 1972 (Public Law 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. In 1974 EPA provided information suggesting that continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals.

Fort Monmouth is bordered by the Shrewsbury, Oceanport, and Eatontown boroughs in Monmouth County. Both Shrewsbury and Oceanport have nuisance noise ordinances. They do not set specific, not-to-be exceeded sound levels but do generally restrict noise during the nighttime hours. Eatontown's municipal code outlines specific levels not to be exceeded for outdoor noises (Table 4-9).

Table 4-9
Maximum permissible A-weighted sound levels for Eatontown Borough

Receiving property category	Residential		Commercial
Time	**7:00 a.m.–10:00 p.m.**	**10:00 p.m.–7:00 a.m.**	**24 hours**
Maximum dBA	65	50	65

Source: Eatontown Borough Municipal Code 2008.

Because of the administrative nature of many activities at Fort Monmouth, typical on-post noise sources found at Army installations—such as tanks, artillery, fixed-wing flights, and explosive ordnance detonation—are not present on the post. Fort Monmouth is an urban post with noise resulting primarily from automobile use, infrequent helicopter flights, and general activities associated with administrative and residential areas. The noise generated by the Army installation as a whole is comparable to a typical daily suburban environment and is considered compatible with existing noise receptors.

Average DNL levels fall in a range between 50 dB in quiet suburban areas to 70 dB in urban areas. All areas surrounded by the post fall within this range. Anywhere from 3 percent to 14 percent of the national population is highly annoyed with the in situ noise conditions (USEPA 1974). Neither the Main Post nor the Charles Wood Area is within any incompatible use zones or in the flight paths of any nearby airports or air installations. There are two helipads at Fort Monmouth, one on the Main Post and one in the Charles Wood Area. Operations at the helipads are the only installation-generated noise source with the potential to annoy nearby sensitive receptors. On the basis of day/night averaging, the small numbers of helicopter flight operations per month, and the location of the helipads, noise contours do not extend beyond Fort Monmouth or result in incompatibilities with any housing areas (U.S. Army 1991; USACE, Mobile District 1999).

The Main Post is over a mile away from any railway or major interstate highway. The Charles Wood Area is adjacent to the Garden State Parkway, which constitutes much of the background

noise on that end of the installation. In addition, there is a rail corridor adjacent to the southern portion of the Charles Wood Area, and occasional rail traffic contributes to the noise environment in that area.

Existing noise levels (L_{eq} and DNL) were estimated for the alternative sites and surrounding areas using the techniques specified in *American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound,* Part 3: *Short-term measurements with an observer present* (ANSI 2003). Table 4-10 shows the estimated noise levels.

Table 4-10
Estimated existing noise levels at Fort Monmouth

Intensity level	Residential intensity (people per acre)	DNL (dBA)	L_{eq} (dBA)	
			Daytime	Nighttime
Medium	4.5	52	48	42

Source: ANSI 2003.

4.5.2 Environmental Consequences

4.5.2.1 Accelerated Disposal Alternative

Short-term minor adverse effects on the noise environment would be expected with implementing the accelerated disposal alternative. The short-term effects would be primarily from heavy equipment noise during remediation activities. An overview of these effects is presented below. An evaluation of the long-term effects based on the ultimate reuse of the installation is presented in Section 4.5.2.5.

Individual pieces of heavy equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active remediation sites. The zone of relatively high noise typically extends to distances of 400 to 800 feet from the site of major equipment operations. Locations farther than 1,000 feet from sites seldom experience noteworthy levels of noise. Noise from the remediation activities would have short-term minor adverse effects on all sensitive receptors, including residences, within 1,000 feet of the site. Table 4-11 presents typical noise levels (in dBA at 50 feet) that EPA has estimated for the main phases of outdoor construction. Remediation activities would be comparable in level to the ground-clearing and excavation phases. Given the temporary nature of proposed remediation activities, the amount of noise that equipment would generate and the distance to the nearest noise-sensitive area, this effect would be considered minor.

Table 4-11
Noise levels associated with outdoor construction

Construction phase	L_{eq} (dBA)
Ground clearing	84
Excavation, grading	89

Source: USEPA 1971.

Noise would be expected to dominate the soundscape for all on-site personnel. Construction personnel, and particularly equipment operators, would don adequate personal hearing protection to limit exposure and ensure compliance with federal health and safety regulations. In addition, because remediation noise would be the only expected source of noise associated with this alternative, and there are no schools, churches, or hospitals adjacent to the site, no violation of the local noise ordinances would be expected.

In addition to the remediation activities, there would be some short-term maintenance activities during the transition to the final reuse of the property. Under this alternative, these activities would be temporary and similar to those currently being performed. These activities would be expected to have negligible effects on the noise environment.

4.5.2.2 Traditional Disposal Alternative

Short-term minor adverse effects on the noise environment would be expected with implementing the traditional disposal alternative. Similar to the accelerated diposal alternative, the short-term effects would be primarily from heavy equipment noise during remediation activities, and the effects would be similar in both type and level to those outlined under the accelerated disposal alternative. An evaluation of the long-term effects based on the ultimate reuse of the installation is presented in Section 4.5.2.5.

4.5.2.3 Caretaker Status Alternative

Long-term minor adverse effects on the noise environment would be expected from implementing the caretaker status alternative. As for the other disposal alternatives, the effects would be primarily from equipment noise associated with remedial investigations and activities. Additional noise could be expected from property maintenance activities. Noise levels would be similar to those outlined under the accelerated disposal alternative. An evaluation of the long-term noise effects based on the ultimate reuse of the installation is presented in Section 4.5.2.5.

4.5.2.4 No Action Alternative

No effects on the noise environment would be expected from implementing the No Action Alternative. No remediation, maintenance, changes in traffic, or changes in use would occur. Noise conditions would remain as described in Section 4.5.1.

4.5.2.5 Reuse Scenarios

4.5.2.5.1 Medium-Intensity Reuse

Long-term minor adverse effects on the noise environment would be expected under the MIR scenario. These effects would be from the general increase in the intensity of use at the installation. Notably, the Army would not generate any noise at the installation under the MIR scenario.

Under MIR, sources of noise would likely include vehicular traffic, typical residential area noise, outdoor HVAC equipment, and other noises typically associated with a mixed-use residential/ commercial area. Sources of noise close to receptors and individual acoustic events would be frequent because of the land use density, but the area would still be relatively quiet. The overall sound environment (i.e., DNL) would be about 4.5 dBA higher than that under the existing

conditions. This is a readily perceptible increase in noise, but it would be considered minor. Noise levels under this scenario were estimated using the techniques specified in the *American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound*, Part 3: *Short-term measurements with an observer present* (ANSI 2003). (See Table 4-12.)

Table 4-12
Estimated noise levels at Fort Monmouth for varying reuse intensities

Intensity level	Example land use category	Average residential intensity (people per acre)	L_{eq} (dBA)		
			DNL	Daytime	Nighttime
Low	Quiet suburban residential	2	49	48	42
Medium-low		4	52	53	47
Existing		4.5	52	53	47
Medium	Quiet urban residential	9	55	56	50
Medium-high	Quiet commercial, industrial, and normal urban residential	16	58	58	52
High		20	59	60	54

Source: ANSI 2003.

4.5.2.5.2 Medium-Low-Intensity Reuse

Long-term minor beneficial effects on the noise environment would be expected under the MLIR scenario. These effects would be from the general incremental decrease in the intensity of use at the installation. Notably, the Army would not generate any noise at the installation under the MLIR scenario.

Under MLIR, future sources of noise would be similar to those outlined under the MIR scenario but would be considered somewhat quieter because of the general decrease in land use density compared to the MIR scenario. The level of use would be slightly less than that outlined under the existing conditions, and the overall sound environment (i.e., DNL) would be approximately the same (Table 4-12). The change in the noise environment from existing conditions would not be readily perceptible, and it would be considered negligible.

4.5.2.5.3 Low-Intensity Reuse

Long-term minor beneficial effects on the noise environment would be expected under the LIR scenario. These effects would be from the general decrease in the intensity of use at the installation. Notably, the Army would not generate any noise at the installation under the LIR scenario.

Under LIR, sources of noise would likely include the same as those outlined for the MIR scenario, but sources of noise would be fewer and more spread out. The area would be categorized as quiet; it would be isolated and somewhat shielded from surrounding sources of sound by an abundance of natural areas. The overall sound environment (i.e., DNL) would be approximately 3 dBA lower than that under the existing conditions. This is a readily perceptible decrease in noise. Noise levels under this scenario were estimated using the techniques specified in the *American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound*, Part 3: *Short-term measurements with an observer present* (ANSI 2003). (See Table 4-12.)

4.6 GEOLOGY AND SOILS

4.6.1 Affected Environment

4.6.1.1 Geologic and Topographic Conditions

Monmouth County is in the Atlantic Coastal Plain Physiographic Province, which covers much of New Jersey and is underlain by unconsolidated sediments of the Mesozoic and Cenozoic Ages. The sediments are composed mostly of sands, silts, clays, and greensands or glauconite sands with interspaced gravel beds (USACE, Mobile District 1999). The Main Post is underlain by the Red Bank formation and the Hornerstown formation from east to west, respectively. The Hornerstown formation also underlies the Charles Wood Area, with small areas of the Vincentown formation intruding in the Charles Wood Area's southwest corner. Sand and gravel deposits overlie these formations, interbedded with sequences of clay that act as semi-confining beds for groundwater (U.S. Army 2007).

The topography on Fort Monmouth is generally flat with elevations ranging from 6 feet to 30 feet above mean sea level (MSL) on the Main Post and from 25 feet to 40 feet above MSL in the Charles Wood Area. On the Main Post, slopes range up to 5 percent; in the Charles Wood Area, up to 10 percent (USACE, Mobile District 1996). The land generally slopes east toward the Atlantic Ocean.

Fort Monmouth is near the Raritan Bay–New York Bight area of seismic activity. A total of eight earthquakes are recorded as having had their epicenters within Monmouth County or immediately offshore between 1663 and 1990. The earthquakes typically ranged between 1 and 3 on the Richter scale; there are no records of substantial earthquake damage in the area (USACE, Mobile District 1999).

Geothermal well fields are throughout Fort Monmouth and provide heating and cooling for several buildings on the installation. The wells are about 400 feet deep (STV and EDAW 2007). More information about the geothermal energy source is in Section 4.12, Utilities.

4.6.1.2 Soils

The soils on Fort Monmouth are primarily udorthents, or soils that have been altered by excavating or filling. Soils on the Main Post are primarily Freehold sandy loam, Downer sandy loam, and Kresson loam. The Freehold and Downer soils are somewhat well-drained soils that occur on upland areas. Kresson loam is a poorly drained soil that also occurs on upland areas. Soils in the Charles Wood Area are primarily Freehold sandy loam, Shrewsbury, and Holmdel types. Shrewsbury is often a sandy loam and is poorly drained. Holmdel soils can vary in both composition (from sand, sandy loam, and sandy clay loam) and drainage (from moderately well drained to somewhat poorly drained) (USDA-SCS 1989).

There are 302 acres of soils designated as *potentially highly erodible* on Fort Monmouth (26 percent of the installation)—232 acres in the Charles Wood Area and 70 acres on the Main Post. There are approximately 349 acres of hydric soils or soils with hydric inclusions on Fort Monmouth (30 percent of the installation)—304 acres in the Charles Wood Area and 45 acres on the Main Post. Hydric soils are soils that are saturated or flooded long enough during the growing season to develop anaerobic conditions (SSURGO 2005, USDA-SCS 1989).

Both the Freehold and Downer soil types have slight limitations for dwellings and small commercial buildings and severe limitations for shallow excavations. The severe limitations of these soils are from the tendency of the walls of excavations to cave in. The Kresson soil type has severe limitations for excavations, dwellings, and small commercial buildings. The severe limitations of this soil type are associated with wetness (USACE, Mobile District 1999).

4.6.1.3 Prime Farmland

There are about 341 acres of prime farmland soils or farmland soils of statewide or unique importance on Fort Monmouth—302 acres in the Charles Wood Area and 39 acres on the Main Post (SSURGO 2005). Prime farmland soils are protected under the Farmland Protection Policy Act (FPPA) of 1981. Land withdrawn from farmland inventory for military or national defense purposes, however, is not subject to considerations under the FPPA. Also, the land on the installation has not been used for agriculture since before the installation was established in 1917, and much of the footprint is in a built-up condition. A Farmland Conversion Impact Rating (Form AD-1006) of the project area is not warranted, and no further action is required under the FPPA.

4.6.1.4 Petroleum and Minerals

There are no known petroleum or mineral resources on Fort Monmouth. Geothermal resources are discussed in Section 4.6.1.1.

4.6.2 Environmental Consequences

4.6.2.1 Accelerated Disposal Alternative

No effects on geology, topography, or prime farmland soils would be expected. Disposal of the property—as a transference of ownership—would not have any effects on these resources.

Short-term minor adverse and long-term minor beneficial effects on soils would be expected from accelerated disposal. Some soil would be disturbed during remediation activities, and disturbed soils could be eroded by wind and storm water, resulting in a short-term minor adverse effect. The remediation of sites with contaminated soil, however, would have a long-term beneficial effect on soils. The effects on soils from reuse development are discussed below in Section 4.6.2.5.

4.6.2.2 Traditional Disposal Alternative

The effects would be similar to those discussed in Section 4.6.2.1.

4.6.2.3 Caretaker Status Alternative

The effects would be similar to those discussed in Section 4.6.2.1. Under caretaker status, the Army would continue with required environmental remediation activities, with short-term soil disturbance and soil erosion and long-term benefits reasonably expected to result from such activities.

4.6.2.4 No Action Alternative

No effects on geology, topography, soils, or prime farmland would be expected under the No Action Alternative. No changes to the property would occur under the alternative.

4.6.2.5 Reuse Scenarios

4.6.2.5.1 Medium-Intensity Reuse

Short-term minor adverse effects on soils would be expected. The Fort Monmouth reuse plan envisions mixed use of Army property, with reuse focusing primarily on commercial, institutional, and residential use of the installation's existing assets. Any construction resulting from implementing FMERPA's reuse plan would result in land disturbances associated with new buildings, parking lots, walkways, and other structures (e.g., storm water detention basins). These disturbances (excavation, grading, and soil removal) would result in short-term adverse effects on soils in these parcels. Clearing vegetation for construction would expose soils to potential erosion. Fort Monmouth is almost entirely underlain by soils with slight to severe limitations for building development because of the presence of sandy or wet soils. Construction in these areas would require special geotechnical engineering or placing more stable fill before construction could occur.

Soils would be stabilized and revegetated as construction activities ended, so the adverse effects on soils would be expected to be short term. Regulatory agencies responsible for overseeing construction and renovation projects would require the use of best management practices (BMPs) to help alleviate short-term and long-term problems associated with soil erosion. All construction activities would be required to adhere to New Jersey sediment and storm water control regulations. Coordination with NJDEP would be required to ensure coverage under the permit for erosion and sediment control for proposed reuse projects. The storm water management facilities must be designed to comply with the Soil Erosion and Sediment Control Act (New Jersey Administrative Code [NJAC] Chapter 4:24) and must be constructed in accordance with a project plan approved by NJDEP. Implementing storm water management and sedimentation and erosion control measures would ensure that only minimal effects would occur from reuse of the property. No effects on geology or topography would be expected under MIR.

4.6.2.5.2 Medium-Low-Intensity Reuse

Short-term minor adverse effects on soils would be expected. Effects similar to those discussed under the MIR scenario would be expected to occur, but to a lesser degree.

4.6.2.5.3 Low-Intensity Reuse

Short-term minor adverse effects would be expected. Effects similar to those discussed under the MIR scenario would be expected to occur, but to a lesser degree.

4.7 WATER RESOURCES

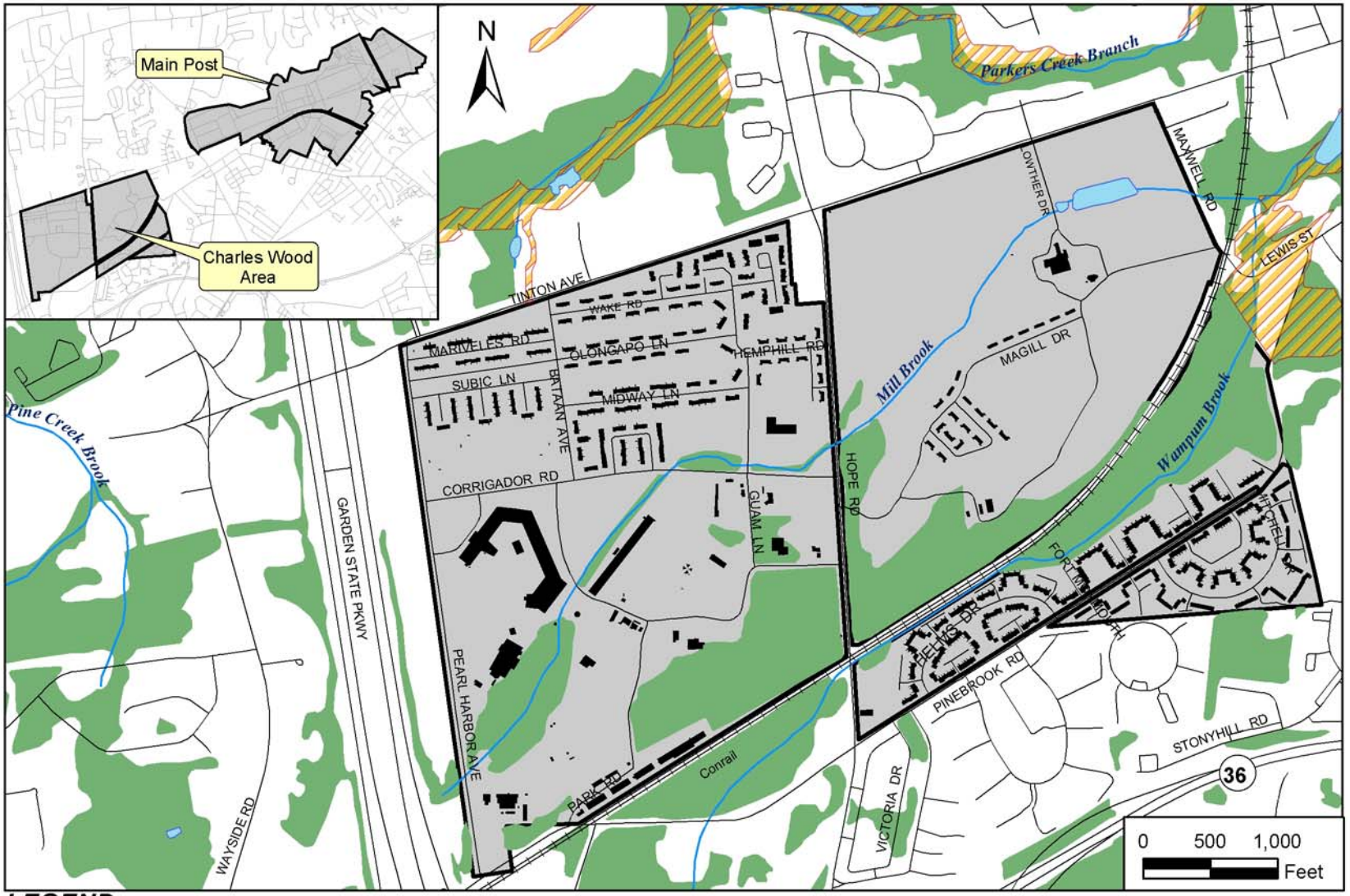
4.7.1 Affected Environment

4.7.1.1 Surface Water

Fort Monmouth is in the Atlantic Coastal Plain Physiographic Province in the Shrewsbury River watershed (hydrologic unit code [HUC] 02030104080). Both the Main Post and Charles Wood Area are in NJDEP's designated Parkers Creek/Oceanport Creek subwatershed (HUC 02030104080020) (NJDEP 2008e). Elevations on the post range from about 5 feet to 40 feet above MSL. The topography of both the Main Post and Charles Wood Area is generally level, except for short, steeper slopes along streams and waterways. Waterways in the vicinity of Fort Monmouth are generally low-gradient and drain generally east toward the Atlantic Ocean, 3 to 5 miles to the east. The surface water features of Fort Monmouth are shown in Figures 4-4 and 4-5.

The Charles Wood Area lies about 1 mile upstream (west) of the Main Post. It is drained primarily by a stream that flows from the western boundary of the Charles Wood Area, through the central and northeastern portions of the area to a lagoon on the golf course, and then continues off the Charles Wood Area property to the east. This stream is identified variously as Mill Brook (USACE, Mobile District 2004) or as an unnamed northern tributary to Wampum Brook (NJDEP 2008f, USGS 1981). Wampum Brook originates off-post outside the southern border of the Charles Wood Area and flows from southwest to northeast; it drains the southern portion of the Charles Wood Area together with a drainage ditch along the railroad tracks. Both Wampum Brook and its northern tributary originate west of Hope Road and flow east to converge just outside the eastern boundary of the Charles Wood Area (U.S. Army 2007; USACE, Mobile District 1999). The combined stream continues east through Eatontown, where it flows through a small freshwater pond known as Wampum Lake (NJDEP 2008f, U.S. Army 2007). Below Wampum Lake, the stream is referred to variously as Mill Brook, Mill Creek (U.S. Army 2007; USACE, Mobile District 1999, 2004), or Wampum Brook (NJDEP 2008f), and it continues east onto the Main Post of Fort Monmouth (NJDEP 2008f, U.S. Army 2007).

Continuing downstream and eastward, Mill Brook (Wampum Brook) enters the Main Post in its southwest corner and flows east and then north into Lafetra Creek (U.S. Army 2007; USACE, Mobile District 1999). Lafetra Creek is alternatively identified as Parkers Creek Branch (NJDEP 2008f, USGS 1981). Lafetra Creek (Parkers Creek Branch) flows from the west along the northwestern boundary of the Main Post. The confluence of Mill Brook (Wampum Brook) and Lafetra Creek (Parkers Creek Branch) gives rise to Parkers Creek, a shallow tidal creek with an average depth of 3 feet at mean high tide (U.S. Army 2007; USACE, Mobile District 2004). Parkers Creek continues northeast along the northern boundary of the Main Post until it discharges into the Shrewsbury River, directly east of the Main Post. The south-central portion of the Main Post is drained by Husky Brook, a freshwater stream that originates southwest of the Main Post. On-post, a portion of Husky Brook has been dredged, widened, and dammed to form Husky Brook Lake (also known as Husky Pond [NJDEP 2008f]), a 5.5-acre reservoir used for recreational purposes (U.S. Army 2007). Downstream from the lake, Husky Brook is piped for approximately 1,000 feet before it surfaces and eventually flows east into Oceanport Creek, a tidal stream that flows along the southeast boundary of the Main Post before discharging into the Shrewsbury River (NJDEP 2008f). A NJDEP-permitted contractor has periodically dredged a



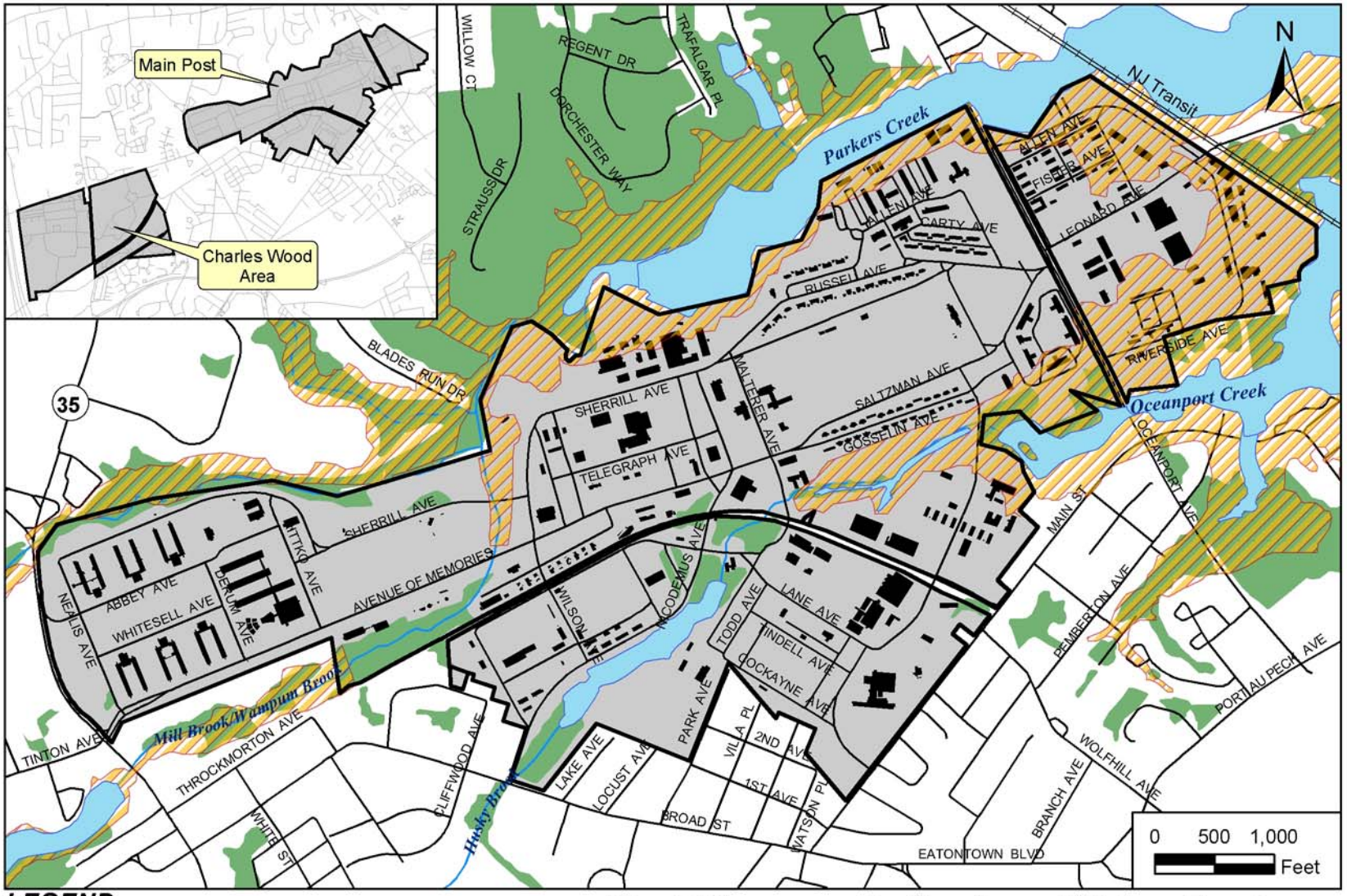
LEGEND

- Installation Boundary
- Buildings
- Roads
- Surface Water
- Wetland
- 100-Year Floodplain

Fort Monmouth Surface Water Features
Charles Wood Area

Figure 4-4

Source: Fort Monmouth GIS, 2003, 2007; NJDEP, 1986.



LEGEND

- Installation Boundary
- Buildings
- Roads
- Surface Water
- Wetland
- 100-Year Floodplain

Fort Monmouth Surface Water Features
Main Post

Figure 4-5

Source: Fort Monmouth GIS, 2003, 2007; NJDEP, 1986.

portion of Oceanport Creek east of the Oceanport Avenue Bridge to maintain a marina for Fort Monmouth personnel (Fort Monmouth 2005). The lower reaches of Husky Brook and Parkers Creek are brackish, and water levels in streams on the Main Post fluctuate with the natural twice-daily tide (USACE, Mobile District 1999). Both Parkers Creek to the north of the Main Post and Oceanport Creek to the south of the Main Post empty into the Shrewsbury River at the eastern end of the peninsula on which the Main Post lies. The Shrewsbury River is a tidal estuary that flows into Sandy Hook Bay about 5 miles north of Fort Monmouth (USACE, Mobile District 2004) and is separated from the Atlantic Ocean by a narrow barrier beach that ends at Sandy Hook to the north (USACE, Mobile District 1999).

Water quality conditions for Mill Brook and Lafetra Creek have historically been poor, primarily because of local industrial operations on Mill Brook upstream from the Charles Wood Area and light industry and a large shipping center that discharge into Lafetra Creek upstream from the Main Post (USACE, Mobile District 2004). Before entering the Main Post, Husky Brook receives drainage from apartment complex sump pumps as well as storm water drainage (USACE, Mobile District 1999). Quarterly monitoring since 1997 of surface water entering and leaving Fort Monmouth has generally shown concentrations of contaminants (e.g., chlorinated solvents) to be greater at monitoring sites upstream of the post than at downstream sites (U.S. Army 2007). Parkers Creek and Oceanport Creek are on the Clean Water Act section 303(d) list of impaired waters (NJDEP 2006). Water quality in Husky Brook Lake is generally poor, most likely because of off-site source contamination as well as an overabundance of nutrients from Canada goose[1] droppings (USACE, Mobile District 1999).

Fort Monmouth has separate sewer systems for conveying sanitary wastewater and storm water runoff at the Main Post and Charles Wood Area (U.S. Army 2007). An extensive storm water drainage system was constructed on the installation in the mid-20th century. The system was designed to supplement the natural drainage and prevent localized flooding. The storm water drainage system discharges at various points into Wampum Brook, Husky Brook, Husky Brook Lake, Lafetra Creek, Mill Brook, Parkers Creek, and Oceanport Creek. Because of the age of the system, many pipes and catch basins are in need of repair, and maintenance and repair of the system occur as needed (USACE, Mobile District 1999). More information about the storm water management infrastructure is provided in Section 4.12. In accordance with NJDEP regulations, Fort Monmouth has a storm water pollution prevention plan that covers its existing New Jersey Pollutant Discharge Elimination System permits and Public Complex General permits for both the Main Post and Charles Wood Area (Fort Monmouth 2006b). More information on these permits is in Section 4.12.1.3. Eighteen BMP areas are delineated throughout the Main Post and Charles Wood Area, and they are associated with many storm water outfall locations. Quarterly compliance inspections are conducted for all BMP areas and outfall locations (U.S. Army 2007).

4.7.1.2 Groundwater and Hydrogeology

The water table is relatively shallow on Fort Monmouth and fluctuates with tidal action in Parkers and Oceanport creeks on the Main Post. Depths to groundwater range between 5 and 12 feet below the ground surface (USACE, Mobile District 2004). The Red Bank formation, the Hornerstown formation, and small parts of the Vincentown formation, as well as overlying sand and gravel deposits, act as semi-confining beds for groundwater (see Section 4.6.1.1) (U.S. Army 2007).

[1] Scientific names of species mentioned in the text are provided in Appendix D.

At one time, a water-bearing aquifer in the Red Bank geologic formation underneath Fort Monmouth supplied many domestic wells with water (USACE, Mobile District 1999). The Red Bank formation outcrops along the northern edges of the Main Post and is present at a shallow depth below the Charles Wood Area (USACE, Mobile District 2004). Fort Monmouth's potable water is piped from off post and is not supplied from groundwater wells (USACE, Mobile District 1999). According to NJDEP data, there are no public community water supply wells (NJDEP 2008d) or community wellhead protection areas (NJDEP 2008g) in the vicinity of Fort Monmouth. There is one non-community wellhead protection area south of but outside the Charles Wood Area, south of Wampum Brook, near the southwest corner of the intersection of Hope Road and Pinebrook Road (NJDEP 2008h).

Five groundwater-supplied irrigation wells have been active on the Charles Wood Area golf course (U.S. Army 2007). As stated in Section 3.2.3, groundwater contamination has been found below several parcels of Fort Monmouth, and there is no on-base use of groundwater.

4.7.1.3 Floodplains

According to FEMA floodplain maps, Fort Monmouth's Main Post and Charles Wood Area are areas of undetermined, but possible, flood hazard (FEMA 1981; USACE, Mobile District 2004). A 100-year floodplain occurs mainly along Oceanport Creek and Parkers Creek in the eastern portion of the Main Post (EDAW 2007b). Portions of the extreme southeastern Main Post are subject to flooding during high tides combined with heavy rains (U.S. Army 2007). On the Charles Wood Area, the 100-year base flood elevation for Wampum Brook (at the eastern boundary of the sub-post) is 26 feet, while ground elevations range from 27 to 60 feet above sea level (USACE, Mobile District 1999, 2004).

4.7.1.4 Coastal Zone

The federal Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 *et seq.* as amended) was enacted to preserve, protect, develop, and where possible restore or enhance the resources of the coastal zone of the United States. Provisions under the CZMA help states develop coastal management programs to manage and balance competing uses of the coastal zone. As it applies to Fort Monmouth, the CZMA contains a federal consistency requirement under which federal actions must be consistent to the maximum extent practicable with the enforceable policies of New Jersey's federally approved Coastal Management Program. NJDEP's Division of Land Use Regulation makes federal consistency determinations (NJDEP 2008a). For coordination with NJDEP, Appendix C of this EA contains information about CZMA compliance and a coastal zone consistency determination for the proposed action.

A number of New Jersey laws regulate land use and development in the state's coastal zone, and permits under these laws might be required depending on the type and location of development (NJDEP 2008i). These laws include the Waterfront Development Law (N.J.S.A. 12:5-3), the CAFRA (N.J.S.A. 13:19), and the Wetlands Act of 1970 (N.J.S.A. 13:9A). As mentioned in Section 4.2.1.1, Fort Monmouth's Main Post is within the area regulated by CAFRA. CAFRA in general requires permits for development within 150 feet of the mean high water mark, for development of residential areas with 25 or more dwelling units, for commercial development with 50 or more parking spaces, and for public and industrial development (Neyenhouse n.d.; N.J.S.A. 13:19). Military installations in the CAFRA planning area (such as Fort Monmouth's Main Post) are limited to 70 percent impervious land. Coastal Metropolitan planning areas (the

type of planning area designation that Fort Monmouth would have if it was not a military installation) are limited to 80 percent impervious land.

4.7.2 Environmental Consequences

4.7.2.1 Accelerated Disposal Alternative

Short-term minor adverse and long-term minor beneficial effects on surface water and groundwater would be expected. Remedial activities on some contaminated sites would require ground disturbance, which could result in soil erosion and runoff into surface waters, as well as minor spills that could leak to groundwater. Because of Fort Monmouth's relatively flat terrain, BMPs to control soil erosion and storm water runoff to surface waters in accordance with New Jersey's Soil Erosion and Sediment Control Act would be used, and work would be conducted in accordance with a spill prevention plan, such effects would be expected to be minor. Remediation of groundwater contamination would have a long-term beneficial effect on surface waters fed by groundwater sources and on groundwater quality. As stated in Section 3.2.3, transfer or conveyance of Fort Monmouth property would include a prohibition on any use of groundwater areas identified in the Classification Exception Area sites.

No effects on floodplains would be expected. Disposal of the property would not affect floodplain areas.

Short-term minor adverse and long-term minor beneficial effects on the New Jersey coastal zone would be expected to result from remediation activities. Surface disturbance for during remediation could result in minor amounts of sediment and contaminants reaching coastal waters, and remediation of groundwater and soil contamination would have a long-term benefit on nearby coastal resources. Stream buffers, wetland buffers, tidal or nontidal wetlands or waterways, and floodplains would be protected in accordance with New Jersey's Coastal Zone Management Program. The proposed action would be consistent with the New Jersey Coastal Management Program (see Appendix C).

4.7.2.2 Traditional Disposal Alternative

Effects would be similar to those discussed in Section 4.7.2.1.

4.7.2.3 Caretaker Status Alternative

Effects would be similar to those discussed in Section 4.7.2.1. As under the other disposal alternatives, remedial activities would occur under caretaker status.

4.7.2.4 No Action Alternative

No effects on surface water, groundwater, floodplains, or the coastal zone would be expected because the proposed action would not occur. This alternative is not possible without congressional action.

4.7.2.5 Reuse Scenarios

4.7.2.5.1 Medium-Intensity Reuse

Short-term minor adverse effects on surface waters and groundwater would be expected. For details, see the discussion in Section 4.6.2.5.1. Briefly, soil disturbance would be expected to result in some sediment reaching surface waters, and equipment use during construction would be expected to result in minor releases of petroleum products that could reach groundwater. Use of BMPs to control these adverse effects would be required by NJDEP, and the quantity of releases would be expected to be small. The intensity of development under MIR would be similar to that which now exists at Fort Monmouth, resulting in no appreciable change in the imperviousness of soils on the property.

Because of the imposition of encumbrances related to coastal resources and floodplains, no effects on these resources would be expected.

4.7.2.5.2 Medium-Low-Intensity Reuse

Short-term minor adverse effects and long-term minor beneficial effects on surface waters and groundwater would be expected. In the short term, minor adverse effects similar to those discussed under the MIR scenario would be expected but to a lesser degree. In the long term, land use intensity under the MLIR scenario would be expected to result in an overall reduction in impervious surfaces compared with baseline conditions at Fort Monmouth (baseline is characterized as medium-intensity use [Section 3.5.3]). Any reduction in impervious surfaces would provide a potential for beneficial effects on water resources by facilitating long-term erosion control, storm water infiltration, and reduced storm water runoff to surface waters.

4.7.2.5.3 Low-Intensity Reuse

Effects on surface waters and groundwater under LIR would be similar to those under the MLIR scenario. Because of the lower intensity of reuse, however, LIR would be expected to result in less adverse effects and greater beneficial effects than those under MLIR

4.8 BIOLOGICAL RESOURCES

4.8.1 Affected Environment

4.8.1.1 Vegetation

Most of the Fort Monmouth Main Post consists of developed areas with open lawns, scattered trees, and ornamental shrubs used for landscaping. The Charles Wood Area includes developed areas as well as natural areas that have been classified as predominantly mesic coastal plain mixed oak forest, consisting of secondary hardwood growth in a closed canopy and moderate to dense undergrowth. Most of the forest habitat on the Charles Wood Area is found in its southern portion (U.S. Army 2007; USACE, Mobile District 2004). Common upland species on both areas include oaks, American holly, black cherry, birch, sassafras, blue huckleberry, and mountain laurel (U.S. Army 2007; USACE, Mobile District 2004). Wetter sites are dominated by red maple and sweetgum trees and also support shrubs like sweet pepperbush, silky dogwood, and southern arrowwood (USACE, Mobile District 2004). Reeds, sedges, and marsh grasses can be found along the banks of Oceanport Creek and Parkers Creek on the Main Post (U.S. Army 2007).

4.8.1.2 Wildlife

Fauna found within or nearby Fort Monmouth are common species that are tolerant of human activity and developed areas. Mammal species observed at Fort Monmouth include eastern cottontail rabbit, woodchuck, muskrat, gray squirrel, skunk, raccoon, chipmunk, red fox, and white-tailed deer (U.S. Army 2007; USACE, Mobile District 2004). Birds commonly observed include American crow, robin, European starling, brown-headed cowbird, mourning dove, blue jay, chickadee, tufted titmouse, mallard, and Canada goose (U.S. Army 2007; USACE, Mobile District 2004). Amphibians common to the Fort Monmouth area include red back salamander, spring peeper, wood frog, bullfrog, and green frog. Commonly occurring reptiles likely to occur at Fort Monmouth include the common snapping turtle, northern brown snake, northern water snake, and eastern garter snake (U.S. Army 2007; USACE, Mobile District 1999). A complete list of mammals, birds, reptiles, amphibians, and fish species observed during planning-level surveys is in the planning-level survey report's Appendix A (USACE, Mobile District 2001).

4.8.1.3 Threatened and Endangered Species

No federally listed threatened or endangered species are known to occur at Fort Monmouth (USACE, Mobile District 1999). Planning-level surveys conducted in the year 2000 identified some suitable habitat for the rare plant swamp pink and the northern bog turtle, both federally listed threatened species known in New Jersey (USACE, Mobile District 2001). Such habitat was mostly in wetland areas, but no individuals of either species were observed (USACE, Mobile District 2004). A breeding pair of osprey, a New Jersey threatened species (NJDEP 2008b), maintains an active nest on the Main Post (U.S. Army 2007). No preserves, officially designated critical habitats, or special habitats for endangered, threatened, or rare species occur on the site (U.S. Army 2007; USACE, Mobile District 1999). No New Jersey Natural Heritage Priority Sites occur at Fort Monmouth or in its vicinity (NJDEP 2008c). Consultation letters to the U.S. Fish and Wildlife Service and state wildlife agencies regarding the proposed action are included in Appendix E.

4.8.1.4 Wetlands

About 65 acres of wetlands occur on the Main Post, and about 100 acres occur in the Charles Wood Area (EDAW 2007b) (Figures 4-5 and 4-6). Most wetlands on the Main Post are associated with Parkers Creek, Oceanport Creek, and Husky Brook. Oceanport Creek and Mill Brook are highly channelized with only a narrow margin of herbaceous wetland on either bank in the northern section. Wetlands in the eastern portion of the Main Post are mostly estuarine systems subject to tidal influences. Nontidal creeks on the Main Post have been classified as perennial riverine wetlands, and ponds like Husky Brook Lake (Main Post) and the golf course pond (Charles Wood Area) have been designated palustrine open-water wetlands (USACE, Mobile District 2004). Wetlands in the Charles Wood Area mainly occur along Mill Brook (northern Wampum Brook tributary) and in the southern portion of the Charles Wood Area extending from both sides of Wampum Brook and the railroad tracks. Forested wetland areas flanking creeks are mostly palustrine forested wetlands (USACE, Mobile District 2004).

4.8.2 Environmental Consequences

4.8.2.1 Accelerated Disposal Alternative

Short-term minor adverse effects on vegetation, wildlife, and wetlands would be expected. Remedial activities on contaminated parcels could result in the removal of vegetation and disturbances to wildlife, but most areas to be remediated are developed or are maintained as lawn areas. Accelerated disposal would not otherwise be expected to have an effect on the vegetation of the property. Indirect minor adverse effects on aquatic life in streams and ponds near the remedial activities could result sediment runoff into surface waters. Minor effects on wetlands could result from soil erosion associated with remedial activities, but no direct adverse effects would be expected because remedial activities would not occur within any stream buffers, wetland buffers, tidal or nontidal wetlands or waterways, or floodplains. No effects would be expected on federally or state-listed threatened or endangered species.

4.8.2.2 Traditional Disposal Alternative

Effects on biological resources under traditional disposal would be similar to those discussed in Section 4.8.2.1.

4.8.2.3 Caretaker Status Alternative

Short-term minor adverse and long-term minor beneficial effects on vegetation, wildlife, and wetlands would be expected under caretaker status. The short-term effects would also result primarily from conducting remedial activities. Long-term beneficial effects could result if the installation property was retained by the Army for longer than a year. A lowered level of maintenance would be expected to result in vegetative growth and reversion of some areas from maintained grounds to a more natural state. Natural riparian vegetation would be expected to grow by streams and ponds. These vegetative changes would be beneficial to wildlife and wetlands. No adverse effects on sensitive species would be expected under caretaker status.

4.8.2.4 No Action Alternative

No effects on biological resources would be expected under the No Action Alternative because no changes to Fort Monmouth would occur, and the proposed action would not be implemented.

4.8.2.5 Reuse Scenarios

4.8.2.5.1 Medium-Intensity Reuse

Short-term minor adverse and long-term minor beneficial effects on vegetation and wildlife, and short-term minor adverse wetlands would be expected. Existing vegetative communities and wildlife habitat would be disturbed in the short term as redevelopment activities (adaptive reuse, demolition, new construction) occur. Existing trees, shrubs, and herbaceous vegetation would be damaged or removed, and existing wildlife cover and habitat could be disrupted. Common urban-adapted wildlife, such as squirrels, mice, and common birds, would be expected to be displaced during redevelopment activities but would be expected to return as the redeveloped environment became more stabilized. New landscaping could provide long-term beneficial effects for local wildlife. In the long term, land use intensity under the MIR scenario would be similar to existing baseline land use intensity at Fort Monmouth, which is also characterized as medium intensity

(Section 3.5.3). The overall intensity of vegetation and wildlife habitat would be expected to be similar and result in no adverse effects on biological resources in the long term from MIR. Planned redevelopment of a continuous Blue-Greenbelt (Section 3.5.4) by combining open space, habitat, and water resources would be expected to provide a more continuous patch of vegetation and habitat in the overall urban setting in the vicinity of Fort Monmouth; it would be expected to provide minor long-term beneficial effects on biological resources.

No effects on federally listed threatened or endangered species would be expected. The breeding pair of osprey on the Main Post is protected under New Jersey's Endangered Species Conservation Act of 1973. The NJDEP, Division of Fish and Wildlife, Endangered and Nongame Species Program would provide guidance to developers with projects that could affect the birds.

Storm water runoff from sites being developed could cause short-term minor adverse effects on wetlands. As stated in Section 3.2.3, the Army would notify prospective transferees of their requirement to adhere to Section 404 permitting requirements for activities in or related to wetlands and to adhere to other restrictions on the uses of the property that may be imposed under Section 4 of EO 11990 to protect wetland areas.[2] Jurisdictional determinations of wetland boundaries could be required before development near areas mapped as wetlands. Also, as mentioned in Section 4.7.2.5.1, developers would have to adhere to New Jersey sediment, storm water, and water quality control regulations, including obtaining necessary construction site permits from NJDEP and implementing BMPs to control erosion and storm water runoff.

4.8.2.5.2 Medium-Low-Intensity Reuse

Short-term minor adverse and long-term minor beneficial effects on vegetation and wildlife, and short-term minor adverse wetlands would be expected. In the short term, minor adverse effects similar to those discussed under the MIR scenario would be expected but to a lesser degree. In the long term, land use intensity under the MLIR scenario would be expected to result in an overall increase in vegetation and wildlife habitat as compared with the baseline condition at Fort Monmouth. Any minor increase in vegetative cover and wildlife habitat would provide a potential for beneficial effects on biological resources. Long-term beneficial effects would be expected from any redevelopment designs that incorporate natural areas as part of the overall reuse design.

4.8.2.5.3 Low-Intensity Reuse

Short-term minor adverse and long-term minor beneficial effects on vegetation and wildlife, and short-term minor adverse wetlands would be expected. In the short term, adverse effects similar to those discussed under the MLIR scenario would be expected but to a lesser degree. In the long term, greater beneficial effects than those discussed under the MLIR scenario would be expected because more of the land would be left undeveloped and could revert to more natural conditions.

[2] EO 11990, Section 4. When federally owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-federal public or private parties, the federal agency shall (a) reference in the conveyance those uses that are restricted under identified federal, state or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such properties from disposal. (As issued by President Jimmy Carter, May 24, 1977.)

4.9 CULTURAL RESOURCES

Cultural resource management procedures are defined in Chapter 6 of AR 200-1, *Environmental Protection and Enhancement* (HQDA 2007). Cultural resources consist of the following:

- Historic properties (buildings, structures, districts, landscapes, and the like), as defined by AR 200-1 and the NHPA
- Archaeological sites, as defined and governed by the ARPA, AR 200-1, and the NHPA
- Native American sacred sites, as identified in EO 13007 and the American Indian Religious Freedom Act
- Traditional Cultural Properties (TCPs), as defined in the NHPA and as described in *National Register Bulletin* 38
- Sites and artifacts associated with Native American Graves, as defined and governed by NAGPRA

The resources described below have been identified within the boundaries of Fort Monmouth. For more information on the cultural and historic resources on the installation and for cultural contexts, refer to the *Integrated Cultural Resources Management Plan (ICRMP) Fort Monmouth, New Jersey, 2007* (Versar 2007).

4.9.1 Affected Environment

4.9.1.1 Archaeological Resources

Eight archaeological sites were identified within the boundaries of Fort Monmouth, all of which have been evaluated as not eligible for listing on the National Register of Historic Places (NRHP). Table 4-13 provides details on the archaeological sites. Archaeological probability models presented in the 2003 Fort Monmouth ICRMP ranked 446 acres at Fort Monmouth as highly likely to contain archaeological sites, 156 acres with a medium potential, and nearly 602 acres with a low potential (Klein and Baldwin 2003). Of the area making up the Main Post, 90 percent is considered to have a low potential for archaeological sites, while the remaining 10 percent has a medium to a high likelihood of containing such sites (Klein and Baldwin 2003). The NAGPRA status of the sites, or any other sites at Fort Monmouth, is not directly discussed in the 2007 ICRMP.

Table 4-13
Archaeological sites at Fort Monmouth

Site properties and number	Notes
Total number of archaeological sites: 8	Late Archaic through the Woodland periods
• Native American sites: 7	
• Historic: 1	A brick culvert on the western end of Husky Brook Lake[a]

[a] Source: Versar 2007.

4.9.1.2 Historic Buildings and Structures

There are 561 historic buildings and structures on Fort Monmouth, 103 of which are considered eligible for listing on the NRHP, 93 that are eligible as contributing elements to the proposed Fort Monmouth Historic District (Main Post), and 5 that are eligible as contributing elements to the proposed Charles Wood Area Historic District. The buildings and structures and details of them are listed in Table 4-14. There are no pre-federal buildings on Fort Monmouth.

Table 4-14
Historic buildings and structures on Fort Monmouth

Buildings and structures	Notes
General characteristics	Total: 561 no pre-federal buildings on Fort Monmouth 19 buildings and structures have been evaluated for NRHP eligibility but require concurrence from the New Jersey SHPO 12 buildings and structures have not been evaluated for NRHP eligibility
Buildings and structures considered eligible for listing on the NRHP	Total: 103
• Contributing elements to the proposed Fort Monmouth Historic District	Total: 2
• Individually eligible	Total: 5
▪ World War II Signal Corps Memorial (Building 115)	A contributing resource to the Fort Monmouth Historic District; discussed in more detail below in Section (Historic Markers, Monuments, and Memorials)
▪ Squier Hall (Building 283)	A contributing resource to the Fort Monmouth Historic District; Squier Hall is considered eligible under Criterion A for its specific association with Fort Monmouth's pre- and post-World War II communications R&D activities
▪ Myer Center and its electrical support substation (Hexagon Building, Buildings 2700 and 2701)	Myer Center (in the Charles Wood Area) is considered eligible under Criteria A and C for its association with post-1955 communications R&D activities and for its unusual architectural design
▪ 1 Dymaxion Deployment Unit;[a] (no building number assigned)	Considered eligible under Criteria A and C for its exceptional design and role in the development of World War II-era, specialized building, as well as for its association with master architect Buckminster Fuller
▪ The general purpose storage unit for the DDU (Building 2570)	Considered eligible under Criteria A and C for its exceptional design and role in the development of World War II-era, specialized building, as well as for its association with master architect Buckminster Fuller
▪ Eligible as contributing elements to the proposed Fort Monmouth Historic District (Main Post)	Total: 93 Primarily used as officer, noncommissioned officer, family, and bachelor officer quarters: detached and double housing units flanking Greely Field
o Enlisted barracks	(Buildings 205, 207, 208, and 287)
o Fire Station and Guard House	Building 282: northwest edge of Barker Circle southeast of Greely Field

Table 4-14 Historic buildings and structures on Fort Monmouth *(continued)*

Buildings and structures	Notes
o Kaplan Hall	Building 275: Communications-Electronics Museum, formerly the post theater; southwest of Barker Circle on Gosselin Avenue
o Gardner Hall and Guest House	Buildings 270 and 271: North of housing units on northern edge of Greely Field; examples of the Colonial Revival style indicative of the Fort Monmouth Historic District
o Allison Hall	Building 209: Northern corner of the district, south of radar antenna domes
o Russel Hall	Building 286, Garrison Headquarters: Art Deco-style brick building on western edge of Greely Field
o Garages associated with the officer and family housing units	Total: 27
▪ Eligible as contributing elements to the proposed Charles Wood Area Historic District	Total: 5; all historically associated with Gibbs Hall
o Gibbs Hall	Originally constructed as the Tudor Revival-style Suneagles Country Club in 1926; it now serves as a community club open to all members of the Fort Monmouth community
o Portion of the surrounding golf course	Buildings 2000, 2001, 2018, and 2019
o Tennis courts	
o Swimming pool	
o Other contributing properties	

[a] Designed by Buckminster Fuller in 1940, the Dymaxion Deployment Unit was essentially a converted grain bin: a 20-foot circular, corrugated steel building lined with wallboard and insulated with fiberglass. The roof was a shallow conical lid whose sections had a compound curvature that stiffened the entire structure. Light entered through portholes and an adjustable skylight/ventilator. Commissioned by the army for field housing, hundreds of the units were shipped to the Persian Gulf during World War II.

4.9.1.2.1 World War II temporary structures

In 1986 DoD and the ACHP entered into a Programmatic Memorandum of Agreement (PMOA) regarding Section 106 of the NHPA (36 CFR Part 800). The PMOA allows DoD—upon completion of a comprehensive documentation study (which was concluded in 1993)—to remove or demolish World War II temporary structures without project-specific review under Section 106. Structures at Fort Monmouth that fall under this PMOA are radar antenna shelters (Buildings 900, 905, 2532, and 2533). The details and status of the structures are provided in Table 4-15.

4.9.1.2.2 Capehart and Wherry-era family housing

Fort Monmouth Capehart and Wherry-era family housing is in the Charles Wood Area, dates from 1955 to 1962, and is along the north and south sides of Pine Brook Road. The housing is addressed under a 2002 Program Comment from the ACHP, which allows Army installations to proceed with maintenance; repair; rehabilitation; mothballing; renovation; demolition; replacement; and transfer, sale, or lease out of federal control of Capehart-Wherry era housing, associated structures, and landscape features (ACHP 2002, Klein and Baldwin 2003).

4.9.1.3 Historic Districts

There are two proposed historic districts on Fort Monmouth—the Fort Monmouth Historic District (Main Post) and the Charles Wood Area Historic District. Both have been determined

eligible for listing on the NRHP (FMERPA 2008d, Versar 2007). Pertinent information about the historic districts is in Table 4-16.

Table 4-15
World War II temporary structures

Structures included	Radar antenna shelters (Buildings 900, 905, 2532, and 2533)
General features	Constructed between 1941 and 1942 Constructed using standardized warehouse plans, modified by architect John T. Rowland to fulfill the specifications required for installation at Fort Monmouth
ICRMP recommendations	The structures must be documented in accordance with Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) standards and that further research be conducted to determine whether the structures are unique to Fort Monmouth
Building 900	Status: Still exists • Should be HABS/HAER documented only if it is determined to be eligible for listing on the NRHP • Recorded and evaluated in the U.S. Army Environmental Center's 1997 *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties* • Determined to be a base operations property having no significance related to Cold War operations; therefore, it is covered under the 1986 PMOA • New Jersey SHPO's concurrence with this evaluation is pending
Building 905	Status: No longer exists
Building 2532	Status: No longer exists
Building 2533	Status: No longer exists

Source: ACHP 1996, Klein and Baldwin 2003, Versar 2007.

Table 4-16
Fort Monmouth historic districts

Fort Monmouth Historic District
Considered eligible under • Criterion A in the area of social history for its association with the Army's 1927–1937 permanent building program • Criterion C for architecture for the buildings' high degree of integrity as examples of Colonial Revival style, characterized by brick exteriors, gabled or hipped roofs, multi-sash double-hung windows, and classical entry surrounds Greely Field is encompassed by the Fort Monmouth Historic District boundaries Significant as the main training and research center of the Army Signal Corps from World War I to World War II *Boundaries*: roughly the current post boundary and Parkers Creek to the north, Oceanport Avenue to the east, Oceanport Creek to the south, and Halterer Avenue to the west
Charles Wood Area Historic District
Considered eligible under • Criterion A because of the area's association with the social development of Tinton Falls and Eatontown during the 1920s and 1930s • Criterion C for the exemplary representations of Tudor Revival style architecture present in Gibbs Hall and associated buildings and structures *Boundaries*: Tinton Avenue to the north, Maxwell Place to the east, Megill Drive to the south, and Lowther Drive and the Gibbs Hall parking area to the west

Source: FMERPA 2008d, Klein and Baldwin 2003, Versar 2007.

4.9.1.4 Historic Markers, Monuments, and Memorials

Twenty historic markers, monuments, and memorials have been identified within the boundaries of Fort Monmouth. Only two of these resources have been evaluated—the World War II Signal Corps Memorial in Greely Field, which honors the fallen World War II Signal Corps soldiers, and the Division Signal Corps Monument at the intersection of Malterer and Sherrill avenues in Dunwoody Park, which honors the Signal Corps' participation in the Spanish American War. The World War II memorial is considered individually eligible for listing on the NRHP and is a contributing element to the Fort Monmouth Historic District. The Spanish American War monument has been determined not eligible for listing on the NRHP (FMERPA 2008d; Versar 2007).

4.9.1.5 Traditional Cultural Properties, National Historic Landmarks, and World Heritage Sites

No TCPs have been identified on Fort Monmouth, nor has a systematic inventory of TCPs been undertaken (Versar 2007). No National Historic Landmarks or World Heritage Sites have been identified within the boundaries of Fort Monmouth.

4.9.1.6 Archival Resources

The Fort Monmouth Communications–Electronics Museum, in Kaplan Hall, houses a large collection of original documents, encompassing published works, memoranda, maps, photographs, and motion pictures pertaining to the military history of Fort Monmouth, the Signal Corps, and the Communications–Electronics Command. This collection is under the jurisdiction of the Fort Monmouth Command Historian. Several documents, many of which are housed under the motion picture archives, have not been fully catalogued. Photographs not contained in the Fort Monmouth Communications–Electronics Museum are under the care of the curator of the Fort Monmouth Museum (Versar 2007).

4.9.2 Environmental Consequences

4.9.2.1 Accelerated Disposal Alternative

No effects or long-term minor adverse effects on cultural resources would be expected under the accelerated disposal alternative. Though the negotiated terms of the transfer or conveyance would require that the new owners maintain the status quo of historic buildings and archaeological sites or would impose a requirement for consultation with the New Jersey SHPO before any actions that might affect such resources, transferring such resources from federal to private or local government ownership could reduce the quality of care that the resources receive. The PA between the Army, the New Jersey SHPO, and the ACHP will provide deed restrictions on case by case basis requiring that new owners protect historic properties as a condition of the sale or transfer of installation property. Federal agencies are required under the NHPA to protect cultural resources, but the provisions of the NHPA do not apply equally to nonfederal entities. The extent to which cultural resources would be protected depends ultimately on the restrictions and requirements placed on new owners in the PA. The PA will also be signed by designated representatives from the three boroughs that will have jurisdiction over the property: Eatontown, Oceanport, and Tinton Falls. As signatories to the PA, these boroughs would have an ability to seek to enforce the provisions of the PA if future landowners failed to adhere to requirements specified in the deeds.

4.9.2.2 Traditional Disposal Alternative

Effects on cultural resources under traditional disposal would be similar to those discussed in Section 4.9.2.1.

4.9.2.3 Caretaker Status Alternative

No effects or long-term minor adverse effects on cultural resources would be expected under caretaker status. As long as the property is under the care of the U.S. government, cultural resources would be maintained and protected in accordance with the NHPA. Nevertheless, if the property was kept in caretaker status for an extended period of time after the level of maintenance was reduced, it would be reasonable to expect that cultural resources would deteriorate to some degree. The long term effects on cultural resources after the property were transferred to new owners is discussed in Section 4.9.2.5. If any parcels were to remain in caretaker status for longer than 1 year, the reduction of management activities could affect archaeological sites, historic resources, and historic landscapes inherent in the Fort Monmouth Historic District and the Charles Wood Area Historic District if pests or erosion were to threaten the integrity of these resources. Implementing the caretaker status alternative, however, would mandate continued maintenance at a minimal intensity to avoid irreparable deterioration, including physical deterioration that might threaten the NRHP integrity level of historic buildings, structures, and districts, and of archaeological sites.

4.9.2.4 No Action Alternative

No adverse effects on cultural resources would be expected under the No Action Alternative. The current level of use and maintenance would continue, resulting in no changes to cultural resources on the installation and no change in the level of protection that they receive.

4.9.2.5 Reuse Scenarios

4.9.2.5.1 Medium-Intensity Reuse

Because of the speculative and changeable nature of reuse planning, specific reuse activities cannot be precisely identified at this time. Reuse scenarios discussed here are based on the final reuse plan (FMERPA 2008d).

No adverse effects or long-term minor adverse effects on cultural resources would be expected under MIR. New owners would be required under the negotiated terms of the property transfer or conveyance to maintain the status quo of historic buildings and archaeological sites, or they would be required to consult with the New Jersey SHPO before taking any actions that might affect such resources. In conjunction with disposal of the post, the Army intends to enter into a PA with the New Jersey SHPO and the ACHP concerning the historic structures within the current constraints of Fort Monmouth, the proposed Fort Monmouth Historic District, and the proposed Charles Wood Area Historic District, as well as the NRHP-eligible resources outside these districts' boundaries. The PA would provide deed restrictions on a case-by-case basis mandating the protection of historic properties by new owners as a condition of sale or transfer. The deed of sale or transfer would also delineate a process by which new owners might lessen or remove these restrictions through consultation with the New Jersey SHPO to create mutually agreeable and appropriate measures for mitigating the adverse effects of proposed undertakings.

The Army would require—under the pending PA—new owner(s) of the property to preserve the current level of integrity present in NRHP-eligible historic and cultural resources within Fort Monmouth upon deed sale or transfer. Under the PA, future undertakings affecting historic and cultural properties would be mitigated through the New Jersey SHPO, further safeguarding the integrity of these properties.

BMPs for protecting NRHP-eligible and potential NRHP-eligible properties include the following activities: Those properties that have been evaluated for NRHP eligibility and on which the New Jersey SHPO has yet to concur, and those properties that have yet to be evaluated for NRHP eligibility should be treated as if they are NRHP-eligible until all the properties have been evaluated and the SHPO has concurred with the evaluations. In addition, unevaluated but identified archaeological sites should be evaluated to assess their NRHP eligibility and be treated as eligible for listing until they are evaluated. Also, a reconnaissance survey to reassess and revise archaeological sensitive areas and potential on the basis of disturbance and development since 1996 should be done before, or as a condition of, property sale or transfer. Finally, along with the requirements for NRHP-eligible properties imposed by the pending PA on sale or transfer of deed, appropriate curation of the archival collection of Fort Monmouth housed in Kaplan Hall should be mandated.

A large mixed-use town center west of the Charles Wood Area Historic District would have very little to no effect on the district because the town center would be centralized in the Tinton Falls area, approximately one-half mile from the district. The high-tech center to the west of the Fort Monmouth Historic District and the neighborhood center on the east edge of the district would not be expected to have adverse effects on the historic district because the density of these centers would be low.

The development and expansion of alternative transportation modes would likely have very little effect on historic and cultural resources. Though three or more Jitney bus stops could be constructed in the Fort Monmouth Historic District, the area would be expected to remain a largely residential neighborhood. An increase in bus traffic and pedestrian traffic would be likely, but it would not be expected to adversely affect the district. A Jitney stop at the northern edge of the Charles Wood Area Historic District would bring visitors to the district, likely increasing pedestrian traffic in the district, but would be unlikely to have an adverse effect. Design and construction of the Jitney stops in or adjacent to these districts would be required to adhere to the preservation design guidelines for each district.

Roadway-widening projects near the Fort Monmouth historic districts would likely increase traffic along those roads, but the increase would be unlikely to adversely affect the historic districts because the overall character and spatial relationships of the buildings and landscapes would not be altered.

Establishing a continuous green belt would preserve the character-defining green spaces in both of Fort Monmouth's historic districts, causing no adverse effect on the resources. Enhancing bicycle and pedestrian mobility would also be unlikely to have adverse effects.

Removing established Fort Monmouth boundaries, allowing for the development of commercial use along the northeastern edge of the Fort Monmouth Historic District, might affect the district. Under the pending PA, sale or lease of property would carry provisions for future undertakings that might affect historic and cultural properties. Commercial development on transferred land within or adjacent to the Fort Monmouth Historic District would be regulated by the pending PA

requiring new property owners to mitigate potential effects through the New Jersey SHPO. Adherence to the pending PA mandates would be required to result in a finding of no adverse effect on cultural resources.

The pending PA would also regulate leverage of historic buildings and associated landscapes within the confines of Fort Monmouth. The implemented reuse plan would be expected to take into account the current condition and historic integrity of specific buildings likely to be reused.

4.9.2.5.2 Medium-Low-Intensity Reuse

No adverse effects or long-term minor adverse effects on cultural resources would be expected under the MLIR scenario. Potential effects on cultural resources under MLIR would be much the same as under the MIR scenario.

4.9.2.5.3 Low-Intensity Reuse

No adverse effects or long-term minor adverse effects on cultural resources would be expected under the LIR scenario. Potential effects on cultural resources under LIR would be much the same as under the MIR scenario.

4.10 SOCIOECONOMICS

4.10.1 Affected Environment

The socioeconomic indicators used for this study include employment and industry, income, population, housing, public services, and recreation. Environmental justice and protection of children also are addressed. These indicators characterize the region of influence (ROI).

The ROI is a geographic area selected as a basis on which social and economic impacts of project alternatives are analyzed. The criteria used to determine the ROI are the geographic location of Fort Monmouth; the residency distribution of Fort Monmouth military and civilian personnel; commuting distances and times; and the location of businesses providing goods and services to Fort Monmouth, its personnel, and their dependents. On the basis of these criteria, the ROI for the social and economic environment is Monmouth County, New Jersey. The ROI covers an area of 472 square miles. Monmouth County is linked economically and socially with New York City and is part of the New York City–Northern New Jersey–Long Island Metropolitan Statistical Area. The region has an extensive highway system, access to rail and air transport, quality schools, housing, and many recreational and cultural opportunities that together create a high quality of life.

The baseline year for socioeconomic data is 2005, the date of the BRAC Commission's announcement of the Fort Monmouth closure. Where 2005 data are not available, the most recent data available are presented.

4.10.1.1 Economic Environment

4.10.1.1.1 Employment and Industry

The ROI has a civilian labor force of about 328,100, an increase of 3 percent over the 2000 labor force of 318,100 (BLS 2006). The ROI average annual unemployment rate was 4.0 percent, lower

than the national unemployment rate of 5.1 percent. Between 2000 and 2005, the ROI annual unemployment rate ranged from a low of 3.2 percent to a high of 5.4 percent, but it has been consistently lower than the national unemployment rate (BLS 2006). Monmouth County has a well-educated and highly skilled workforce: 91 percent of the population aged 25 years and over has a high school degree or higher, and about 40 percent of the population has a bachelor's degree or higher (U.S. Census Bureau 2006a).

The primary sources of ROI employment were retail trade, government and government enterprises, health care and social assistance, and professional and technical services. Together these industry sectors accounted for almost 50 percent of regional employment (BEA 2007a). The two largest employers in the ROI were the retail trade and government sectors, each accounting for about 13 percent of total employment. Within the government sector, most of the jobs (77 percent) were in the state and local government, 18 percent were federal civilian jobs, and 5 percent were federal military jobs. Fort Monmouth employs about 400 federal military personnel and about 5,000 federal civilian personnel (Fort Monmouth PAO 2008). The third-largest employer in the ROI was the health care and social assistance sector, which accounted for 12 percent of regional employment, followed by professional and technical services, which employed 10 percent (BEA 2007a).

4.10.1.1.2 Income

ROI income levels have been notably higher than state and national averages. The per capita personal income (PCPI) of the ROI was about $48,500. This PCPI ranked fifth highest in the state and was 111 percent of the state average of $43,830 and 141 percent of the national average of $34,470. The ROI PCPI reflected an increase of 14 percent between 2000 and 2005 (BEA 2007b). The ROI median household income is about $74,800, which is 121 percent of the state median household income of $61,670 and 162 percent of the national income of $46,240 (U.S. Census Bureau 2006a).

4.10.1.1.3 Population

Monmouth County's population was almost 636,000, and the county ranked as the fourth most populous county in New Jersey. The ROI is densely populated with about 1,350 persons per square mile. The United States population density was about 85 persons per square mile. The ROI population increased about 3 percent between 2000 and 2005. During the same time period, the nation's population increased by 5 percent (U.S. Census Bureau 2006b).

4.10.1.2 Sociological Environment

4.10.1.2.1 Housing

Fort Monmouth has 669 on-post family housing units. On-post housing is typically fully occupied, though some units might be temporarily unavailable after being vacated to permit maintenance before new tenants enter. There is a 1- to 3-month waiting period for on-post family housing, depending on the number of bedrooms required (USAG Fort Monmouth 2008).

There were about 253,000 housing units in the ROI, of which 91 percent (about 230,900 units) were occupied and 9 percent were vacant. Of the occupied units, 76 percent are owner-occupied and 24 percent are renter-occupied. The median value of ROI owner-occupied housing was $421,800, which is 252 percent of the national median value of $167,500. ROI median gross rent

was $970 a month, or 133 percent of the national median gross rent of $728 a month. The ROI housing stock increased by 7 percent (17,500 units) between 2000 and 2005 (U.S. Census Bureau 2006a).

4.10.1.2.2 Law Enforcement, Fire Protection, Medical Services

The Fort Monmouth Directorate of Emergency Services (DES) is staffed with more than 160 professionally qualified civilian personnel. It provides public safety, emergency, and law enforcement services to the entire Fort Monmouth community. DES provides 24-hour fire and emergency medical services, police emergency response, prevention and inspection programs, and physical security. The DES Law Enforcement Division provides police patrols, criminal investigation, traffic control, and general security (USAG Fort Monmouth 2008). Off-post law enforcement is provided by the county sheriff and local and state law enforcement. The Monmouth County Sheriff's Office has 735 officers and employees and provides law enforcement, corrections, and communications (911 dispatch) services for Monmouth County (Monmouth County Sheriff's Office 2007).

The Fort Monmouth Fire and Emergency Services Division (FESD) has two fire stations—one on the Main Post and one in the Charles Wood Area—and a fire training academy in the Charles Wood Area. Fort Monmouth FESD has a staff of about 40 and provides fire prevention and suppression services, as well as hazardous materials response, emergency medical services, rescue operation services, and fire prevention and safety education programs. The FESD participates in the Mutual Aid system of Monmouth County (USAG Fort Monmouth 2008).

The Patterson Army Health Clinic on the Main Post serves the Fort Monmouth active duty soldiers, retirees, and their dependents. It is an outpatient clinic that provides preventive health care services 5 days a week and 3 evenings a week, serving about 120 patients per working day (PAHC 2007). Patterson Army Health Clinic's Veterans Affairs clinic offers primary care, mental health, nutritional, and social work services to veterans. The Veterans Affairs clinic is expected to handle about 10,000 visits a year.

Four hospitals in the ROI provide emergency facilities, urgent medical care, inpatient care, psychiatric services, rehabilitative services, and surgical facilities (Monmouth County 2007).

4.10.1.2.3 Schools

The U.S. Department of Education provides federal impact aid to school districts that have federal lands within their jurisdiction. This federal impact aid is authorized under Public Law 103-382 as payment in lieu of taxes that would have been paid if the federal government did not hold the land. School districts receive federal funding for each student whose parent or parents live or work on federal property. The amount of federal school aid a school district receives depends on the number of *federal* students the district supports in relation to the district's total student population. Total funding varies from year to year according to congressional appropriations for the program, but in general funding has ranged from $200 to $2,000 per pupil.

There are no primary or secondary schools on Fort Monmouth. The ROI has 60 school districts with a total enrollment of more than 109,000 students in 187 schools (NCES 2007). Children of military personnel residing on-post can attend the local public schools of the Eatontown School District for elementary and middle school and the Monmouth Regional High School District for high school (USAG Fort Monmouth 2008).

In addition to the public schools, there are a number of private and parochial schools in the area. Nearby colleges include Monmouth University and Brookdale Community College.

4.10.1.2.4 Support Services, Shops, and Recreation

Fort Monmouth has a number of programs and services in place to assist employees and their families, such as the Army Substance Abuse Program, Army Family Team Building, financial guidance and assistance, and employment assistance for military family members. Fort Monmouth also has a Child Development Center, a Family Child Care Program, a Youth Services Program, and a School Age Services Program that provides before- and after-school child care for children in grades 1 through 12.

Fort Monmouth has a shopping center, a commissary, and a post exchange. Service facilities include a barber shop, a beauty salon, a service station, a laundry/dry cleaner, an optical shop, a military clothing shop, a thrift shop, a gift store, and a travel agency. Fort Monmouth also has a restaurant, a cafeteria, and a Burger King. In addition to the on-post shops and services, Fort Monmouth is in a major metropolitan area that provides ample opportunity for shopping and dining, including a downtown shopping area, three shopping malls, and plazas with national chain retail stores.

Fort Monmouth offers a number of recreational facilities, including a community center, a movie theater, a field house, an 18-hole golf course, a marina, a bowling alley, a youth center, a physical fitness center, swimming pools, playgrounds, ball fields, picnic and fishing areas, an automotive craft shop, and an arts and crafts center. Many additional recreational opportunities are available in the Fort Monmouth ROI. Monmouth County has numerous parks with sport facilities; historic sites; picnic areas; and opportunities for camping, fishing, hunting, boating, and hiking. In addition, area residents have access to New Jersey's oceanside resorts and to attractions in New York City and Philadelphia.

4.10.1.3 Environmental Justice

On February 11, 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. The EO is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. Environmental justice analyses are performed to identify the disproportionate placement of high and adverse environmental or health impacts from proposed federal actions on minority or low-income populations, and to identify alternatives that could mitigate these impacts.

Minority populations are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, persons of two or more races, and persons of Hispanic origin. Minority populations should be identified where either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (CEQ 1997). As of 2005, 86 percent of the ROI population was white and 14 percent was of a minority population (8 percent black, 0.2 percent American Indian or Alaska Native, 5 percent Asian, and 1 percent of two or more races). Almost 7 percent of the ROI population was of Hispanic or Latino origin. (Note that persons of Hispanic origin can be of any race and therefore are already included in applicable race categories.) The ROI had a lower percentage of minority populations compared to New

Jersey and the United States, which had 23 percent and 20 percent minority populations, respectively (U.S. Census Bureau 2007).

Poverty thresholds established by the Census Bureau are used to identify low-income populations (CEQ 1997). Poverty status is reported as the number of persons or families with income below a defined threshold level. The Census defines the poverty level as $10,294 of annual income, or less, for an individual and $20,614 of annual income, or less, for a family of four (U.S. Census Bureau, Housing and Households Economic Statistics Division 2008). As of 2006, about 6 percent of ROI residents were classified as living in poverty, lower than New Jersey's 9 percent poverty rate and the national poverty rate of about 13 percent (U.S. Census Bureau 2006c).

4.10.1.4 Protection of Children

EO 13045, *Protection of Children from Environmental Health and Safety Risks*, requires federal agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that might disproportionately affect children.

Historically, children have been present at Fort Monmouth as residents and visitors (e.g., living in family housing, using recreational facilities). The Army has taken precautions for their safety by a number of means, including using fencing, limiting access to certain areas, and providing adult supervision.

4.10.2 Environmental Consequences

4.10.2.1 Accelerated Disposal

Short-term minor adverse effects on economic activity would be expected under accelerated disposal. Upon closure and transfer or disposal of the property, the local economy would be adversely affected by the loss of jobs provided by Fort Monmouth and by the property being mostly idle (economically) until the new property owners could begin activities related to reuse. No effects on the sociological environment, including environmental justice and the protection of children, would be expected.

4.10.2.2 Traditional Disposal

Short- and long-term minor adverse effects on economic activity would be expected under traditional disposal. The socioeconomic effects under this alternative would be similar to those under the accelerated disposal alternative, but the retention of some of the property by the U.S. government would slow the transition of that property to economic activity. Those parcels, therefore, would remain economically idle for longer than they would under accelerated disposal. No effects on the sociological environment, including environmental justice and the protection of children, would be expected.

4.10.2.3 Caretaker status

Long-term minor adverse effects on economic activity would be expected under the caretaker status alternative. Similar to the accelerated and traditional disposal alternatives, the Army would cease operations at Fort Monmouth, but the property would remain in caretaker status for an indefinite period of time (assumed to be 1 year or more). Minimal spending for a caretaker labor force, equipment, and supplies would occur to prevent the property from physical deterioration.

The amount of spending and procurement as a result of the caretaker labor force would be a function of demand for maintenance supplies, number of people employed, and salary levels, which would be well below baseline levels. No effects on environmental justice would be expected; however, the empty facilities could present an attractive nuisance to children and a potential safety hazard and therefore an adverse effect on the protection of children.

4.10.2.4 No Action Alternative

No effects on the economic or sociological environment would be expected under the No Action Alternative. The Army would continue operations at Fort Monmouth at levels similar to those occurring before the BRAC Commission's recommendation for closure.

4.10.2.5 Reuse Scenarios

4.10.2.5.1 Medium-Intensity Reuse

Economic Environment

The economic effects of implementing the proposed action are estimated using the Economic Impact Forecast System (EIFS) model, a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action. Changes in spending and employment caused by the redevelopment and reuse of the site represent the direct effects of the action. Using the input data and calculated multipliers, the model estimates ROI changes in sales volume, income, employment, and population, accounting for the direct and indirect effects of the action.

For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine that range, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and population patterns. The historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated effect of an action falls above the positive RTV or below the negative RTV, the effect is considered significant. Appendix F discusses the EIFS methodology in more detail and presents the model inputs and outputs developed for this analysis.

Table 4-17 lists the EIFS model input parameters for the three reuse scenarios. EIFS model output data for the reuse scenarios are shown in Tables 4-18 through 4-20 and in Appendix F.

Long-term minor beneficial effects would be expected under the MIR scenario. About 5,400 employees would work on the reused site under MIR, the same as baseline employment at Fort Monmouth (Table 4-17). Operations, expenditures, and income associated with reuse activities would be expected to be about the same as under baseline conditions. Reuse would include commercial office and high-tech R&D, service and retail businesses, a hotel and conference center, professional healthcare offices and services, fabrication shops, and municipal offices (FMERPA 2008a).

Table 4-17
EIFS model input parameters for reuse scenarios

Reuse intensity	Employee population[a]	Change in employee population[b]	Average expenditure per employee[c]	Change in total expenditure[d]
LIR	1,000	-4,400	$54,737	-$240,842,800
MLIR	3,000	-2,400	$54,737	-$131,368,800
MIR	5,400	0	$54,737	0

[a] For derivation of employee populations for reuse scenarios, see Table 3-2.
[b] Projected reuse employee population minus Fort Monmouth baseline employee population. Fort Monmouth baseline employee population is 5,400 (Fort Monmouth PAO 2008).
[c] Average expenditure per employee from Bureau of Economic Analysis (BEA 2008).
[d] Average expenditure per employee multiplied by change in employee population.

Beneficial effects would be expected from new construction under MIR. It is estimated that about $953 million would be spent on new construction over a period of about 20 years (FMERPA 2008a). Construction expenditures associated with reuse and redevelopment would boost regional business sales, employment, and income during the construction period. All changes to economic indicators would fall within historical fluctuations and be considered minor (Table 4-18 and Appendix F, page F-4).

Table 4-18
EIFS model output—MIR

Indicator	Projected change	Percentage change	RTV range
Direct sales volume	$33,878,320		
Induced sales volume	$83,340,670		
Total sales volume	$117,219,000	0.43%	-6.41% to 13.60%
Direct income	$6,205,912		
Induced income	$15,266,550		
Total income	$21,472,460	0.11%	-4.33% to 12.05%
Direct employment	141		
Induced employment	347		
Total employment	488	0.16%	-3.17% to 4.32%
Local population	0		
Local off-post population	0	0.00%	-0.59% to 1.68%

Sociological Environment

Housing. Long-term minor beneficial effects would be expected under MIR. The reuse plan (FMERPA 2008d) analyzes market conditions and future workforce housing needs. On the basis of the analysis, the plan identifies the need for existing Fort Monmouth housing units to be absorbed into the market housing stock and includes plans for new residential housing to be constructed and phased into the market (FMERPA 2008a). The reuse plan also identifies affordable housing needs as an objective and planning principle and incorporates the New Jersey Council on Affordable Housing requirements for Eatontown, Oceanport, and Tinton Falls boroughs (FMERPA 2008c).

Law enforcement, fire protection, medical services, schools, support services, shops, and recreation. Long-term minor beneficial effects would be expected under MIR. Reuse and redevelopment would add a variety of shops, services, and recreation facilities to the ROI. The reuse and redevelopment plan includes plans for a potential community health care center, school, and homeless shelter, as well as reuse of Fort Monmouth recreation and service facilities such as the marina and boathouse, library, museum, theater, bowling alley, fitness center, childcare and youth center, bank, post office, chapel, and police and fire training center. Small community parks would be interspersed throughout the development; a larger community park with a field house and ball fields is proposed; and a multipurpose trail would wind around the perimeter of the reuse area (FMERPA 2008a).

Environmental Justice

No effects would be expected under MIR. Implementing the proposed action would not result in disproportionate adverse environmental or health effects on low-income or minority populations. Reuse of Fort Monmouth facilities and construction of new housing, retail, commercial, or other service facilities would not adversely affect such populations and could benefit persons by providing jobs.

Protection of Children

No effects would be expected under MIR. The proposed reuse action would not involve activities that would pose disproportionate adverse environmental or health or safety risks to children. The community's intention is a mixed-use redevelopment of the property for commercial, retail, residential, and recreational purposes.

4.10.2.5.2 Medium-Low-Intensity Reuse

Economic Environment

Short- and long-term minor adverse effects would be expected under the MLIR scenario. Approximately 3,000 persons would work on the reused site under this scenario, which would be 2,400 fewer employees than Fort Monmouth's baseline employment of 5,400 (Table 4-17). Total employment would decrease by about 5,000 jobs; therefore, reuse activities would not generate secondary jobs or additional income in the region. ROI income would be decreased by a total of about $217 million, and total sales volume would decrease by more than $646 million (Table 4-19 and Appendix F). No new construction activities would be expected. These decreases would fall within historical fluctuations (within the RTV range).

Sociological Environment

Housing. Short-term minor adverse effects would be expected under MLIR. Reuse of Fort Monmouth facilities similar to that of the MIR scenario would occur, but on a smaller scale. The net loss of jobs in the ROI under the MLIR scenario could affect housing demand. In the short term, there would be a decrease in demand for housing. In time, the housing market would adjust, and there would be no long-term effects.

Table 4-19
EIFS model output—MLIR

Indicator	Projected change	Percentage change	RTV range
Direct sales volume	-$186,986,500		
Induced sales volume	-$459,986,900		
Total sales volume	-$646,973,400	-2.37%	-6.41% to 13.60%
Direct income	-$133,509,400		
Induced income	-$84,261,500		
Total income	-$217,770,900	-1.08%	-4.33% to 12.05%
Direct employment	-3,179		
Induced employment	-1,916		
Total employment	-5,095	-1.72%	-3.17% to 4.32%
Local population	0		
Local off-post population	0	0.00%	-0.59% to 1.68%

Law enforcement, fire protection, medical services, schools, support services, shops, and recreation. Short-term minor adverse effects would be expected under MLIR. Reuse of the Fort Monmouth site similar to that of the MIR scenario would occur, but on a smaller scale. Adverse effects would be expected because of the loss of jobs in the ROI. The demand for public support services, such as career counseling and unemployment assistance, could increase.

Environmental Justice

No effects would be expected under MLIR. Implementing the proposed reuse scenario would not result in disproportionate adverse environmental or health effects on low-income or minority populations.

Protection of Children

No effects would be expected under MLIR. The proposed reuse action would not involve activities that would pose disproportionate adverse environmental or health or safety risks to children.

4.10.2.5.3 Low-Intensity Reuse

Economic Environment

Short- and long-term minor adverse effects would be expected under the LIR scenario. About 1,000 employees would work on the reused site under this scenario, 4,400 fewer jobs than the Fort Monmouth baseline employment of 5,400 (Table 4-17). Total employment would decrease by about 9,300 jobs; therefore, reuse activities would not generate secondary jobs or additional income in the region. ROI income would decrease by a total of about $399 million, and total sales volume would decrease by $1,186 million (Table 4-20 and Appendix F). No new construction activities would be expected. These decreases in sales volume, employment, and income would fall within historical fluctuations (within the RTV range).

Table 4-20
EIFS model output—LIR

Indicator	Projected change	Percentage change	RTV range
Direct sales volume	-$342,808,700		
Induced sales volume	-$843,309,400		
Total sales volume	-$1,186,118,000	-4.34%	-6.41% to 13.60%
Direct income	-$244,767,200		
Induced income	-$154,479,400		
Total income	-$399,246,700	-1.99%	-4.33% to 12.05%
Direct employment	-5,828		
Induced employment	-3,513		
Total employment	-9,342	-3.14%	-3.17% to 4.32%
Local population	0		
Local off-post population	0	0.00%	-0.59% to 1.68%

Sociological Environment

Housing. Short-term minor adverse effects would be expected under LIR. Reuse of Fort Monmouth facilities similar to that of the MIR scenario would occur, but on a smaller scale. The net loss of jobs in the ROI under the LIR scenario could affect housing demand. In the short term, there would be a decrease in demand for housing. In time, the housing market would adjust and there would be no long-term effects.

Law enforcement, fire protection, medical services, schools, support services, shops, and recreation. Short-term minor adverse effects would be expected under LIR. Reuse of the Fort Monmouth site similar to that of the MIR scenario would occur, but on a smaller scale. Adverse effects would be expected because of the loss of jobs in the ROI. The demand for public support services, such as career counseling and unemployment assistance, could increase.

Environmental Justice

No effects would be expected under LIR. Implementing the proposed reuse scenario would not result in disproportionate adverse environmental or health effects on low-income or minority populations.

Protection of Children

No effects would be expected under LIR. The proposed reuse action would not involve activities that would pose disproportionate adverse environmental or health or safety risks to children.

4.11 TRANSPORTATION

4.11.1 Affected Environment

4.11.1.1 On-Post Roadways and Transportation

The internal roadway network serving the Main Post includes the Avenue of Memories, Saltzman Avenue, Sherrill Avenue, Wilson Avenue, Alexander Avenue, and Murphy Drive. These roadways serve as the primary network for traffic circulation and access to base activities. The Avenue of Memories and Saltzman Avenue tie together to form the principal continuous east-west roadway through the Main Post. Access to the Charles Wood Area is provided via the Tinton Avenue intersections with Pearl Harbor Drive and Lowther Drive. Corregidor Road is the main east-west roadway for the Charles Wood Area.

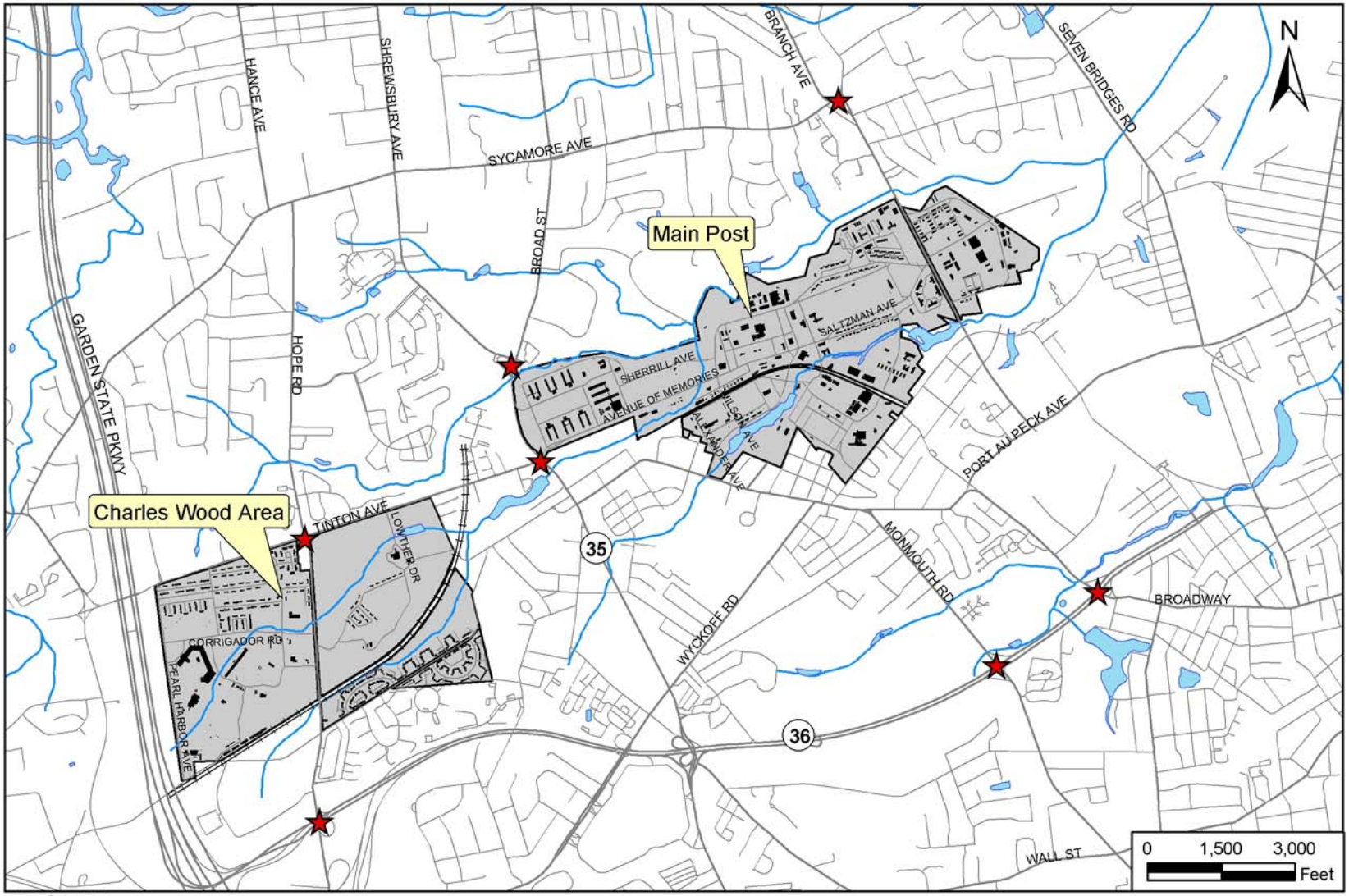
There are two heliports on Fort Monmouth—one on the Main Post and the other in the Charles Wood Area. The heliport on the Main Post is at the intersection of Greely Avenue and Sherrill Avenue, just south of the Russel/Allen/Carty housing area. The heliport in the Charles Wood Area is on Heliport Drive, west of Guam Lane and approximately one-quarter mile from the Hemphill housing area and the North Pine Brook housing area.

4.11.1.2 Existing Traffic Conditions

This section outlines current (2008) traffic conditions on the roadways and intersections surrounding Fort Monmouth. Traffic volumes and Levels of Service (LOS) for seven major intersections adjacent to Fort Monmouth are assessed. These roadways and intersections are within the ROI, adjacent to Fort Monmouth, and they were selected on the basis of their potential to be affected by the closure and ultimate reuse of the installation (Figure 4-6).

LOS is a qualitative measure of the operating conditions of an intersection or other transportation facility. There are six LOS (A through F) defined: LOS A represents the best operating conditions with no congestion, and LOS F is the worst with heavy congestion. Roadways and intersections with LOS E or F have traffic conditions at or above capacity. Traffic patterns are congested, unstable, and normally unacceptable to drivers attempting to access and use roadways and intersections with LOS E or F (TRB 2000) (Table 4-21).

Traffic conditions and LOS were determined during peak morning and evening hours and are outlined in Table 4-22. All but three of the signalized intersections operate with an acceptable LOS under the existing conditions. The signalized intersections operating with an LOS E or F are Route 35 at Tinton Avenue, Route 36 at Monmouth Road, and Route 36 at Hope Road.



LEGEND

- Installation Boundary
- Building
- Surface Water
- Road
- Major Intersection

Fort Monmouth Transportation Network

Figure 4-6

Source: Fort Monmouth GIS, 2003.

Table 4-21
Description of traffic LOS

LOS	Description
A	*(Free flow conditions)* Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream with a high level of physical and psychological comfort. The effects of minor accidents or breakdowns are easily absorbed at this level.
B	*(Reasonably free flow conditions)* The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and breakdowns are still easily absorbed.
C	*(Stable operations)* Traffic flows are approaching the range in which small increases in traffic would cause substantial deterioration in service. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require additional care and vigilance. Minor accidents can still be absorbed, but the local deterioration in service would be substantial, with delay forming behind any blockage. The driver now experiences a noticeable tension from the additional vigilance required for safe operation.
D	*(High density, but stable flow. Bordering unstable flow)* Small increases in traffic could cause substantial deterioration in service. Freedom to maneuver within the traffic stream is severely limited, and the driver experiences drastically reduced physical and psychological comfort levels. Even minor accidents can be expected to create substantial delays because the traffic stream has little space to absorb disruptions.
E	*(Very unstable operations)* Virtually no usable gaps exist in the traffic stream. This means that any disruption, such as a vehicle entering from a ramp or changing lanes, causes following vehicles to slow or stop to admit the vehicle, disrupting the flow. Any incident can be expected to produce substantial delay. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort is extremely poor.
F	*(Forced or breakdown flow)* Such conditions generally exist for a number of reasons, such as traffic accidents, recurring points of congestion, or peak-hour conditions that exceed the current design of the facility. LOS F is used to identify that point at which the facility has reached maximum capacity and a complete breakdown of service occurs.

Table 4-22
Existing LOS at major intersections near Fort Monmouth

	LOS	
	a.m. peak period	**p.m. peak period**
Route 35 at Shrewsbury Avenue	C	C
Route 35 at Tinton Avenue	F	F
Route 36 at Monmouth Road	E	F
Route 36 at Broadway	D	D
Branch Avenue at Sycamore Avenue	C	C
Route 36 at Hope Road	F	F
Tinton Avenue at Hope Road	D	D

Source: FMERPA 2008b.

4.11.1.3 Public Transportation

Local fixed-route bus service is available to and from Fort Monmouth at the main gate, whereby connections can be made to other bus and rail transit options, as well as nearby hubs of activity such as Red Bank, Long Branch, Asbury Park, and Freehold Township/Borough. Regionally, there are various fixed-route bus and rail transit options that travelers can use to reach Fort Monmouth. These options increase the vitality of this site, which is positioned near New York City and northern/central New Jersey and is centrally located between Boston and Washington,

D.C. This ideal location puts Fort Monmouth within close proximity to an extensive network of road, rail, air, and water transportation options that connect to major domestic and foreign markets. Newark and Newark Liberty International Airport are within a 30- to 45-minute transit trip to Fort Monmouth. Transit service to Jersey City and Midtown/Lower Manhattan takes less than 90 minutes; transit service south and west of Fort Monmouth takes less than 2 hours to Trenton, Camden, and Philadelphia (FMERPA 2008b).

4.11.1.4 Air Transportation

Three major regional passenger airports are within relatively close proximity to Fort Monmouth. Newark Liberty International Airport is in nearby Essex and Union counties between the New Jersey Turnpike (accessible from Exits 13A and 14), U.S. Routes 1 and 9, and I-78. From Fort Monmouth, Newark Liberty can be reached by vehicle in less than 30 minutes or by North Jersey Coast Line (NJCL) passenger rail service in less than an hour. The NJCL Newark Airport rail station connects airport passengers to an airport monorail that serves the airport terminals and long-term parking lots. The short travel distance and time required to reach Newark Liberty makes this airport the preferred choice of airport passengers traveling to and from the Fort Monmouth area. New York City's John F. Kennedy International Airport and La Guardia Airport both are about 20 miles farther from Fort Monmouth than the Newark Liberty Airport. All three airports serve all major domestic and international destinations.

4.11.2 Environmental Consequences

4.11.2.1 Accelerated Disposal Alternative

Short-term minor beneficial effects on transportation and traffic would be expected from the accelerated disposal alternative. The short-term effects would be primarily from a short-term decrease in traffic on area roads with closure of the installation. An overview of these effects is presented below. An evaluation of the long-term effects based on the ultimate reuse of the installation is presented in Section 4.11.2.5.

Most activity on the installation would end upon closure. In the analysis, vehicle trips associated with these uses were eliminated from (*credited to*) the traffic network, and equates to a decrease in traffic volume and a subsequent improvement in the LOS at intersections within and adjacent to the installation.

4.11.2.2 Traditional Disposal Alternative

The effects of the traditional disposal alternative on the transportation network would be similar to those discussed above in Section 4.11.2.1.

4.11.2.3 Caretaker Status Alternative

Long-term minor beneficial effects on transportation and traffic would be expected with the caretaker status alternative. The effects would result from the same reasons as those described under the two disposal alternatives, but they would be long-term benefits under caretaker status because the property would remain idle for 1 year or longer.

4.11.2.4 No Action Alternative

No effects on transportation resources would be expected under the No Action Alternative. Existing, short-term, and long-term traffic conditions would remain as described in Section 4.11.1.

4.11.2.5 Reuse Scenarios

4.11.2.5.1 Medium-Intensity Reuse

Short-term minor adverse and long-term minor beneficial effects on transportation and traffic would be expected under the MIR scenario from opening the post, construction traffic, natural increases in background traffic, the additional traffic from the reuse, and transportation system infrastructure upgrades. A detailed analysis of the traffic conditions under the MLIR is in the final reuse plan (FMERPA 2008b, 2008d) and is outlined in Section 4.11.2.5.2. This analysis, and that of the existing conditions, is the benchmark to which the MIR scenario is compared.

Construction Traffic. Traffic at Fort Monmouth would include demolition and construction vehicles during the reuse and redevelopment of the area. These effects would be temporary and would end with the construction phase. The condition of the local on-post and off-post road infrastructure would be adequate to support any increase in construction vehicle traffic. In addition, road closures or detours to accommodate utility system work would be expected, creating short-term traffic delays.

Operational Traffic. The future traffic conditions under the MIR scenario as analyzed in FMERPA's final reuse and redevelopment plan include expected background traffic volume increases in the area, roadway operational system changes, and real estate developments (other than reuse of Fort Monmouth). Under the MIR scenario, vehicle trips associated with Fort Monmouth's closure and that would not be made would be *credited to* the traffic network. MIR would also likely include several infrastructure upgrades to improve the existing roadway network to support the anticipated traffic. The upgrades being considered include (1) adding a New Jersey Transit rail station at the west end of the Charles Wood Area; (2) relocating the Little Silver rail station south to Oceanport; (3) creating a new Interchange 107 in the area where the parkway bridges over Tinton Avenue; (4) reconfiguring the Route 36/Hope Road intersection, and (5) several other minor intersection upgrades. These efforts have been described in detail in the final reuse plan (FMERPA 2008b, 2008d). Although the new rail station is being considered, whether it would ultimately be built is unknown. Therefore, only the other upgrades were carried forward in this analysis.

The LOS for adjacent intersections would be somewhat worse than those outlined in Table 4-22 (mostly because of natural increases in background traffic and the additional traffic from the reuse), but they would not be expected to deteriorate to unacceptable levels. Although these conditions might ultimately vary, they are representative of this level of reuse and have been used to gauge the level of impact under NEPA.

Because the level of use under MIR is similar to existing conditions, it is expected that traffic in general would be similar to the existing conditions. Some individual approaches and movements, however, would be somewhat worse than those outlined in Table 4-22. This change would occur in locations where the decline in Army-related trips plus the infrastructure improvement credits would not outweigh the traffic from the reuse plus the background growth. In terms of overall

intersection operations, no locations would worsen into congested conditions and would not be expected to deteriorate to unacceptable levels. Therefore, these effects can be considered minor.

Air Transportation, Rail Access, and Public Transit. The MIR scenario would be expected to have minor adverse effects on rail access, air traffic, and public transit at Fort Monmouth. A small increase in the number of people using these transportation modes would be expected. As described above, the overall traffic conditions would improve with the infrastructure upgrades identified in the reuse plan. Therefore, additional efforts to increase the use of these modes of transportation, although beneficial, would not be critical to the ultimate reuse of the installation under this alternative. FMERPA's reuse plan does not mention continuing use of the heliports at the Charles Wood Area or the Main Post, and presumably they would be removed from use.

4.11.2.5.2 Medium-Low-Intensity Reuse

Short-term minor adverse and long-term minor beneficial effects on transportation and traffic would be expected under the MLIR scenario. As under the MIR scenario, the effects would be from opening the post, construction traffic, natural increases in background traffic, the additional traffic from the reuse, and transportation system infrastructure upgrades. A detailed analysis of traffic conditions under the MLIR is in the final reuse plan (FMERPA 2008b, 2008d).

Construction Traffic. Traffic from demolition and construction would be similar in nature, though somewhat less intense, to that outlined in the MIR scenario. These effects would be temporary and would end with the construction phase. In general, the effects on existing infrastructure and timing would be similar to those outlined under MIR.

Operational Traffic. The future traffic conditions under MLIR include expected background traffic volume increases in the area, major roadway operational system changes, major real estate developments nearby, and the reuse of Fort Monmouth.

In addition, the reuse would likely include several infrastructure upgrades to improve the existing roadway network to support the anticipated traffic, as described above in Section 4.11.2.5.1. The LOS for adjacent intersections have been approximated under these conditions and are outlined in Table 4-23. Although these conditions might ultimately vary, they are representative of this level of reuse and have been used to gauge the level of impact under NEPA.

Table 4-23
LOS at major intersections near Fort Monmouth under MLIR

	LOS			
	Existing		MLIR	
	a.m. peak period	p.m. peak period	a.m. peak period	p.m. peak period
Route 35 at Shrewsbury Avenue	C	C	C	D
Route 35 at Tinton Avenue	F	F	D	D
Route 36 at Monmouth Road	E	F	C	D
Route 36 at Broadway	D	D	D	C
Branch Avenue at Sycamore Avenue	C	C	C	D
Route 36 at Hope Road	F	F	A	B
Tinton Avenue at Hope Road	D	D	D	D

Sources: FMERPA 2008b, 2008d.

Traffic movements would be expected to experience improved LOS when compared to the existing conditions, although some individual approaches and movements would experience a decline in LOS. This change would occur in locations where the decline in Army-related trips plus the infrastructure improvement credits would not outweigh the traffic from the reuse plus the background growth. In terms of overall intersection operations, no locations would worsen into congested conditions. These beneficial effects can be considered minor.

Air Transportation, Rail Access, and Public Transit. Minor adverse effects on rail access, air traffic, and public transit at Fort Monmouth would be expected under the MLIR scenario for the reasons discussed above under MIR.

4.11.2.5.3 Low-Intensity Reuse

Short- and long-term minor adverse effects on transportation and traffic would be expected under the LIR scenario from opening the post, construction traffic, natural increases in background traffic, and the additional traffic from the reuse. Notably, the traffic analysis done for FMERPA assumed that no infrastructure upgrades would be made if the property was reused at an LIR level, and this difference accounts for the long-term adverse effects under the LIR scenario. Under LIR, eventually the background traffic (that is, traffic increases from normal growth in the area, not from the reuse of Fort Monmouth itself) would grow to exceed the baseline conditions. Without infrastructure upgrades, the LOS would deteriorate despite the limited reuse under this scenario.

Construction Traffic. Traffic from demolition and construction would be similar in nature to, though somewhat less intense than, that outlined under the MLIR scenario. These effects would be temporary and would end with the construction phase. In general, the effects on existing infrastructure and timing would be similar to those outlined under the MLIR scenario.

Operational Traffic. The future traffic conditions under the LIR scenario include expected background traffic volume increases in the area, major roadway operational system changes, and major real estate developments (in this case, other than reuse of Fort Monmouth). However, all active uses on the installation today would be assumed to cease, and vehicle trips associated with these uses would be *credited to* the traffic network. Notably, this analysis assumes that no infrastructure upgrades would be made. The LOS for the adjacent intersections have been approximated under such conditions and are outlined in Table 4-24. Although these conditions might ultimately vary, they are representative of this level of reuse and have been used to gauge the level of impact under NEPA. These effects can be considered minor.

Table 4-24
LOS at major intersections near Fort Monmouth under LIR

	LOS			
	Existing		LIR	
	a.m. peak period	p.m. peak period	a.m. peak period	p.m. peak period
Route 35 at Shrewsbury Avenue	C	C	C	C
Route 35 at Tinton Avenue	F	F	D	D
Route 36 at Monmouth Road	E	F	C	D
Route 36 at Broadway	D	D	D	C
Branch Avenue at Sycamore Avenue	C	C	C	E
Route 36 at Hope Road	F	F	F	F
Tinton Avenue at Hope Road	D	D	E	D

Sources: FMERPA 2008b, 2008d.

For the most part, traffic movements would be expected to experience a worsening in LOS as compared to the existing conditions. However, some individual approaches and movements would have an improved LOS. These improvements would occur in locations where the Fort Monmouth-related trip credit outweighs the background growth rate. In terms of overall intersection operations, two locations would worsen into congested conditions. These locations are Tinton Avenue/Hope Road during both the morning and evening peak hours and Sycamore Avenue/Branch Avenue in the evening peak period. In each case, the LOS would worsen to E or F from an existing LOS C or D. These adverse effects can be considered minor.

Air Transportation, Rail Access, and Public Transit. The LIR scenario would be expected to have minor beneficial effects on rail access, air traffic, and public transit at Fort Monmouth. A small decrease in the number of people using these transportation modes would be expected, and efforts to increase the use of public transportation would not likely be necessary.

4.12 UTILITIES

4.12.1 Affected Environment

Fort Monmouth utilities include potable water supply and distribution; sanitary sewer collection; storm sewer collection, detention, and disposal; electricity; geothermal energy; natural and propane gas; a limited number of fuel oil-powered boilers; communications; and solid waste collection and disposal. The natural gas system was privatized in 1992. The following is a discussion of the location, availability, capabilities, and limitations of the utility infrastructure.

FMERPA contacted utility providers to inquire about the suitability and capacity of infrastructure systems to accommodate the planned reuse of Fort Monmouth. A summary of the system assessments provided by the utility providers is provided in the appropriate sections below (FMERPA 2008c).

4.12.1.1 Potable Water Supply

Fort Monmouth purchases potable water from the New Jersey American Water Company and distributes it throughout the Main Post and Charles Wood Area (U.S. Army 2007). The average annual potable water consumption was reported as approximately 233 million gallons, though the age and condition of the system could limit its actual capacity (FMERPA 2008c).

Potable water is distributed by underground pipes ranging from 2 to 12 inches in diameter. The total length of the distribution lines is estimated to be approximately 33.9 miles. The potable water main consists of cast iron, asbestos, cement, ductile iron, and polyvinyl chloride pipes. Approximately 251 fire hydrants and 253 valves of different sizes are throughout the Main Post and the Charles Wood Area (University of Pennsylvania 2006).

The potable water supply system asset inventory also includes two elevated storage tanks, each with a 250,000-gallon capacity, and one storage tank at ground level with a capacity of 500,000 gallons. However, the two 250,000-gallon storage tanks—one on the Main Post and other in the Charles Wood Area—do not provide potable water to the Post; they are used for firefighting or emergency purposes. The 500,000-gallon storage tank is not in use (U.S. Army 2007).

The potable water system at Fort Monmouth has had a variety of problems during its existence. Dead ends in the pipe network have caused silt to accumulate in the pipes, particularly in the case

of asbestos cement pipes. There have been some instances of lead in the drinking water, primarily in the 1990s. These issues have been rectified, and FMERPA presumes the system to be in fairly reliable condition (FMERPA 2008c). The system could continue to be used, and it might be able to handle increases in service demands.

According to a utility assessment conducted by FMERPA, it might be preferable for a developer or New Jersey American Water Company to install a new water distribution system rather than replacing or repairing the existing one. New Jersey American Water Company indicated that most of the Fort Monmouth water system piping has reached its useful life, and the proposed development would require installation of new water mains. New Jersey American Water Company has several large-diameter water mains adjacent to the installation property that might be able to adequately service the property, but the company cannot guarantee that the water required by any development would be available at the time of application/development (FMERPA 2008c).

4.12.1.2 Wastewater System

The sanitary waste collection system at Fort Monmouth consists of approximately 121,360 feet of gravity sewer lines and force mains. Of this total, the force main system consists of approximately 14,106 feet. Pipe sizes range from 4 to 20 inches. The gravity sewer pipes consist mostly of terra cotta-type clay pipes and some cast iron, asbestos cement, and concrete pipes. The force mains consist of cast iron and some steel pipes. In addition, the sewer system has 547 manholes and 19 lift stations. The existing sanitary sewer system was constructed between the 1930s and 1990s (University of Pennsylvania 2006). Previous studies also reported infiltration and inflow into the sanitary sewer system amounting to 20 to 30 percent of the total wastewater flow (FMERPA 2008c). The system is estimated to have a remaining useful life of about 50 years (C.H. Guernsey & Co. 1998, cited in FMERPA 2008c). FMERPA plans to conduct an evaluation of the sanitary sewer system, and it issued a request for proposals for a sanitary sewer system evaluation consultant in November 2008 and an addendum to the request in December 2008 (FMERPA 2008e).

Sanitary sewage from Fort Monmouth is treated at the Two Rivers Water Reclamation Authority (TRWRA) facility. The treatment plant, on Raccoon Island in Monmouth Beach, has a treatment capacity of 11 million gallons per day (mgd). It is planned to increase the treatment capacity to 13.83 mgd. In June 2007, however, TRWRA implemented a self-imposed sewer connection ban because the flow to the wastewater treatment plant exceeded the conveyance capacity treatable by the TRWRA. Fort Monmouth discharges 300 million to 350 million gallons of sanitary waste annually to the TRWRA facility (FMERPA 2008c). Approximately 60 percent of this volume is generated from the Main Post, and the remainder is from the Charles Wood Area.

In its assessment of the wastewater system, TRWRA indicated that a more detailed analysis of the existing system is necessary to ascertain the condition of the system, the severity of the infiltration/inflow problem, and the feasibility of system repair versus replacement. FMERPA has proposed to perform an in-depth assessment of the existing wastewater system piping to determine future needs. Nevertheless, the anticipated wastewater output associated with the projected development is approximately 1 mgd for the 10-year buildout and an additional 0.67 mgd for the 20-year buildout (total output of approximately 1.67 mgd). Adding infiltration/ inflow, the gross quantity of wastewater that would be treated is estimated to be 1.75 mgd. The treatment plant could adequately handle the additional wastewater flows projected by the reuse plans (FMERPA 2008c).

4.12.1.3 Storm Water System

The storm water system at Fort Monmouth is separate from the wastewater system and was constructed approximately 65 years ago. From the Main Post and Charles Wood Area, storm water flows through the system and discharges to various outfall locations, including Wampum Brook, Husky Brook, Husky Brook Lake, Lafetra Creek, Mill Brook, Parkers Creek, and Oceanport Creek.

Because of the age of the system, the pipes and catch basins are in the need of repair. In addition, some of the outfalls on the Main Post are below the elevation of the mean high tide, particularly along Oceanport Creek and Parkers Creek. Consequently, water backs up into the storm sewer system during high tides. The extreme southeast portion of the Main Post is also subject to flooding during high tides and heavy rains. The Charles Wood Area has also been identified as an area of possible flood hazard (FMERPA 2008c).

New Jersey is the National Pollutant Discharge Elimination System (NPDES) permitting authority for all regulated discharges in the state (USEPA 2008). Storm water permitting is handled by NJDEP's Municipal Stormwater Regulation Program. Individual permits and general permits are issued to entities that discharge stormwater. In April 2004, NJDEP issued four NJDPES municipal general stormwater permits. Each of these permits is going through the permit renewal process, which is scheduled to be finalized by March 1, 2009. Discharges from the two municipal separate storm sewer systems serving Fort Monmouth are covered by the Public Complex Stormwater General Permit (Master permit number NJ0141879). The specific Municipal Stormwater Regulation Program numbers are NJG0148555 for the Main Post and NJG0148571 for the Charles Wood Area.

4.12.1.4 Energy Sources

4.12.1.4.1 Electricity

Fort Monmouth purchases electric power from Jersey Central Power and Light (JCP&L). Fort Monmouth owns and operates the electric power transmission and distribution network and equipment within the post. Two metering stations, one at the south-central portion of the Main Post and the other at the Charles Wood Area, each with a delivery capacity of 34.5 kilovolts form the electric power asset for the post. Five electrical substations are operated and maintained by the post—three at the Main Post and two in the Charles Wood Area. The total capacity of the substations at the Main Post is approximately 28,000 kilovolt-amperes (kVA), and the total capacity of the substations in the Charles Wood Area is approximately 35,000 kVA (U.S. Army 2007).

The distribution network consists of five transmission lines and approximately 31.5 circuit miles of primary distribution lines providing power to all the buildings at Fort Monmouth. In addition, there are several uninterruptible power supply systems and emergency generators in various buildings throughout the post.

According to FMERPA, easements or conveyance of property would be required for JCP&L to assume responsibility for electric service. JCP&L reported that customer-owned facilities generally do not meet its standards, and JCP&L does not reuse them. It noted that available capacity and service would be affected by the timing of reuse development and that capacity is not reserved. Depending on the magnitude of new loads, substantial infrastructure improvements

might be required outside the reuse area and could require that existing transmission circuits be rebuilt, upgraded, or replaced (FMERPA 2008c).

4.12.1.4.2 Natural Gas

Natural gas service at Fort Monmouth was privatized in 1992. The New Jersey Natural Gas Company (NJNG) supplies natural gas and services the system. Natural gas is the main energy source for heating at Fort Monmouth. In addition, NJNG owns and operates the natural gas distribution system. The gas lines were upgraded when the heating system at the installation was converted from fuel oil to natural gas during late 1970s to mid-1980s (U.S. Army 2007). Gas mains are high pressure, operating in the range of 40 pounds per square inch (psi) to 60 psi. The network of gas mains consists of pipe sizes ranging from 1 inch (for service to buildings) to 12 inches (FMERPA 2008c). The existing gas system has adequate capacity and is in suitable condition to handle future development and to be expanded as necessary to accommodate future development (FMERPA 2008c).

NJNG, on the basis of its system model for the proposed development, believes that the existing system can support the 10-year (through 2018) additional load. However, by the end of the 20-year plan (in 2028), some weakness in the Eatontown, Belmar, and Spring Lake sections of its service area are projected (FMERPA 2008c).

4.12.1.4.3 Propane Gas

A propane gas heating system is used in the trailer park in the 400 Area of the Main Post (U.S. Army 2007). An independent contractor supplies propane from a distribution center in the 400 Area (FMERPA 2008c).

4.12.1.4.4 Boiler Plants

Three gas-fired boilers are in Building 1220 on the Main Post, and two gas-fired boilers are in Building 2700 in the Charles Wood Area. The boilers provide heat and hot water to the buildings (FMERPA 2008c). The system consists of a combination of gas-/oil-fired boilers and underground fuel oil storage tanks with storage capacities from 20,000 to 30,000 gallons.

4.12.1.4.5 Geothermal

Geothermal well fields are throughout the Main Post and Charles Wood Area. The wells are about 400 feet deep (FMERPA 2008c). Several buildings in both of these areas receive their heating and cooling through geothermal systems.

4.12.1.5 Communications

Fort Monmouth has an extensive underground fiber optic system throughout the Main Post and Charles Wood Area. The network consists of approximately 37,000 feet of underground cables and associated accessories. The network has adequate capacity for future growth (FMERPA 2008c).

Fort Monmouth operates and maintains communication lines at the installation, although Verizon Communications, Inc., provides the service. Comcast Corporation provides cable service in the area.

Verizon has not provided details on its ability to handle the demands of the redevelopment of Fort Monmouth, although it did state that all costs associated with any required upgrades to the existing systems and installing new infrastructure would be at the expense of the developer (FMERPA 2008c).

4.12.1.6 Solid Waste

Municipal solid waste is generated at Fort Monmouth from administrative offices, industrial shops, food service, facility engineering shops, and tenant activities. A private contractor collects municipal solid waste from Fort Monmouth and disposes of it at the Monmouth Reclamation Center in Tinton Falls.

The post has a paper recycling program in place to recycle white and colored paper, computer paper, bond paper, card stock, newspaper, and non-glossy paper.

Construction debris generated at the post is handled separately by the respective contractors responsible for generating the waste (U.S. Army 2007).

4.12.2 Environmental Consequences

The Army owns and operates all utility systems at Fort Monmouth, with the exception of natural gas. Upon disposal, property ownership is likely to be among different end users such as private homeowners, residential developers, commercial interests, and institutional entities. The natural gas system, owned and operated by NJNG, will continue to be operated without change of ownership. The remaining utility systems (potable water, wastewater, storm water, electricity, and communications), however, would likely transfer to ownership by regional centralized utility service providers—such as the New Jersey American Water Company (potable water); TRWRA (wastewater); the boroughs of Tinton Falls, Eatontown, and Oceanport (storm water); JCP&L (electricity); and Verizon (telephone). The ownership of on-site utility infrastructure (such as potable water piping inside privately owned structures) would be the property and responsibility of the new owners.

On the basis of the anticipated demand on individual utility systems, the current providers might need to augment the existing utility infrastructure to accommodate the needs of future property owners. It is anticipated that both on-site and off-site utility system improvements would be required, especially for those systems that have reached or are near the end of their useful design life.

4.12.2.1 Accelerated Disposal Alternative

Short-term minor beneficial and long-term minor adverse effects on utility systems would be expected from accelerated disposal. Closure of the installation would reduce demands on all utility systems in the short term (a beneficial effect), but the reduction in system use could have adverse effect on those systems, such as the potable water and sanitary sewer systems, which rely on a minimum flow for proper operation and maintenance. Existing easements and rights-of-way burdening Fort Monmouth property would continue to be in effect and would be binding on the new owner after transfer or conveyance.

4.12.2.2 Traditional Disposal Alternative

Effects on utilities with the traditional disposal alternative would be similar to those under accelerated disposal for the reasons explained in Section 4.12.2.1. Although the Army would continue to own some property under the traditional disposal alternative, it is reasonable to assume that the Army, in anticipation of transferring the parcels of land that it would retain until remediation activities had been completed and to facilitate the redevelopment process, would allow full transfer of all utility systems to occur in much the same manner as would occur under the accelerated disposal alternative and that the Army would become a client of the new utility system owners for the duration of the time that it still owned parcels of Fort Monmouth property. Existing easements and rights-of-way burdening Fort Monmouth property would continue to be in effect and would be binding on the new owner after transfer or conveyance.

4.12.2.3 Caretaker Status Alternative

Long-term minor adverse and beneficial effects on utilities would be expected under caretaker status. The long-term reduction in infrastructure demand from installation closure would be a beneficial effect. Prolonged caretaker status of the site, however, would result in the Army's reducing the level of maintenance on the property, and this could have adverse effects on the utility systems and associated infrastructure. If the population served by the storm water systems on either the Charles Wood Area or Main Post were to fall below 1,000, coverage under the Public Complex Stormwater General permit would no longer be required for that part of the installation, and the permit could be revoked (NJDEP 2009).

Reduced demand for utility services at the post could benefit the surrounding community. The current, self-imposed ban on new wastewater connections by the TRWRA could be relaxed to a certain degree because the demand for collecting and treating sanitary waste from Fort Monmouth would be nonexistent under caretaker status. The reduced generation of municipal solid waste could increase the lifespan of local area landfills.

4.12.2.4 No Action Alternative

No effects on utility systems would be expected from implementing the No Action Alternative. No changes in population or facilities would occur under the alternative, and there would therefore be no changes to system demands or infrastructures.

4.12.2.5 Reuse Scenarios

4.12.2.5.1 Medium-Intensity Reuse

Long-term minor adverse and beneficial effects on utilities would be expected under the MIR scenario. Developing the Fort Monmouth property at an MIR level would likely result in an employee plus residential population of approximately 9,900, consisting of an employee population of 5,400 and a residential population of 4,500. This total is lower than the current population of 11,933, consisting of an employee population of 5,400 and a residential population of 6,533. All utility systems would likely have sufficient capacity to handle the needs of the residential and employee population under this reuse scenario. However, under MIR, the new owners should evaluate the existing on-site infrastructure for distributing potable water and collecting and conveying wastewater and should implement upgrades to consistently provide reliable service for the utility systems.

As part of the reuse plan, in addition to constructing new buildings, the new owners would implement upgrades to utility systems in existing buildings and in associated utility infrastructure, including improvements to the storm sewer system. New and renovated buildings would use energy-efficient appliances and would have water-efficient plumbing fixtures—such as low-flow showerheads, faucets, and toilets and tankless water heaters—installed to reduce per capita water and energy consumption. New wastewater lines would reduce infiltration and inflow into the wastewater collection system and improve the overall long-term efficiency of the system.

As a result of the conservation measures and efficient management methods implemented, the renovation of existing buildings space would have a long-term beneficial effect on the utility systems.

Constructing new building space and the renovation and demolition of existing building space would create additional construction and demolition (C&D) debris. This would have a minor long-term adverse effect on landfills. The MIR scenario would be expected to generate about 102,293 tons of C&D debris. This would result in 5,115 tons of C&D debris per year during the 20-year development period, or 426 tons per month. A detailed breakdown of the C&D generated by renovation, construction, and demolition activities is presented in Table 4-25. This additional C&D debris would increase the fill rate of the existing local area landfills, thereby reducing the lifespan of the landfills.

Table 4-25
Estimates of C&D debris generated under the MIR reuse scenario

Construction type	Debris (lbs/SF)	Subtotal (SF)	Subtotal (lbs)	Subtotal (tons)
Renovation	20.0	3,015,500	60,310,000	30,155
Construction	4.4	2,057,000	9,050,800	4,525
Subtotal	N/A	5,072,500	69,360,800	34,680
Demolition	115.0	1,175,877	135,225,855	67,613
Gross Total	**N/A**	**6,248,377**	**204,586,655**	**102,293**

Note: The estimates in the table are based on the floor areas available for the following: (1) renovation of 2,000,000 SF of existing general space; (2) renovation of approximately 677 existing housing units, with an assumed floor area of 1,500 SF per unit; (3) construction of 500,000 SF of new office space; (4) construction of approximately 900 dwelling units, with an assumed floor area of 1,600 SF per unit; (5) construction of a 195-room hotel, with an assumed average floor area of 600 SF per room, including common areas of the hotel; (6) demolition of 1,175,877 SF of existing built space at Fort Monmouth.

4.12.2.5.2 Medium-Low-Intensity Reuse

Long-term minor adverse and beneficial effects would be expected under the MLIR scenario. The development of the Fort Monmouth property at an MLIR level would result in an employee plus residential population of approximately 6,500. This total is lower than the population under the MIR scenario discussed in the previous section. The beneficial effects would be similar to those of the MIR, and all utility systems would have additional redundant capacity, benefiting the users of the systems from the surrounding communities.

Long-term minor adverse effects would be expected from the additional C&D debris generated under the MLIR scenario. However, these adverse effects would not be as severe as the adverse effects under the MIR scenario.

4.12.2.5.3 Low-Intensity Reuse

Long-term minor adverse and beneficial effects would be expected under the LIR scenario. The development of the Fort Monmouth property at an LIR level would result in an employee plus residential population of approximately 3,000. This total is lower than the population under the MLIR scenario discussed in the previous earlier. The beneficial effects would be similar and all utility systems would have additional redundant capacity, benefiting the users of the systems from the surrounding communities.

Long-term minor adverse effects would be expected from the additional C&D debris generated under the LIR scenario. However, this adverse effect would be far less severe in comparison to the adverse effects under the MIR scenario and a little less severe than the adverse effects under the MLIR scenario.

4.13 HAZARDOUS AND TOXIC MATERIALS

4.13.1 Affected Environment

Specific environmental statutes and regulations govern hazardous material and hazardous waste management activities at Fort Monmouth. For the purpose of this analysis, the terms *hazardous waste, hazardous materials,* and *toxic substances* include those substances defined as hazardous by CERCLA, RCRA, or TSCA. In general, they include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, might present substantial danger to public health or welfare or to the environment when released into the environment.

To characterize the baseline conditions, preliminary investigations have been completed at Fort Monmouth's Main Post and in the Charles Wood Area to identify hazardous and toxic substances and ordnance and explosives. Unless otherwise indicated, the baseline conditions as presented in the *U.S. Army BRAC 2005 Final Environmental Condition of Property Report for Fort Monmouth, New Jersey* (U.S. Army 2007) are presented in the following subsections.

4.13.1.1 Permits

4.13.1.1.1 Solid Waste Permits

Fort Monmouth does not hold any solid waste permits other than that for the Class D/Universal Waste Recycling Center and for composting. Fort Monmouth contracts with Marpal Company in Tinton Falls for removal of solid waste and recyclables from the post.

4.13.1.1.2 Other Permits

Fort Monmouth is registered as a Medical Waste Generator, Generator Number 0131825, with NJDEP. Medical waste is generated at the Patterson Army Health Clinic, Building 1075 on the Main Post. Fort Monmouth also holds NPDES permits, drinking water permits, water allocation permits, air permits, Nuclear Regulatory Commission licenses, and wetland-related permits.

4.13.1.2 Storage and Handling Areas

Fort Monmouth is a RCRA generator of hazardous waste. The Main Post RCRA registration number is NJ3210020597, and the Charles Wood Area RCRA registration number is

NJ2210020978. Because the entire post is classified as a large-quantity generator, hazardous waste can be stored only for a period of 90 days or less. Thirty-five buildings on the Main Post and 13 buildings in the Charles Wood Area house satellite accumulation areas.

The underground storage tank (UST) program at Fort Monmouth involves managing the 13 USTs on the Main Post and in the Charles Wood Area. All 13 tanks are equipped with leak-detection monitoring, corrosion protection, and spill and overfill protection as required by EPA and NJDEP regulations. The USTs are used to store gasoline and diesel fuel for use in government vehicles and emergency generators. They are registered with NJDEP, for the period from December 2006 to December 2009.

Thirteen aboveground storage tanks (ASTs) (9 on the Main Post, 4 in the Charles Wood Area) are used by installation repair and maintenance shops for the collection and temporary storage of generated used oils. The tanks range in size from 275 gallons to 995 gallons. An additional 23 ASTs (15 on the Main Post and 8 in the Charles Wood Area), ranging in size from 125 gallons to 1,000 gallons, are used for installation fuel storage.

The Fort Monmouth Directorate of Public Works (DPW) replaced the use of heating oil as a major energy source and converted Fort Monmouth facilities to natural gas. As of the early 1990s, the installation had 474 USTs on post, most of which were used for heating oil. All but the remaining 13 tanks (none of which store heating oil) were removed as the installation installed gas lines and gas-fed boilers during the conversion to natural gas.

4.13.1.3 Environmental Cleanup—Installation Restoration Program

The Fort Monmouth Installation Restoration Program (IRP) identifies environmental cleanup requirements at each site or area of concern on the facility and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions. Forty-three IRP sites are managed or closed under the program. According to the Fort Monmouth Army Environmental Database for restoration, the Main Post has 15 active IRP sites and 15 sites that are listed as *response complete*. At the Charles Wood Area, there are two active IRP sites and 11 sites that are listed as response complete. Site descriptions for each active and response complete site are presented in the *U.S. Army BRAC 2005 Final Environmental Condition of Property Report for Fort Monmouth, New Jersey* (U.S. Army 2007).

4.13.1.4 Military Munitions Response Program

There are 16 active ranges at Fort Monmouth, as well as 4 closed/inactive ranges. Of the 16 active ranges, 1 is a new, modern indoor range; the remaining 15 have no history of munitions use and therefore are not included in the Military Munitions Response Program. Three closed/inactive ranges were recommended for additional evaluation by the 2006 Historical Records Review. These are the Former Outdoor Firing Range (1940–1955 Pistol Range), the Former Pistol Range (1935–1940 Pistol Range), and the former skeet range. Descriptions of these sites are presented in the *U.S. Army BRAC 2005 Final Environmental Condition of Property Report for Fort Monmouth, New Jersey* (U.S. Army 2007).

4.13.1.5 Petroleum and Petroleum Products

In the early 1990s, the Fort Monmouth DPW developed a UST program for managing approximately 474 USTs throughout the installation. The program was created to work toward replacing heating oil as a major energy source and converting to natural gas. The DPW's approach involved installing new gas lines and new gas-fed boilers and removing the USTs. Since 1990 approximately 97 percent of the aforementioned USTs at Fort Monmouth have been removed (461 USTs were removed, and 13 USTs remain active). For the Main Post, 358 tanks are documented in the Fort Monmouth tank database as having been removed, and 9 USTs and 23 ASTs remain in place. For the Charles Wood Area, 103 tanks are documented as having been removed, and 4 USTs and 12 ASTs remain in place.

4.13.1.6 Special Hazards

4.13.1.6.1 Asbestos

Fort Monmouth has actively investigated and managed ACM. Out of 470 buildings managed as part of the DPW asbestos program, 191 buildings have been surveyed, and an additional 153 buildings are similar enough to surveyed buildings that the survey results can be used to assess their status. Fort Monmouth also has actively removed asbestos as part of building renovations. A total of 72 buildings have been gutted or constructed since 1987, so there are no ACM concerns for those buildings. No survey has been performed for 54 buildings. Because of the age of the facilities and the limited number of buildings remediated thus far, ACM potentially exists at most of the buildings on Fort Monmouth.

4.13.1.6.2 Polychlorinated Biphenyls

PCB-class oils are defined by TSCA as oils containing 500 parts per million (ppm) PCBs or greater. *PCB-contaminated oils* are defined by TSCA as oils containing greater than or equal to 50 ppm and less than 500 ppm of PCBs. *Non-PCB oils* are defined by TSCA as oils containing less than 50 ppm PCBs. Electrical oil having PCB concentrations at or less than 49 ppm is considered a Class D recyclable material in New Jersey. There are no PCB-class pieces of equipment at Fort Monmouth.

The Fort Monmouth PCB management program consists of determining the level of PCBs in all electrical transformers and removing all PCB-class transformers. Before 1988 all oil-filled electrical equipment at Fort Monmouth was assumed to be PCB-class equipment and was labeled as such. In November 1988 Fort Monmouth initiated a program to sample and analyze all equipment that did not have a manufacturer's label indicating that it was non-PCB. Testing of all oil-filled transformers, capacitors, voltage regulators, and switches was completed by June 1990. Thirty-three pieces of equipment were identified as PCB-class, 96 as PCB-contaminated, and 520 as non-PCB. An additional 224 pieces were identified from the manufacturer's nameplate as non-PCB. Of the 33 pieces of PCB-class equipment, all of which were transformers, 29 were removed and the remaining 4 were drained and refilled with non-PCB oil. The remaining four transformers are now classified as non-PCB.

4.13.1.6.3 Lead-based Paint

Most facilities and buildings at Fort Monmouth were constructed before EPA's ban on the use of LBP in 1978, and they are likely to contain one or more coats of such paint. In addition, some

facilities constructed immediately after the ban might also contain LBP because inventories of such paints that were in the supply network were likely to have been used up at the facilities. The first LBP risk assessment was conducted in 1996.

The final results of the LBP risk assessment for Fort Monmouth indicate that LBP hazards were found in the housing areas. The analytical results show that there are a few locations where the dust and soil levels were above the action level.

4.13.1.6.4 Pesticides

Fort Monmouth has an Installation Pest Management Plan that covers both the Main Post and the Charles Wood Area. The plan describes the pest management requirements and outlines the resources necessary for surveillance and control of pests. It also describes the administrative, safety, and environmental requirements of the program. The program involves contracted New Jersey-certified pesticide applicators, staff from the DPW, the Director of Personnel and Community Activities, the Fort Monmouth Medical Department Activity, the Pest Management Coordinator, building occupants, and facility managers. The Installation Pest Management Plan indicates that all current pesticide mixing operations are conducted at Buildings 2070 and 2071 in the southwest corner of the Charles Wood Area golf course. No pesticides or herbicides are stored on-site in either building, and all chemicals are provided under contract by the licensed vendors. The contract specifications do not allow any vendor to store any pesticide or herbicide on Fort Monmouth. Contracted application of pesticides has been in place since the mid-1980s for all of Fort Monmouth.

4.13.1.6.5 Radon

A comprehensive radon survey was conducted in 1991 by the Directorate of Engineering and Housing's Environmental Office as part of the Army's Radon Reduction Program. Radon detectors were deployed in all structures designated as priority one buildings (daycare centers, hospitals, schools, and living areas). The radon levels measured in all detectors were less than 4 picocuries per liter (pCi/L). On the basis of EPA's criteria for radon of 4 pCi/L, the radon levels at Fort Monmouth do not pose a significant health risk, and no further action was deemed appropriate for radon at Fort Monmouth.

4.13.1.6.6 Radioactive Material

The presence of radioactive material (RAM) at Fort Monmouth has been predominantly limited to certain areas and functions of the installation. Historically, the most common uses of RAM have been laboratory R&D in the areas of radio and electronics, the use of vacuum tubes and radium dials, the use of ionizing radiation-producing machines, and the use of military support equipment such as night vision goggles that contain radioactive commodities.

Many of the activities of the past were performed as part of the Signal Corps Laboratories, housed first in the Squier Building (Building 283) and then in the Myer Center (Building 2700). Currently, a research laboratory in Building 2540 in the Charles Wood Area is the only site to regularly use and store RAM as part of the R&D activities performed on-site. A designated storage area is set aside for drums that contain material awaiting disposal, including tritium exit signs removed from Fort Monmouth buildings, smoke alarms containing RAM, and other instruments with associated check sources.

Twenty-two buildings, building complexes, or open areas at Fort Monmouth have been identified as areas where RAM was used, stored, or potentially disposed of. Historical information was reviewed to determine whether there were sufficient data to declare buildings *impacted* or *non-impacted* in accordance with *Multi-Agency Radiation Survey and Site Investigation Manual* methodology. A summary of the impacted buildings or areas where RAM was used, stored, or potentially disposed of is provided in the *U.S. Army BRAC 2005 Final Environmental Condition of Property Report for Fort Monmouth, New Jersey* (U.S. Army 2007).

4.13.2 Environmental Consequences

4.13.2.1 Accelerated Disposal Alternative

Short-term minor beneficial effects on hazardous waste use, storage, or disposal would be expected with implementing the accelerated disposal alternative. Upon closure of the installation, hazardous and toxic substances that had been used in the course of installation operations would no longer be used or stored. All hazardous materials on the installation during the time leading up to the closure would be disposed of in accordance with applicable laws and regulations. Regarding remediation activities, the provisions of CERCLA section 120(h) would apply. These provisions require that necessary remedial actions be completed or in place and proven to be operating properly and successfully. Per CERCLA section 120(h)(3)(C), property may be transferred before all necessary remedial actions have been completed. The CERCLA covenant deferral request must be approved by the state governor for sites not listed on the National Priorities List.

Regardless of the type of disposal—accelerated, traditional, or caretaker—the Army is under a mandate to characterize contamination, define the appropriate remediation in coordination with regulatory agencies, and conduct the required remediation. The new use must be consistent with the remedial constraints, land use restrictions, and the protection of human health and the environment. The new owner may agree to perform all environmental remediation and monitoring, waste management, and environmental compliance activities required, or the Army may choose to continue to conduct or contract remedial and other activities. The Army would provide notification regarding hazardous substances that were stored, released, or disposed of on the property in excess of the 40 CFR Part 373 reportable quantities.

DoD policy with regard to LBP and ACM is to manage these substances in a manner protective of human health and the environment and in compliance with all applicable laws. DoD would manage LBP at Fort Monmouth in accordance with the provisions of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of Public Law 102-550). These laws require that federal property constructed between 1960 and 1978 that is being transferred for residential use be inspected for LBP and related hazards and that the results of such inspections be provided to prospective purchasers or transferees. Before transfer or conveyance, the Army would remove or encapsulate all friable asbestos that poses a risk to human health per Army policy (Office of the Under Secretary of Defense 1994). Transfer or conveyance documents would notify owners or lessees of the property that they would be responsible for any future ACM remediation found to be necessary.

4.13.2.2 Traditional Disposal Alternative

The effects would be the same as those discussed in Section 4.13.2.1. Hazardous and toxic materials would no longer be used or stored on Fort Monmouth, and remediation activities would

be completed in compliance with CERCLA, though under traditional disposal, the Army would perform all necessary environmental remediation.

4.13.2.3 Caretaker Status Alternative

The effects would be the same as those discussed in Section 4.13.2.1. Hazardous and toxic materials would no longer be used or stored on Fort Monmouth, and remediation activities would be completed in compliance with CERCLA.

4.13.2.4 No Action Alternative

No effects would be expected under the No Action Alternative. Environmental management procedures would continue to be implemented in accordance with applicable laws.

4.13.2.5 Reuse Scenarios

4.13.2.5.1 Medium-Intensity Reuse

Short-term minor adverse effects would be expected under the MIR scenario. Reuse activities would include facility demolition, renovation, and construction, and all these activities involve some level of use of hazardous and toxic materials. All hazardous materials use, storage, and disposal associated with reuse development would have to comply with New Jersey and local regulations, but the presence of such materials always has an associated risk.

4.13.2.5.2 Medium-Low-Intensity Reuse

The effects would be expected to be of the same nature as those discussed under the MIR scenario in Section 4.13.2.5.1; but they possibly would be of lesser magnitude. Given the lower intensity of reuse development under MLIR than under MIR, smaller quantities of hazardous materials would be expected to be used, stored, and disposed of under this scenario than under MIR, but the inherent risks associated with the materials would remain.

4.13.2.5.3 Low-Intensity Reuse

The effects would be expected to be similar to but of lesser magnitude than those discussed under the MLIR scenario in Section 4.13.2.5.2.

4.14 CUMULATIVE EFFECTS

Other construction and development projects would continue to occur within the region, and all the projects would produce some combination of land use changes, air pollutant emissions, noise from construction and operation of facilities, loss of natural habitat, economic activity, transportation system changes, and demands on utility systems. New Jersey and the boroughs of Tinton Falls, Eatontown, and Oceanport take into account the effects of reasonably foreseeable development on regional resources. For instance, New Jersey takes into account all past, present, and reasonably foreseeable emissions when developing its SIP, and the boroughs account for reasonable development and population growth when developing their comprehensive plans. No specific projects or development have been identified that would result in a significant adverse cumulative effect on any of the area’s resources.

4.15 MITIGATION

Mitigation actions are used to reduce, avoid, or compensate for significant adverse effects. The EA does not identify the need for mitigation measures for any of the affected resource areas.

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SECTION 5.0
FINDINGS AND CONCLUSIONS

5.1 FINDINGS

Implementing the proposed action would be expected to result in a mixture of short- and long-term minor adverse effects, short- and long-term minor beneficial effects, and short- and long-term minor beneficial effects on the subject environmental resources and conditions. For each alternative and reuse scenario, the predicted effects are summarized below and in Table 5-1.

5.1.1 Consequences of the Accelerated Disposal Alternative

Effects on resource areas under the accelerated disposal alternative would be expected to result from the decrease in activity at Fort Monmouth, the change in ownership of the property, and from activities related to environmental remediation. These changes would be expected to have minor adverse effects on some resource areas. Many of the adverse effects would likely be short term because it is expected that under the accelerated disposal alternative, reuse activities would be expected to begin shortly after closure. The noise environment, soils, surface waters, groundwater, the coastal zone, vegetation, wildlife, and wetlands would be expected to be adversely affected in the short term under the accelerated disposal alternative because of disturbance caused by remediation activities. Completion of the remediation activities, however, would also have long-term minor beneficial effects on land use, soils, surface waters, groundwater, and the coastal zone, and a short-term minor beneficial effect on hazardous substance storage and use. A short-term minor adverse effect on the economy would be expected to result from a reduction in jobs and business activity associated with Fort Monmouth. Short-term minor beneficial effects on air quality (from reducing emissions from installation operations) and utilities (from reduced demand on systems) would also be expected, although not using some utility systems (such as the potable water lines) could have an adverse affect. The reduction in traffic after closure would be expected to have a short-term beneficial effect on the transportation system. There would be either no effect on cultural resources (because they would continue to be protected under a PA) or a long-term minor adverse effect from the change from federal to nonfederal ownership and oversight.

The accelerated disposal alternative would not be expected to have an effect on other resource areas (aesthetics, geology, topography, prime farmland, floodplains, protected species, housing, public services, environmental justice, and protection of children).

5.1.2 Consequences of the Traditional Disposal Alternative

The traditional disposal alternative would be expected to have largely the same effects on resource areas as under the accelerated disposal alternative. The only difference between the two alternatives would be the expected longer time that some of the property would remain under Army ownership while environmental remediation activities are conducted. This longer period between closure and reuse would be expected to result in a protraction of adverse and beneficial effects, but the type and magnitude of the effects on the resource areas would be very similar to those discussed above for the accelerated disposal alternative. Notably, the adverse effect on the local economy would be expected to last longer under the traditional disposal alternative because of the additional time expected to elapse between closure and full reuse.

Table 5-1
Summary of potential environmental and socioeconomic consequences

	Environmental and socioeconomic effects of alternatives						
	ALTERNATIVES				REUSE SCENARIOS		
	Accelerated Disposal	**Traditional Disposal**	**Caretaker Status**	**No Action**	**Medium Intensity**	**Medium-Low Intensity**	**Low Intensity**
Land Use	Long-term minor beneficial	Long-term minor beneficial	Long-term minor adverse and beneficial	No effect	No effect	No effect	No effect
Aesthetics/ Visual Environment	No effect	No effect	Long-term minor adverse	No effect	Long-term minor beneficial	Long-term minor beneficial	Long-term minor beneficial
Air Quality	Short-term minor beneficial	Short-term minor beneficial	Long-term minor beneficial	No effect	Long-term minor adverse	Long-term minor beneficial	Long-term minor beneficial
Noise Environment	Short-term minor adverse	Short-term minor adverse	Long-term minor adverse	No effect	Long-term minor adverse	Long-term minor beneficial	Long-term minor beneficial
Geology and Soils							
Geology	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Soils	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse
Topography	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Prime farmland	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Water Resources							
Surface waters	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Groundwater	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Floodplains	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Coastal zone	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	No effect	No effect	No effect	No effect
Biological Resources							
Vegetation	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Wildlife	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial
Proetected species	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Wetlands	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse and long-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse
Cultural Resources	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect	No effect or long-term minor adverse	No effect or long-term minor adverse	No effect or long-term minor adverse

Table 5-1
Summary of potential environmental and socioeconomic consequences *(continued)*

	Environmental and socioeconomic effects of alternatives						
	ALTERNATIVES				REUSE SCENARIOS		
	Accelerated Disposal	**Traditional Disposal**	**Caretaker Status**	**No Action**	**Medium Intensity**	**Medium-Low Intensity**	**Low Intensity**
Socioeconomics							
Economic environment	Short-term minor adverse	Short- and long-term minor adverse	Long-term minor adverse	No effect	Long-term minor beneficial	Short- and long-term minor adverse	Short- and long-term minor adverse
Housing	No effect	No effect	No effect	No effect	Long-term minor beneficial	Short-term minor adverse	Short-term minor adverse
Public services	No effect	No effect	No effect	No effect	Long-term minor beneficial	Short-term minor adverse	Short-term minor adverse
Environmental justice	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Protection of children	No effect	No effect	Long-term minor adverse	No effect	No effect	No effect	No effect
Transportation	Short-term minor beneficial	Short-term minor beneficial	Long-term minor beneficial	No effect	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse
Utilities	Short-term minor beneficial and long-term minor adverse	Short-term minor beneficial and long-term minor adverse	Long-term minor adverse and beneficial	No effect	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial
Hazardous and Toxic Substances	Short-term minor beneficial	Short-term minor beneficial	Short-term minor beneficial	No effect	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse

5.1.3 Consequences of the Caretaker Status Alternative

The caretaker status alternative—which assumes that the property would remain unoccupied and unused for a year or more—would be expected to affect resource areas much the same as the other disposal alternatives but with the effects lasting longer in many cases.

Land use and the aesthetic and visual environment would likely be adversely affected under the caretaker status alternative because fencing the property and providing only minimal long-term maintenance would be expected to eventually lead to facility and grounds deterioration. Vegetation, wildlife, and wetlands, however, could benefit from lowered maintenance and the property not being occupied, and without reuse for a year or longer, air emissions would remain reduced for longer. A long-term minor adverse effect on the noise environment from protracted remediation activities would also be expected. The adverse effect on the economy would be expected to last longer with the property under caretaker status. Vacant property could be attractive to children, resulting in an adverse effect on their protection.

The beneficial and adverse effects on utility systems would be long term under the caretaker status alternative, and traffic would remain somewhat reduced for longer under the alternative.

Effects on other resource areas (soils, surface waters, groundwater, the coastal zone, cultural resources, and hazardous and toxic substances) under the caretaker status would be the same as under the other disposal alternatives. There would also still be no effect on geology, topography,

prime farmland, floodplains, protected species, housing, public services, and environmental justice.

5.1.4 Consequences of the No Action Alternative

No effects would result on any resource areas under the No Action Alternative. Fort Monmouth would continue to operate as a military installation without change to its military mission. Implementation of the No Action Alternative, it should be remembered, is not possible without congressional action.

5.1.5 Consequences of the Intensity-based Probable Use Scenarios

As stated in Section 3.5.2, levels of reuse intensity represent a continuum of land use and associated activities for a site. The range of expected effects under three reuse scenarios (MIR, MLIR, and LIR) analyzed in the EA, therefore, also represent a continuum of adverse and beneficial effects on resource areas that would be expected to result from the reuse intensities. Though FMERPA has a final reuse plan (FMERPA 2008a), the actual reuses of the individual parcels on Fort Monmouth remain speculative, and it is the overall intensity of reuse, rather than the actual reuse of the parcels, that is analyzed in the EA. For each of the resource areas analyzed in the EA, the range of effects under the reuse intensities is summarized below. Many of the effects would be considered long term, because it is assumed that reuse of the property would continue in perpetuity.

Land use: No effects on land use would be expected to result under any of the reuse scenarios. It is assumed that FMERPA would implement a reuse plan that would not result in land use incompatibilities, either within the boundaries of the Fort Monmouth property or between the property and surrounding areas.

Aesthetic and visual environment: Long-term minor beneficial effects would be expected under all reuse scenarios. FMERPA would be expected to implement a reuse plan that provides a well-designed, attractive, and inviting new business, residential, and community area.

Air quality: Effects on air quality would be expected to vary from a minor adverse effect under MIR, under which the greatest amount of air emissions from facilities and mobile sources would be expected to result, to a minor beneficial effect under MLIR and LIR, under which emissions would be less than they are with the property as an active military installation. It is emphasized, however, that trying to predict outcomes for something as variable as air emissions is extremely speculative. When a firm reuse plan is devised and moves toward implementation, the state and federal regulators responsible for monitoring air emissions will provide the necessary oversight to ensure that they are in compliance with all applicable laws and regulations.

Noise: Effects on the noise environment would be expected to vary from a minor adverse effect under MIR to a minor beneficial effect under MLIR and LIR. Reuse at MIR would produce a number of activity centers and noise sources, and the sources of noise would decrease in number with a decreasing intensity of reuse.

Geology and soils: Short-term minor adverse effects on soils would be expected under all reuse scenarios because of disturbance of the soil during construction and demolition. It is reasonable to expect that regulatory agencies responsible for oversight of construction or renovation projects would require the use of best management practices to help alleviate short- and long-term

problems associated with soil erosion. The long-term improvements in soil quality from the remediation activities considered under the disposal alternatives would remain under reuse.

Water resources: Effects on surface and ground waters would be expected to include a minor adverse effect under all reuse scenarios. The amount of impervious area—which can lead to storm water runoff effects on surface waters—under MIR would be similar to that under baseline conditions, and it would be expected to decrease as the intensity of reuse decreases. Surface water quality and the health of surface water systems, therefore, might be expected to improve slightly under MLIR and LIR. As with soil quality, the long-term improvements in water quality from the remediation activities considered under the disposal alternatives would continue under reuse.

Biological resources: A short-term minor adverse effect on biological resources would be expected from construction and demolition activities associated with reuse, coupled with long-term minor beneficial effects with the installation of new landscaping and creation of permanent green spaces. As with water resources, the benefit to biological resources would be expected increase with decreasing reuse intensity. No effects on listed species would be expected, and no long-term effects on wetlands would be expected.

Cultural resources: Effects on cultural resources would be expected to be the same under any of the reuse scenarios as under the disposal alternatives. The PA would protect the resources, but a long-term minor adverse effect on them could result from their no longer being protected by a federal agency.

Socioeconomics: The effect on economic activity, public services, and housing would likely vary from a beneficial effect under MIR due to the employment and economic activity that the reuse would create to an adverse effect on these resources under LIR from job losses and decreased economic activity compared to the installation as a functioning military post. No effect on environmental justice or children would be expected to result under any reuse scenario.

Transportation: A short-term adverse effect on the transportation system would be expected under all reuse scenarios from construction-related activity, but transportation system upgrades made in anticipation of the reuse would likely result in a long-term beneficial effect on the system under MIR and MLIR. The model used to predict effects on the transportation system did not assume any system upgrades under LIR because of the lowered intensity of reuse; thus, over time the traffic situation under LIR would likely deteriorate.

Utilities: The intensity of use of the property under the MIR scenario would be similar to baseline conditions and would, therefore, be expected to result in little net effect on utility system demand. Demand on all systems would be less under MLIR and LIR. Under all reuse scenarios, however, it is expected that with transfer of the systems owned by the Army to private and municipal entities, those entities would make improvements to the systems, resulting in long-term beneficial effects.

Hazardous and toxic substances: Short-term minor adverse effects on hazardous and toxic substances would be expected while reuse construction is occurring because these substances would be used and stored on the property during construction activities. No long-term effects would be expected, however, because of the regulatory restrictions imposed on the use, storage, and disposal of the substances. Overall, hazardous and toxic substances on the property would be expected to be of less concern under reuse because of the completion of remedial activities accomplished under property disposal.

5.2 CUMULATIVE EFFECTS

Cumulative effects are defined by CEQ in 40 CFR 1508.7 as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions."

Other than reuse of the Fort Monmouth property, which is not the Army's primary action and the effects of which are analyzed in this EA, no specific foreseeable future projects have been identified that would result in cumulative effects. Generalized cumulative effects are identified below.

Construction and development projects not related to BRAC or reuse of the Fort Monmouth property would likely occur within the region, and all the projects would produce some measurable amount of air pollutants, noise, traffic, and economic activity. New Jersey takes into account the effects of all past, present, and reasonably foreseeable emissions when developing its air quality SIP (NJDEP 2007), so no adverse cumulative effects would be expected to result. Changes in the noise environment from development projects are generally localized, and the overall noise environment would likely not be distinguishable from the current noise environment. Traffic attributable to construction activities and post-construction housing or business activities would add to existing traffic issues. In general, the regional transportation planning board takes into account the effects of all past, present, and reasonably foreseeable projects in the region and associated traffic during the development of the regional traffic model. Other economic development projects occurring in the region (such as commercial, residential, and transportation developments) would contribute in the short and long term to the local economy by increasing employment, income, and business sales volume.

5.3 MITIGATION

Mitigation actions are used to reduce, avoid, or compensate for significant adverse effects. The EA does not identify the need for mitigation measures for any of the affected resource areas.

5.4 CONCLUSIONS

This EA considers the proposed implementation of the BRAC Commission recommendations at Fort Monmouth, New Jersey. The EA identifies, evaluates, and documents the environmental and socioeconomic effects of property disposal and future uses of Fort Monmouth. A No Action Alternative is also evaluated. Implementing the proposed action is not expected to result in significant adverse environmental effects. Therefore, preparation of an environmental impact statement is not required, and a FNSI will be published in accordance with NEPA.

SECTION 6.0
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APPENDIX A

BRAC Commission Recommendations

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FORT MONMOUTH, NEW JERSEY
(ARMY RECOMMENDATION)

SECRETARY OF DEFENSE RECOMMENDATION

Close Fort Monmouth, NJ. Relocate the US Army Military Academy Preparatory School to West Point, NY. Relocate the Joint Network Management System Program Office to Fort Meade, MD. Relocate the Budget/Funding, Contracting, Cataloging, Requisition Processing, Customer Services, Item Management, Stock Control, Weapon System Secondary Item Support, Requirements Determination, Integrated Materiel Management Technical Support Inventory Control Point functions for Consumable Items to Defense Supply Center Columbus, OH, and reestablish them as Defense Logistics Agency Inventory Control Point functions; relocate the procurement management and related support functions for depot level repairables to Aberdeen Proving Ground, MD, and designate them as Inventory Control Point functions, detachment of Defense Supply Center Columbus, OH, and relocate the remaining integrated materiel management, user, and related support functions to Aberdeen Proving Ground, MD. Relocate Information Systems, Sensors, Electronic Warfare, and Electronics Research and Development & Acquisition (RDA) to Aberdeen Proving Ground, MD. Relocate the elements of the Program Executive Office for Enterprise Information Systems and consolidate into the Program Executive Office, Enterprise Information Systems at Fort Belvoir, VA.

Realign Fort Belvoir, VA, by relocating and consolidating Sensors, Electronics, and Electronic Warfare Research, Development and Acquisition activities to Aberdeen Proving Ground, MD, and by relocating and consolidating Information Systems Research and Development and Acquisition (except for the Program Executive Office, Enterprise Information Systems) to Aberdeen Proving Ground, MD.

Realign Army Research Institute, Fort Knox, KY, by relocating Human Systems Research to Aberdeen Proving Ground, MD.

Realign Redstone Arsenal, AL, by relocating and consolidating Information Systems Development and Acquisition to Aberdeen Proving Ground, MD.

Realign the PM Acquisition, Logistics and Technology Enterprise Systems and Services (ALTESS) facility at 2511 Jefferson Davis Hwy, Arlington, VA, a leased installation, by relocating and consolidating into the Program Executive Office, Enterprise Information Systems at Fort Belvoir, VA.

SECRETARY OF DEFENSE JUSTIFICATION

The closure of Fort Monmouth allows the Army to pursue several transformational and BRAC objectives. These include: consolidating training to enhance coordination, doctrine development, training effectiveness, and improve operational and functional efficiencies, and consolidating RDA and T&E functions on fewer installations. Retain DoD installations with the most flexible capability to accept new missions. Consolidate or collocate common business functions with other agencies to provide better level of services at a reduced cost.

The recommendation relocates the US Army Military Academy Preparatory School to West Point, NY, and increases training to enhance coordination, doctrine development, training effectiveness and improve operational and functional efficiencies.

The recommendation establishes a Land C4ISR Lifecycle Management Command (LCMC) to focus technical activity and accelerate transition. This recommendation addresses the transformational objective of Network Centric Warfare. The solution of the significant challenges of realizing the potential of Network Centric Warfare for land combat forces requires integrated research in C4ISR technologies (engineered

networks of sensors, communications, information processing), and individual and networked human behavior. The recommendation increases efficiency through consolidation. Research, Development and Acquisition (RDA), Test and Evaluation (T&E) of Army Land C4ISR technologies and systems is currently split among three major sites—Fort Monmouth, NJ, Fort Dix, NJ, Adelphi, MD, and Fort Belvoir, VA, and several smaller sites, including Redstone Arsenal and Fort Knox. Consolidation of RDA at fewer sites achieves efficiency and synergy at a lower cost than would be required for multiple sites.

This action preserves the Army's "commodity" business model by near collocation of Research, Development, Acquisition, and Logistics functions. Further, combining RDA and T&E requires test ranges, which cannot be created at Fort Monmouth.

The closure of Fort Monmouth and relocation of functions that enhance the Army's military value, is consistent with the Army's Force Structure Plan, and maintains adequate surge capabilities. Fort Monmouth is an acquisition and research installation with little capacity to be utilized for other purposes. Military value is enhanced by relocating the research functions to under-utilized and better equipped facilities; by relocating the administrative functions to multipurpose installations with higher military and administrative value; and by co-locating education activities with the schools they support. Utilizing existing space and facilities at the gaining installations maintains both support to the Army Force Structure Plan and capabilities for meeting surge requirements.

COMMUNITY CONCERNS

The communities surrounding Fort Monmouth, NJ as well as many elected officials, maintained that a significant number of current civilian employees would not move to Aberdeen Proving Grounds, MD, creating a serious "brain drain" for the Land C4ISR mission. They further claim that Aberdeen Proving Grounds has virtually no existing C4ISR mission or capability. Advocates for Fort Monmouth questioned the availability of qualified personnel for technical jobs at other locations. They believed a move would have detrimental effects on all of the programs underway at Fort Monmouth, and could potentially harm soldiers involved in wartime operations in Iraq and Afghanistan. The community disputed DoD's justifications that test and evaluation activities were limited by Fort Monmouth's small size, and claimed that established and growing relationships with the nearby Fort Dix-McGuire AFB-Navy Lakehurst complex overcame any constraints on future mission activities. Some advocates went further and urged the Commission to consider realigning Fort Monmouth, converting it into an enclave, and merging it with Dix-McGuire-Lakehurst. There was also concern that closure would have a significant negative impact upon the local retiree and veterans' community, as well as the economy of that portion of NJ.

COMMISSION FINDINGS

The Commission found that moving the Night Vision and Electronic Sensors Directorate (known as the Night Vision Laboratory) and the Program Manager Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM NV/RSTA) at Fort Belvoir would add costs and risks to important ongoing programs.

Next, the Commission found that loss of some intellectual capital is a concern and is to be expected in this closure, and agreed with the Department's view of this as an implementation challenge that must be managed with careful planning and sequencing. The Department pointed out that there is a nationally recognized science and technology workforce in Maryland containing the highest percentage of professional and technical workers (about 24 percent).

The Commission concluded that adverse effects of moving existing programs could be managed over the six-year implementation period by properly sequencing the movement of programs to ensure no loss in service, or by providing temporary redundant or duplicative capabilities as necessary to ensure continuous and uninterrupted program integrity. The Commission was also told by the Secretary of the Army that under no circumstances would the Army permit the move to sacrifice or shortchange ongoing C4ISR support and services to warfighters in the field. While the Commission accepted this pledge, and agreed with the Department's position, the critically important nature of the missions resulted in the Commission adding modifying language to ensure that the intent of both the Department and the Commission would

be clearly understood by future Secretaries and other leadership during the implementation period. A reporting requirement was also added so Congress could exercise the necessary independent oversight to make sure the Commission's intent was faithfully implemented by the Department. The Commission also believes Congress' oversight on this issue may benefit from review by the Government Accountability Office.

Last, to ensure that all parties correctly understand which organizations remain at Fort Belvoir and which move to Aberdeen Proving Grounds, the following Unit Identification Code (UIC) level of detail is provided.

1. The following organizations remain at Fort Belvoir under this recommendation as amended:

UIC	UIC Description
W4G828	NVESD (Night Vision Lab)
W6DP02	PM NV/RSTA

2. The following organizations move from Fort Belvoir to Aberdeen Proving Ground under this recommendation as amended:

UIC	UIC Description
W4FH10	USA SOFTWARE ENG CTR
W4GV75	OFC HQ CECOM
W27P5A	MGR USA AAESA, PEO SOLDIER
W27P8A	MGR USA AAESA, PEO SOLDIER
W4G875	CTR RD&E CTR
W27P26	PEO CT3

COMMISSION RECOMMENDATIONS

The Commission found that the Secretary of Defense substantially deviated from final selection criteria 1, 2, 3, 4, 5 and 7, and the Force Structure Plan. Therefore, the Commission recommends the following:

Close Fort Monmouth, NJ. Relocate the US Army Military Academy Preparatory School to West Point, NY. Relocate the Joint Network Management System Program Office to Fort Meade, MD. Relocate the Budget/Funding, Contracting, Cataloging, Requisition Processing, Customer Services, Item Management, Stock Control, Weapon System Secondary Item Support, Requirements Determination, Integrated Materiel Management Technical Support Inventory Control Point functions for Consumable Items to Defense Supply Center Columbus, OH, and reestablish them as Defense Logistics Agency Inventory Control Point functions; relocate the procurement management and related support functions for depot-level repairables to Aberdeen Proving Ground, MD, and designate them as Inventory Control Point functions, detachment of Defense Supply Center Columbus, OH, and relocate the remaining integrated materiel management, user, and related support functions to Aberdeen Proving Ground, MD. Relocate Information Systems, Sensors, Electronic Warfare, and Electronics Research and Development & Acquisition (RDA) to Aberdeen Proving Ground, MD. Relocate the elements of the Program Executive Office for Enterprise Information Systems and consolidate into the Program Executive Office, Enterprise Information Systems at Fort Belvoir, VA.

Realign Fort Belvoir, VA, by relocating and consolidating Sensors, Electronics, and Electronic Warfare Research, Development and Acquisition activities to Aberdeen Proving Ground, MD, except the Night Vision and Electronic Sensors Directorate (the Night Vision Lab) and the Project Manager Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM NV/RSTA), and by relocating and consolidating Information Systems Research and Development and Acquisition (except for the Program Executive Office, Enterprise Information Systems) to Aberdeen Proving Ground, MD.

Realign Army Research Institute, Fort Knox, KY, by relocating Human Systems Research to Aberdeen Proving Ground, MD.

Realign Redstone Arsenal, AL, by relocating and consolidating Information Systems Development and Acquisition to Aberdeen Proving Ground, MD.

Realign the PM Acquisition, Logistics and Technology Enterprise Systems and Services (ALTESS) facility at 2511 Jefferson Davis Hwy, Arlington, VA, a leased installation, by relocating and consolidating into the Program Executive Office, Enterprise Information Systems at Fort Belvoir, VA.

The Secretary of Defense shall submit a report to the Congressional Committees of Jurisdiction that movement of organizations, functions, or activities from Fort Monmouth to Aberdeen Proving Ground will be accomplished without disruption of their support to the Global War on Terrorism or other critical contingency operations and that safeguards exist to ensure that necessary redundant capabilities are put in place to mitigate potential degradation of such support, and to ensure maximum retention of critical workforce.

The Commission found that this change and the recommendation as amended are consistent with the final selection criteria and the Force Structure Plan. The full text of this and all Commission recommendations can be found in Appendix Q.

APPENDIX B

Record of Non-Applicability

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RECORD OF NON-APPLICABILITY
In Accordance with the Clean Air Act - General Conformity Rule For
The Proposed Disposal and Reuse of Fort Monmouth, New Jersey

10 March 2009

The Army proposes to close Fort Monmouth, New Jersey. General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of 40 CFR Part 93, Subpart B. Regardless of the disposal alternative ultimately implemented or changes in the (non)attainment status of the region, the requirements of this rule are not applicable because all activities associated with the action would result in no emissions increase or an increase in emissions that is clearly *de minimis* (of minimal importance), including:

- Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer (40 CFR 93.153(c)(2)(xiv)).
- Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties (40 CFR 93.153(c)(2)(xix)) .
- Transfers of real property, including land, facilities, and related personal property from a Federal entity to another federal entity and assignments of real property, including land, facilities, and related personal property from a federal entity to another federal entity for subsequent deeding to eligible applicants (40 CFR 93.153(c)(2)(xx)) .
- Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities (40 CFR 93.153(c)(2)(iv)) .
- Direct emissions from remedial and removal actions carried out under the Comprehensive Environmental Response, Compensation and Liability Act and associated regulations to the extent such emissions either comply with the substantive requirements of the PSD/NSR permitting program or are exempted from other environmental regulation under the provisions of CERCLA and applicable regulations issued under CERCLA (40 CFR 93.153(c)(5)) .

Notably, reuse activities and all stationary, mobile, and area sources of emissions associated with the property after it is transfer would not be under an ongoing program of control from the Army. Therefore, are not accounted for herein. Because all activities are specifically exempt from the rule, supporting documentation and emission estimates not necessary. This determination would not change regardless of the changes in the (non)attainment status of the region.

Barbara A. Polk
Signature

Director, Public Works
Title

4-20-09
Date

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APPENDIX C

Coastal Zone Management Act (CZMA)
Consistency Determination
For Fort Monmouth, New Jersey
Proposed Implementation of BRAC 2005

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Coastal Zone Management Act (CZMA) Federal Consistency Determination Fort Monmouth Proposed Implementation of BRAC 2005

The discussion in this Appendix provides the State of New Jersey with the Fort Monmouth Consistency Determination under CZMA section 307(c) (1) and 15 CFR Part 930, sub-part C, for the implementation of BRAC actions at the installation. The information in this Consistency Determination is provided pursuant to 15 CFR section 930.39. The Proposed Action involves those activities described in Section 1 through Section 3 of this Environmental Assessment (EA).

Consistency Determination

New Jersey's Coastal Management Program (CMP) contains applicable enforceable policies under the following:[1]

- Coastal Zone Management Rules (N.J.A.C. 7:7E), which represent the state's substantive standards for the use and development of resources in New Jersey's coastal zone; these rules implement three major state laws:
    - the Waterfront Development Law (N.J.S.A. 12:5-3),
    - the Wetlands Act of 1970 (N.J.A.C. 13:9A), and
    - the Coastal Area Facility Review Act (CAFRA) (N.J.S.A. 13:19)
- Coastal Permit Program Rules (N.J.A.C. 7:7), which establish the procedures by which the Department reviews permit applications and appeals from permit decisions under the three laws listed above
- Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A), which implement the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B)
- Stormwater Management rules, (N.J.A.C. 7:8)
- New Jersey Pollutant Discharge Elimination Systems rules, (N.J.A.C. 7:14A, Subchapters 1, 2, 5, 6, 11, 12, 13, 15, 16, 18, 19, 20, 21, 24 and 25).

Two additional statutes that are part of the CMP's enforceable policies but are not applicable to the Proposed Action are the Hackensack Meadowlands Reclamation and Development Act, N.J.S.A. 13:17, and the Law concerning the transportation of dredged materials containing polychlorinated biphenyls (PCBs), N.J.S.A. 13:19-33.

The summary on the following pages presents the New Jersey CMP applicable enforceable policies and the Army's conclusions determining that the implementation of the BRAC Commission's recommendations would have no or minor effects on the land or water uses or natural resources of New Jersey.

Below is a summary analysis of the consistency of the proposed federal activity with the New Jersey Coastal Zone Management Program.

[1] NJDEP. 2008. Coastal Management Program: Enforceable Policies. http://www.nj.gov/dep/cmp/czm_enforce policies.html. Accessed June 2008.

Table C-1
Fort Monmouth Coastal Zone Consistency Determination

Applicable Enforceable Policies	Effects of the Federally Proposed Action
Coastal Zone Management Rules (N.J.A.C. 7:7E)	
Subchapter 3: Special Areas	*Rules for the following Special Areas do not apply to the proposed federal activity; the proposed federal activity would not take place in these Special Areas and therefore would have no effect on these Special Areas:*
7:7E-3.2 Shellfish habitat 7:7E-3.3 Surf clam areas 7:7E-3.4 Prime fishing areas 7:7E-3.5 Finfish migratory pathways 7:7E-3.6 Submerged vegetation habitat 7:7E-3.7 Navigation channels 7:7E-3.8 Canals 7:7E-3.9 Inlets 7:7E-3.11 Ports 7:7E-3.12 Submerged infrastructure routes 7:7E-3.13 Shipwreck and artificial reef habitats 7:7E-3.14 Wet borrow pits 7:7E-3.15 Intertidal and subtidal shallows 7:7E-3.16 Dunes 7:7E-3.17 Overwash areas 7:7E-3.18 Coastal high hazard areas 7:7E-3.19 Erosion Hazard Areas 7:7E-3.20 Barrier island corridor 7:7E-3.21 Bay islands 7:7E-3.22 Beaches	7:7E-3.24 Existing lagoon edges 7:7E-3.31 Coastal Bluffs 7:7E-3.32 Intermittent stream corridors 7:7E-3.33 Farmland conservation areas 7:7E-3.34 Steep slopes 7:7E-3.35 Dry borrow pits 7:7E-3.37 Specimen trees 7:7E-3.38 Endangered or threatened wildlife or plant species habitats 7:7E-3.39 Critical wildlife habitats 7:7E-3.42 Excluded Federal lands 7:7E-3.43 Special Urban Areas 7:7E-3.44 Pinelands National Reserve and Pinelands Protection Area 7:7E-3.45 Hackensack Meadowlands District 7:7E-3.46 Wild and Scenic River Corridors 7:7E-3.47 Geodetic control reference marks 7:7E-3.48 Hudson River Waterfront Area 7:7E-3.49 Atlantic City 7:7E-3.50 Lands and waters subject to public trust rights
Subchapter 3: Special Areas (continued)	*Rules for the following special areas potentially apply to the proposed activity, and the proposed federal activity is consistent with the rules*
7:7E-3.10 Marina moorings and 7:7E-3.23 Filled water's edge	**No effect.** Under the federal action, site disposal preparation activities would not involve any development in the existing marina moorings or in any filled water's edge special areas that may exist at Fort Monmouth, primarily along Oceanport and Parkers Creeks. Under the secondary action, the Final Reuse Plan calls for the existing marina in the Oceanport Reuse Area to be improved and expanded to provide greater public access to the water. Consistency with coastal zone management rules for these Special Areas would be the responsibility of others after the federal property is conveyed to others.

Table C-1, *continued*
Fort Monmouth Coastal Zone Consistency Determination

Applicable Enforceable Policies	Effects of the Federally Proposed Action
Subchapter 3: Special Areas (continued)	*Rules for the following special areas potentially apply to the proposed activity, and the proposed federal activity is consistent with the rules*
7:7E-3.25 Flood Hazard Areas	**No effect.** Portions of Fort Monmouth property adjacent to Parkers Creek and Oceanport Creek lie within 100-year floodplain. Site disposal preparation activities would not involve any development or other activity within flood hazard areas. As stated in Section 3.2. 3 of the EA, Army property conveyance documents will notify property transferees of their obligations to adhere to applicable restrictions on the property imposed by federal, state, or local floodplain regulations.
7:7E-3.26 Riparian Zones, 7:7E-3.27 Wetlands, and 7:7E-3.28 Wetland buffers	**Minor adverse effects.** Site disposal preparation activities would be limited to not include sensitive regulated riparian zones, wetlands and wetland buffer areas. No dredging, filling or destruction of wetlands would occur in conjunction with the proposed federal action. Site disposal preparation activities could involve minor land disturbance that would have the potential to have minor adverse effects as a result of sediment runoff into these Sensitive Areas. The Army would comply with its existing storm water management plans and implement applicable BMPs so as to minimize any potential adverse effects. As stated in Section 3.2.3 of the EA, the Army would notify prospective transferees of their requirement to adhere to Section 404 permitting requirements for activities in or related to wetlands.
7:7E-3.36 Historical and archaeological resources	**No effect.** Site disposal preparation activities would preserve existing historical and archaeological resources as described in Section 4.9 of the EA. Transfer or conveyance would be subject to the Army's Memorandum of Agreement with the New Jersey SHPO and ACHP as described in Section 3.2.3 and Section 4.9.2 of the EA.
7:7E-3.40 Public Open Space	**No effect.** Federal activities in preparation for site disposal would not involve any development in or adjacent to existing public open space.
7:7E-3.41 Special Hazard Areas	**Minor beneficial effects.** Proposed federal action includes cleanup of contaminated sites as part of preparation for Army disposal, as described in Section 2.3.2 of the EA.
Subchapter 3A: Standards for Beach and Dune Activities	**No effect.** Rules in the Subchapter do not apply to the proposed federal activity; the proposed federal activity would not involve any beach and dune activities.
Subchapter 3B: Information Required in Tidal Wetland and Intertidal and Subtidal Shallows Mitigation Proposals	**No effect.** The proposed federal activity would be consistent with these rules pursuant to 7:7E-3.15 and 7:7E-3.27 discussed above.

Table C-1, *continued*
Fort Monmouth Coastal Zone Consistency Determination

Applicable Enforceable Policies	Effects of the Federally Proposed Action
Subchapter 3C: Standards for Conducting and Reporting the Results of an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and/or Endangered or Threatened Wildlife Species Habitat Evaluation	**No effect.** Rules in this Subchapter do not apply to the proposed federal activity. No Habitat Impact Assessment surveys are planned as part of the proposed federal activity subsequent to the previous planning level surveys discussed in Section 4.8.1.3 of the EA.
Subchapter 4: General Water Areas	*The following General Water Areas rules do not apply to the proposed federal activity; the proposed federal activity would not involve the activities regulated under these General Water Areas rules and therefore would have no effect relative to the listed areas or activities:* 7:7E-4.2 Aquaculture 7:7E-4.3 Boat ramps 7:7E-4.4 Boat docks and piers for cargo and commercial fisheries 7:7E-4.5 Recreational docks and piers 7:7E-4.7 New dredging 7:7E-4.9 Solid waste or sludge dumping 7:7E-4.10 Filling 7:7E-4.11 Mooring 7:7E-4.12 Sand and gravel mining 7:7E-4.13 Bridges 7:7E-4.14 Submerged pipelines 7:7E-4.15 Overhead transmission lines 7:7E-4.16 Dams and impoundments 7:7E-4.17 Outfalls and intakes 7:7E-4.18 Realignment of water areas 7:7E-4.19 Breakwaters 7:7E-4.20 Submerged cables 7:7E-4.21 Artificial reefs 7:7E-4.22 Miscellaneous uses
Subchapter 4: General Water Areas (continued)	*The following General Water Areas rules potentially apply to the proposed activity, and the proposed federal activity is consistent with the rules:*
7:7E-4.6 Maintenance dredging and 7.7E-4.8 Dredged material disposal	**No effect.** The proposed federal activity may include caretaking of property until disposal, as described in Section 2.3.1 of the EA, to include initial and long-term maintenance. Such maintenance may include continuation of periodic marina dredging along Oceanport Creek as described in Section 4.7.1.1 of the EA. Such dredging would be consistent with these General Water Areas rules.
Subchapter 5, 5A, and 5B: Requirements for Impervious Cover and Vegetative Cover for General Land Areas and Certain Special Areas; *and* ***Impervious Cover Limits and Vegetative Cover Percentages***	**Minor adverse effects.** Site disposal preparation activities under the proposed federal action, including caretaking and interim uses as described in Section 2.3 of the EA, would not appreciably change the existing impervious cover and vegetative cover at Fort Monmouth. Site disposal preparation activities could involve general land disturbance and vegetation removal and would be expected to be minor. All activities under the proposed federal activity would continue to be consistent with these rules.
Subchapter 6: General Location Rules	**No effect.** Rules in this Subchapter do not apply to the proposed federal activity; the proposed federal activity would not involve any development activities as described under these rules.

Table C-1, *continued*
Fort Monmouth Coastal Zone Consistency Determination

Applicable Enforceable Policies	Effects of the Federally Proposed Action
Subchapter 7: Use Rules	**No effect.** Site disposal preparation activities under the proposed federal action, including caretaking and interim uses as described in Section 2.3 of the EA, would not appreciably change the existing land uses at Fort Monmouth. All activities under the proposed federal activity would continue to be consistent with these rules.
Subchapter 8: Resource Rules	**No effect.** During site disposal preparation activities under the proposed federal action, including caretaking and interim uses as described in Section 2.3 of the EA, the Army would continue to manage Fort Monmouth under existing resource protection programs and practices, including its storm water pollution prevention plan and discharge permits. The proposed federal activity would comply with Resource Rules as described in this Subchapter.
Coastal Permit Program Rules (N.J.A.C. 7:7)	
All Subchapters	**No effect.** Proposed federal activities would comply with all provisions and procedures outlined in these rules for applicable permits required for activity in CAFRA, Wetlands, and Waterfront areas.
Freshwater Wetlands Protection Act rules, (N.J.A.C. 7:7A)	
All Subchapters	**No effect.** The proposed federal activities would be consistent with rules governing the implementation of the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., as outlined in these rules and as discussed above pursuant to N.J.A.C. 7:7E-3.15, 7:7E-3.27, and 7:7E-3B.
Stormwater Management rules, (N.J.A.C. 7:8)	
All Subchapters	**No effect.** During site disposal preparation activities under the proposed federal action, including caretaking and interim uses as described in Section 2.3 of the EA, the Army would continue to manage Fort Monmouth under existing resource protection programs and practices, including its approved storm water pollution prevention plan that is consistent with these rules.
New Jersey Pollutant Discharge Elimination Systems rules, (N.J.A.C. 7:14A, Subchapters 1, 2, 5, 6, 11, 12, 13, 15, 16, 18, 19, 20, 21, 24 and 25)	
All Subchapters	**No effect.** During site disposal preparation activities under the proposed federal action, including caretaking and interim uses as described in Section 2.3 of the EA, the Army would continue to manage Fort Monmouth under existing resource protection programs and practices, including its New Jersey Pollutant Discharge Elimination System (NPDES) permits and Public Complex General permits that are consistent with these rules.

Based upon the information, data, and analysis, as contained in the EA, the Army finds that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the New Jersey CMP. Pursuant to 15 CFR Section 930.41, the New Jersey CMP has 60 days from receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b). New Jersey's concurrence will be presumed if its response is not received by the Army on or before the 60th day from receipt of this determination. The State of New Jersey's response should be sent to Ms. Wanda Green, BRAC Environmental Coordinator, U.S. Army Fort Monmouth, 173 Riverside Drive, Fort Monmouth, NJ 07703.

Stephen M. Christian
Colonel, U.S. Army
Commanding

7 April 2009

Date

APPENDIX D

List of Scientific and Common Names

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LIST OF SCIENTIFIC AND COMMON NAMES
(OF SPECIES MENTIONED IN THE TEXT)

American holly	*Ilex opaca*
Birch	*Betula* spp.
Black cherry	*Prunus serotina*
Silky dogwood	*Cornus amomum*
Blue huckleberry	*Baylussacia frondosa*
Mountain laurel	*Kalmia latifolia*
Red maple	*Acer rubrum*
Oak	*Quercus* spp.
Sweet pepperbush	*Clethra alnifolia*
Sassafras	*Sassafras albidum*
Sweetgum	*Liquidambar styraciflua*
Southern arrowwood	*Viburnum dentatum*
Chipmunk	*Tamias striatus*
Eastern cottontail rabbit	*Sylvilagus floridanus*
White-tailed deer	*Odocoileus virginianus*
Red fox	*Vulpes vulpes*
Muskrat	*Ondatra zibethica*
Raccoon	*Procyon lotor*
Skunk	*Mephitis mephitis*
Gray squirrel	*Sciurus carolinensis*
Woodchuck	*Marmota monax*
Chickadee	*Poecile* spp.
Brown-headed cowbird	*Molothrus ater*
American crow	*Corvus brachyrhynchos*
Mourning dove	*Zenaida macroura*
Canada goose	*Branta canadensis*
Blue jay	*Cyanocitta cristata*
Mallard	*Anas platyrhynchos*
Robin	*Turdus migratorius*
European starling	*Sturnus vulgaris*
Tufted titmouse	*Baeolophus bicolor*
Red back salamander	*Plethodon cinereus*
Spring peeper	*Hyla crucifer*
Bullfrog	*Rana catesbeiana*
Green frog	*Rana clamitans*
Wood frog	*Rana sylvatica*
Common snapping turtle	*Chelydra serpentina*
Northern brown snake	*Storeria dekayi*
Eastern garter snake	*Thamnophis sirtalis*
Northern water snake	*Nerodia sipedon*

Swamp pink	*Helonias bullata*	FT[1]
Northern bog turtle	*Clemmys muhlenbergii*	FT
Osprey	*Pandion haliaetus*	ST

[1] FT=federal threatened, ST=state threatened

APPENDIX E

Agency Coordination Letters

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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

OCT 0 7 2008

Directorate of Public Works

Mr. Herb Lord
NJDEP Natural Heritage Program
Office of Natural Lands Management
PO Box 404
22 South Clinton Avenue
Trenton, New Jersey 08625-0404

SUBJECT: Preparation of an Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth, New Jersey

Dear Mr. Lord:

The Army is undertaking the preparation of an Environmental Assessment (EA) for implementation of the Base Realignment and Closure (BRAC) Commission recommendations for Fort Monmouth, New Jersey. On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Fort Monmouth. These recommendations became law on November 9, 2005, and the BRAC Commission recommendations must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC action will result in closure of the installation.

Fort Monmouth is in the east-central part of New Jersey in Monmouth County, approximately 50 miles south of New York City and 70 miles northeast of Philadelphia. The installation consists of the Main Post (637 acres) and the Charles Wood Area (489 acres). The major organizations at Fort Monmouth are the U.S. Army Communications-Electronics Command and three Army Program Executive Offices. The installation has 431 buildings having nearly 5 million square feet of built space.

In accordance with the National Environmental Policy Act, the Army is assessing the potential effects of implementation of the proposed BRAC action, to dispose of the 1,126 acres of land at Fort Monmouth. The EA will consider the effects of disposal and reuse of the property. Evaluation of the effects of property disposal includes evaluation of the Army taking certain interim actions, such as caring for vacated facilities. A Final EA is anticipated to be available in January 2009.

We are requesting your input regarding the potential impacts of the proposed action on the human and natural resources of concern to your agency. It is requested that your input be provided within 30 days of receipt of this letter. If you have any questions or require further information regarding the BRAC action at Fort Monmouth, please call Ms. Wanda Green at 732-532-8341.

Sincerely,

Barbara A. Folk
Director, Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

OCT 0 7 2008

Directorate of Public Works

Mr. Eric Davis
U.S. Fish and Wildlife Service
New Jersey Field Office
927 North Main Street
Heritage Square, Building D
Pleasantville, New Jersey 08232

SUBJECT: Preparation of an Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth, New Jersey

Dear Mr. Davis:

The Army is undertaking the preparation of an Environmental Assessment (EA) for implementation of the Base Realignment and Closure (BRAC) Commission recommendations for Fort Monmouth, New Jersey. On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Fort Monmouth. These recommendations became law on November 9, 2005, and the BRAC Commission recommendations must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC action will result in closure of the installation.

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Sincerely,

Barbara A. Folk
Director, Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

OCT 0 7 2008

Directorate of Public Works

Mr. Mark M. Mauriello
Department of Environmental Protection
Division of Land Use Regulation
PO Box 439
501 East State Street
Trenton, New Jersey 08625-0439

SUBJECT: Preparation of an Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth, New Jersey

Dear Mr. Mauriello:

The Army is undertaking the preparation of an Environmental Assessment (EA) for implementation of the Base Realignment and Closure (BRAC) Commission recommendations for Fort Monmouth, New Jersey. On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Fort Monmouth. These recommendations became law on November 9, 2005, and the BRAC Commission recommendations must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC action will result in closure of the installation.

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Sincerely,

Barbara A. Folk
Director, Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

OCT 0 7 2008

Directorate of Public Works

Mr. Stanley W. Gorski
National Marine Fisheries Service
Field Office Supervisor
James J. Howard Marine Sciences Lab
74 Magruder Rd.
Highlands, NJ 07732

SUBJECT: Preparation of an Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth, New Jersey

Dear Mr. Gorski:

The Army is undertaking the preparation of an Environmental Assessment (EA) for implementation of the Base Realignment and Closure (BRAC) Commission recommendations for Fort Monmouth, New Jersey. On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Fort Monmouth. These recommendations became law on November 9, 2005, and the BRAC Commission recommendations must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC action will result in closure of the installation.

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Sincerely,

Barbara A. Folk
Director, Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

OCT 0 7 2008

Directorate of Public Works

Mr. Dan Saunders
New Jersey Department of Environmental Protection
State Historic Preservation Officer
Historic Preservation Office
401 East State Street
PO Box 402
Trenton, New Jersey 08625

SUBJECT: Preparation of an Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth, New Jersey

Dear Mr. Mauriello:

The Army is undertaking the preparation of an Environmental Assessment (EA) for implementation of the Base Realignment and Closure (BRAC) Commission recommendations for Fort Monmouth, New Jersey. On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Fort Monmouth. These recommendations became law on November 9, 2005, and the BRAC Commission recommendations must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The BRAC action will result in closure of the installation.

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Sincerely,

Barbara A. Folk
Director, Public Works

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

LISA P. JACKSON
Commissioner

October 16, 2008

Barbara A. Folk
Director, Public Works
Department of the Army
Headquarters, United States Army Garrison, Fort Monmouth
Fort Monmouth, NJ 07703-5101

Re: Environmental Assessment for Implementation of the Base Realignment and Closure Commission Recommendations at Fort Monmouth

Dear Ms. Folk:

We are in receipt of your request for information on the State's biological diversity at the above referenced site. The Natural Heritage Program can conduct a custom search of the Natural Heritage Database for your project site to identify records of rare or endangered species and natural communities. If you would like to request such a search, please complete, sign, and return or fax the enclosed Natural Heritage Data Request Form to the above address. The form includes explanations of our procedures and fees.

Sincerely,

Herbert A. Lord

Herbert A. Lord
Data Request Specialist

Enclosure:
Natural Heritage Data Request Form

State of New Jersey
Department of Environmental Protection
Natural Heritage Data Request Form

The New Jersey Natural Heritage Program
Office of Natural Lands Management
P.O. Box 404, Trenton, New Jersey 08625
(609) 984-1339
Fax No.: (609) 984-1427

PLEASE PRINT AND SUBMIT COMPLETED FORM WITH ATTACHMENTS TO THE ADDRESS ABOVE
(Fields shown in bold font must be completed in order for data request to be processed.)

1. **Name:** _____ Agency/Company: _____

   Address: _____ **City:** _____

   State: _____ **Zip:** _____ **Daytime Phone:** _____ Ext.: _____

   Cell Phone: _____ Email: _____

2. **Project Name:** _____

   Municipality(ies): _____ County(ies): _____

   Block(s): _____ Lot(s): _____

   N.A.D. 1983 State Plane Coordinates (feet) 6 digits only: E (x): _____ N (y): _____

3. **Project Description:** _____

4. **USGS Quad:** ___ A copy of a USGS quad map(s) that clearly indicates the site boundary is included with this form. Specify name of USGS quad(s):

   (USGS quad maps are required, unless prior arrangements have been made to submit site boundaries in an alternate format. Responses will be delayed if site locations are not delineated in a suitable format.)

5. **Flood Hazard Control Act Use:** **Is this request submitted as part of a Flood Hazard Area Control Act rule (N.J.A.C. 7:13) application? Yes____ No ____**

6. **Acknowledgement & Signature:** Any material supplied by the Office of Natural Lands Management will not be published without crediting the Natural Heritage Database as the source of the material. It is understood that there will be a charge of $20.00 per hour for the services requested. An invoice will be sent with the request response and payment should be made by check or money order payable to "Office of Natural Lands Management."

   Signed _____ **Date** _____

Time Frame for Response:
Data requests are processed in the order in which they are received; the response time depends on the backlog at the time your request is logged in. Due to the number of attachments, we cannot fax results. If you would like to have your response package returned by Federal Express, please include an account number with your request.

FOR OFFICE USE ONLY

DATE RECEIVED _____

Item Code: REG _____ ST _____ RTC _____ NC _____ REGEO _____ STEO _____ RTCEO _____ NCEO _____

Hrs: _____

Project Code: _____ Inv. #: _____ _____

Natural Heritage Data Services

Established in 1984, the Natural Heritage Database is the state's most comprehensive, centralized source of information on rare plants, animals, and natural communities. The database is a compilation of information from a broad range of sources including museum and herbarium collection records, publications, knowledgeable experts, and fieldwork. It contains information collected by the Office of Natural Lands Management on rare plants, animals, and natural communities as well as data on rare animals provided by the Endangered and Nongame Species Program. The database is continuously updated and improved as new data is obtained. Information from this database is available to assist individuals in the preservation of habitat for rare species and natural communities.

Using the Database

Land-Use Planning

Resource planners can save time and money by referring to the database for comprehensive Natural Heritage data. By consulting the database early in the planning stages, planners can alleviate possible conflicts by determining whether the intended location for a given project includes known rare species occurrences. Municipalities and counties also can use the database information for inclusion in their natural resource inventories and open space plans.

Environmental Assesment and Permit Review

Database information can be used to plan and supplement field surveys that are conducted to assess impacts of projects on natural diversity. Reviewers of environmental impact statements and permit applications can consult the database to determine if impacts on known occurrences of protected species and communities have been assessed.

Natural Area Selection, Design, and Stewardship

Conservationists can use Natural Heritage data to identify the highest quality areas for natural diversity and those areas in most need of protection.

Information Available from Database

For any specified area in New Jersey, the Natural Heritage database can be searched for locational records of rare and endangered species and natural communities. The database contains thousands of locational records for rare and endangered plants, animals, and natural communities. The status of more than 750 plant and animal species and more than 50 natural communities are tracked by the database. This includes:

- Listed Federal Endangered Species
- Listed State Endangered Plant Species
- Listed State Endangered Wildlife
- Additional Plant Species of Concern
- Additional Nongame Animal Species
- Rare and Exemplary Natural Communities

To request data, write to the address below stating your data needs and include a completed Natural Heritage Data Request Form (see reverse side). Include the following information:

- Name and address of user or organization
- Type of data needed
- Copy of USGS quad with exact boundaries
- Explanation of how the information will be used

Time Frame for Response

Data requests are processed in the order in which they are received. The response time depends on the backlog at the time your request is logged in; however, the average turnaround time is 3-4 weeks. Due to the number of attachments, we cannot fax results. If you would like to have your response package returned by Federal Express, please include an account number with your request.

Fees

Fees are charged to cover the cost of providing data services. Minimum charge is $20.00. Charges for searches exceeding one hour are charged in half-hour increments at $20.00 per hour. A bill will be sent with the request response and payment should be made by check or money order payable to "Office of Natural Lands Management." A fee estimate can be given prior to initiating a search.

Send data requests to:

Office of Natural Lands Management
Natural Heritage Program
PO Box 404
22 South Clinton Avenue
Trenton, New Jersey 08625-0404
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APPENDIX F

Economic Impact Forecast System (EIFS) Model Results for Fort Monmouth, New Jersey

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ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL ANALYSIS FOR FORT MONMOUTH, NEW JERSEY

Socioeconomic Impact Assessment

Socioeconomic impacts are linked through cause-and-effect relationships. Payrolls and local procurement contribute to the economic base for the ROI. In this regard, the reuse of the Fort Monmouth parcel would have a multiplier effect on the local and regional economy. With reuse, direct jobs would be created, generating new income and increasing personal spending. This spending generally creates secondary jobs, business sales, and revenues for schools and other social services.

The Economic Impact Forecast System

The U.S. Army, with the assistance of academic and professional economists and regional scientists, developed EIFS to address the economic impacts of NEPA-requiring actions and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments for BRAC. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand but still have firm, defensible bases in regional economic theory.

EIFS was developed under a joint project of the U.S. Army Corps of Engineers, the U.S. Army Environmental Policy Institute, and the Computer and Information Science Department of Clark Atlanta University. EIFS is implemented as an online system supported by the U.S. Army Corps of Engineers, Mobile District. The system is available to anyone with an approved user-ID and password. U.S. Army Corps of Engineers staff are available to assist with the use of EIFS.

The databases in EIFS are national in scope and cover the approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

The EIFS Model

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the EA and EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach on the

basis of the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the EIFS model the data elements that describe the Army action: definition of the ROI; the change in local procurement, contracting, and purchases; number of affected civilian personnel and their salaries; number of affected military employees and their salaries; and the percent of affected military living on-post.

For the Fort Monmouth BRAC action, change in employment is calculated by subtracting the baseline worker population of the installation (5,400) from the number of workers anticipated under each reuse scenario identified in Section 3.0, Table 3-2. The average expenditure per employee is from Bureau of Economic Analysis industry expenditures per employee for Monmouth County. The change in total expenditures for services and supplies is calculated for each reuse scenario by multiplying the expected change in employee population by the average expenditure per employee for that reuse scenario (Table 1). The average income of workers is the per capita personal income (PCPI) for the county in which the installation is located ($48,500) (BEA 2007b). For each reuse intensity the percent expected to relocate from outside the ROI would be zero. Any new jobs created by the reuse scenarios would more than likely be filled by unemployed persons already in the area.

Table 1
EIFS Model Input Parameters for Reuse Scenarios

Reuse Intensity	Employee Population[1]	Change in Employee Population[2]	Average Expenditure per Employee[3]	Change in Total Expenditure[4]
LIR	1,000	-4,400	$54,737	-$240,842,800
MLIR	3,000	-2,400	$54,737	-$131,368,800
MIR	5,400	0	$54,737	0

[1] See Table 3-2 for derivation of employee populations for reuse scenarios.
[2] Projected reuse employee population minus Fort Monmouth baseline employee population. Fort Monmouth baseline employee population is 5,400 (Fort Monmouth PAO 2008).
[3] Average expenditure per employee from Bureau of Economic Analysis (BEA 2008).
[4] Average expenditure per employee multiplied by the change in employee population.

The MIR reuse scenario also would involve new construction. The current working estimate for the cost of construction ($953,000,000) was divided over the projected 20-year development period (FMERPA 2008a) and entered in the EIFS model as the change in construction expenditures ($47,650,000 per year).

Once the input variables are entered into the EIFS model, the model is run and it projects changes to the local economy's business sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the proposed reuse action, including the direct and secondary changes in local employment. Income is the total change in local wages and salaries due to the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

The Significance of Socioeconomic Impacts

Once model projections are obtained, the RTV profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action's impact on the historical fluctuation in an area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

		Increase	Decrease
Sales volume	X	100%	75%
Income	X	100%	67%
Employment	X	100%	67%
Population	X	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

The following are the EIFS inputs and output data and the RTV values for the ROI. These data form the basis for the reuse impact analysis presented in Section 4.10.2.

EIFS REPORT

PROJECT NAME

Fort Monmouth BRAC EA – *MIR Reuse Alternative*

STUDY AREA

34025 Monmouth County, NJ

FORECAST INPUT

Change In Local Expenditures	$47,650,000
Change In Civilian Employment	0
Average Income of Affected Civilian	$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	3.46	
Income Multiplier	3.46	
Sales Volume – Direct	$33,878,320	
Sales Volume – Induced	$83,340,670	
Sales Volume – Total	$117,219,000	0.43%
Income – Direct	$6,205,912	
Income - Induced	$15,266,550	
Income – Total (place of work)	$21,472,460	0.11%
Employment – Direct	141	
Employment – Induced	347	
Employment – Total	488	0.16%
Local Population	0	
Local Off-base Population	0	0.00%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	13.60%	12.05%	4.32%	1.68%
Negative RTV	-6.41%	-4.33%	-3.17%	-0.59%

PROJECT NAME

Fort Monmouth BRAC EA – *MLIR Reuse Alternative*

STUDY AREA

34025 Monmouth County, NJ

FORECAST INPUT

Change In Local Expenditures	($131,368,800)
Change In Civilian Employment	(2,400)
Average Income of Affected Civilian	$48,500
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	3.46	
Income Multiplier	3.46	
Sales Volume – Direct	($186,986,500)	
Sales Volume – Induced	($459,986,900)	
Sales Volume – Total	($646,973,400)	-2.37%
Income – Direct	($133,509,400)	
Income - Induced	($84,261,500)	
Income – Total (place of work)	($217,770,900)	-1.08%
Employment – Direct	(3,179)	
Employment – Induced	(1,916)	
Employment – Total	(5,095)	-1.72%
Local Population	0	
Local Off-base Population	0	0.00%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	13.60%	12.05%	4.32%	1.68%
Negative RTV	-6.41%	-4.33%	-3.17%	-0.59%

PROJECT NAME

Fort Monmouth BRAC EA – *LIR Reuse Alternative*

STUDY AREA

34025 Monmouth County, NJ

FORECAST INPUT

Change In Local Expenditures	($240,842,800)
Change In Civilian Employment	(4,400)
Average Income of Affected Civilian	$48,500
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	3.46	
Income Multiplier	3.46	
Sales Volume – Direct	($342,808,700)	
Sales Volume – Induced	($843,309,400)	
Sales Volume – Total	($1,186,118,000)	-4.34%
Income – Direct	($244,767,200)	
Income - Induced	($154,479,400)	
Income – Total (place of work)	($399,246,700)	-1.99%
Employment – Direct	(5,828)	
Employment – Induced	(3,513)	
Employment – Total	(9,342)	-3.14%
Local Population	0	
Local Off-base Population	0	0.00%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	13.60%	12.05%	4.32%	1.68%
Negative RTV	-6.41%	-4.33%	-3.17%	-0.59%

RTV DETAILED

SALES VOLUME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1058692	4626484	0	0	0
1970	1147306	4738374	111890	-116967	-2.47
1971	1268335	5022607	284233	55376	1.1
1972	1386223	5309234	286627	57770	1.09
1973	1576366	5690681	381447	152590	2.68
1974	1678617	5455505	-235176	-464033	-8.51
1975	1757215	5236501	-219005	-447862	-8.55
1976	1929962	5442493	205992	-22865	-0.42
1977	2127488	5616569	174076	-54781	-0.98
1978	2424988	5965471	348902	120045	2.01
1979	2746767	6070355	104885	-123972	-2.04
1980	3012065	5843406	-226949	-455806	-7.8
1981	3317862	5839437	-3969	-232826	-3.99
1982	3597054	5971110	131672	-97185	-1.63
1983	3921383	6313427	342317	113460	1.8
1984	4474750	6891115	577688	348831	5.06
1985	4978210	7417533	526418	297561	4.01
1986	5542760	8092430	674897	446040	5.51
1987	6213503	9630929	1538500	1309643	13.6
1988	6908149	9395083	-235847	-464704	-4.95
1989	7281594	9393256	-1827	-230684	-2.46
1990	7539141	9273144	-120112	-348969	-3.76
1991	7618733	8990105	-283039	-511896	-5.69
1992	8239879	9393462	403357	174500	1.86
1993	8740480	9701933	308471	79614	0.82
1994	8821892	9527644	-174289	-403146	-4.23
1995	9227577	9688955	161312	-67545	-0.7
1996	9633478	9826147	137192	-91665	-0.93
1997	10399471	10399471	573324	344467	3.31
1998	11191642	10967809	568338	339481	3.1
1999	11851140	11377094	409285	180428	1.59
2000	12849380	11949923	572829	343972	2.88

INCOME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1973895	8625921	0	0	0
1970	2144360	8856207	230286	-219514	-2.48
1971	2379717	9423679	567472	117672	1.25
1972	2611170	10000781	577101	127301	1.27
1973	2903182	10480487	479706	29906	0.29
1974	3158675	10265694	-214793	-664593	-6.47
1975	3413855	10173288	-92406	-542206	-5.33
1976	3744868	10560528	387240	-62560	-0.59
1977	4150361	10956953	396426	-53374	-0.49
1978	4722685	11617805	660852	211052	1.82
1979	5400934	11936064	318259	-131541	-1.1
1980	6161025	11952389	16325	-433475	-3.63
1981	6880899	12110382	157993	-291807	-2.41
1982	7431617	12336484	226102	-223698	-1.81
1983	8029089	12926833	590349	140549	1.09
1984	8955149	13790929	864096	414296	3
1985	9720861	14484083	693154	243354	1.68
1986	10555463	15410976	926893	477093	3.1
1987	11634836	18033995	2623019	2173219	12.05
1988	12904668	17550349	-483647	-933447	-5.32
1989	13789875	17788938	238590	-211210	-1.19
1990	14354903	17656531	-132407	-582207	-3.3
1991	14644796	17280859	-375672	-825472	-4.78
1992	15731327	17933713	652854	203054	1.13
1993	16348577	18146921	213208	-236592	-1.3
1994	16701280	18037383	-109538	-559338	-3.1
1995	17656923	18539768	502385	52585	0.28
1996	18765873	19141190	601422	151622	0.79
1997	20085553	20085553	944363	494563	2.46
1998	21725595	21291084	1205531	755731	3.55
1999	22668366	21761631	470547	20747	0.1
2000	24752156	23019505	1257874	808074	3.51

EMPLOYMENT

Year	Value	Change	Deviation	%Deviation
1969	157651	0	0	0
1970	159792	2141	-2933	-1.84
1971	165104	5312	238	0.14
1972	168154	3050	-2024	-1.2
1973	179379	11225	6151	3.43
1974	179420	41	-5033	-2.81
1975	176452	-2968	-8042	-4.56
1976	179560	3108	-1966	-1.09
1977	185694	6134	1060	0.57
1978	198184	12490	7416	3.74
1979	204276	6092	1018	0.5
1980	210039	5763	689	0.33
1981	212433	2394	-2680	-1.26
1982	216344	3911	-1163	-0.54
1983	223160	6816	1742	0.78
1984	238532	15372	10298	4.32
1985	249195	10663	5589	2.24
1986	258510	9315	4241	1.64
1987	269566	11056	5982	2.22
1988	277510	7944	2870	1.03
1989	279935	2425	-2649	-0.95
1990	277627	-2308	-7382	-2.66
1991	269943	-7684	-12758	-4.73
1992	274153	4210	-864	-0.32
1993	278828	4675	-399	-0.14
1994	281838	3010	-2064	-0.73
1995	285608	3770	-1304	-0.46
1996	290387	4779	-295	-0.1
1997	297070	6683	1609	0.54
1998	302115	5045	-29	-0.01
1999	307641	5526	452	0.15
2000	320015	12374	7300	2.28

POPULATION

Year	Value	Change	Deviation	%Deviation
1969	450967	0	0	0
1970	463929	12962	7776	1.68
1971	472513	8584	3398	0.72
1972	478160	5647	461	0.1
1973	480882	2722	-2464	-0.51
1974	484752	3870	-1316	-0.27
1975	491362	6610	1424	0.29
1976	490778	-584	-5770	-1.18
1977	492553	1775	-3411	-0.69
1978	496807	4254	-932	-0.19
1979	499816	3009	-2177	-0.44
1980	504007	4191	-995	-0.2
1981	506379	2372	-2814	-0.56
1982	510213	3834	-1352	-0.26
1983	513195	2982	-2204	-0.43
1984	520276	7081	1895	0.36
1985	528986	8710	3524	0.67
1986	538786	9800	4614	0.86
1987	549116	10330	5144	0.94
1988	553300	4184	-1002	-0.18
1989	552161	-1139	-6325	-1.15
1990	554210	2049	-3137	-0.57
1991	558418	4208	-978	-0.18
1992	565469	7051	1865	0.33
1993	571129	5660	474	0.08
1994	577069	5940	754	0.13
1995	583899	6830	1644	0.28
1996	589646	5747	561	0.1
1997	596520	6874	1688	0.28
1998	603050	6530	1344	0.22
1999	610811	7761	2575	0.42
2000	616911	6100	914	0.15

****** End of Report ******

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AQCR	Air-Quality Control Region
AR	Army regulation
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
BMP	best management practice
BRAC	Base Closure and Realignment
C4ISR	Command and Control, Communications, Computers, Intelligence, Sensors and Reconnaissance
C&D	construction and demolition
CAA	Clean Air Act
CAFRA	Coastal Area Facility Review Act
CECOM	Communications and Electronics Command
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERDEC	Communications and Electronics Research and Development Center
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CIPO	Chief Interoperability Program Office
CO	carbon monoxide
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibels
DES	Directorate of Emergency Services
DISA	Defense Information Systems Agency
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DPW	Directorate of Public Works
EA	environmental assessment
ECP	Environmental Condition of Property
EDC	economic development conveyance
EIFS	Economic Impact Forecast System
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FAR	floor-to-area ratio
FEMA	Federal Emergency Management Agency
FESD	Fire and Emergency Services Division
FMERPA	Fort Monmouth Economic Revitalization Planning Authority
FNSI	finding of no significant impact
FPPA	Farmland Protection Policy Act
HIR	high-intensity reuse
HUC	hydrologic unit code
HUD	U.S. Department of Housing and Urban Development
HVAC	heating, ventilation, and air-conditioning

IRP	Installation Restoration Program
JCP&L	Jersey Central Power and Light
kVA	kilovolt-amperes
LBP	lead-based paint
L_{eq}	Equivalent Sound Level
LIR	low-intensity reuse
LOS	Levels of Service
LRA	local redevelopment authority
MEC	munitions and explosives of concern
mgd	million gallons per day
MHIR	medium-high-intensity reuse
MIR	medium-intensity reuse
MLIR	medium-low-intensity reuse
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NJAC	New Jersey Administrative Code
NJCL	New Jersey Coast Line
NJDEP	New Jersey Department of Environmental Protection
NJNG	New Jersey Natural Gas
NNSR	Nonattainment New Source Review
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
O_3	ozone
PA	Programmatic Agreement
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
PCPI	per capita personal income
PEO	Program Executive Offices
PEO C3T	PEO for Command, Control, Communications Tactical
PEO EIS	PEO for Enterprise Information Systems
PEO IEWS	PEO for Intelligence, Electronic Warfare and Sensors
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMOA	Programmatic Memorandum of Agreement
ppm	parts per million
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
R&D	research and development
RAM	radioactive material
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
RTV	rational threshold value
SF	square feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan

SO_2	sulfur dioxide
TCP	Traditional Cultural Property
TRWRA	Two Rivers Water Reclamation Authority
TSCA	Toxic Substances Control Act
U.S.C.	United States Code
USMAPS	U.S. Military Academy Preparatory School
UST	underground storage tank
UXO	unexploded ordnance
VOC	volatile organic compound

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