

Final
**Environmental Assessment
for BRAC 95 Realignment Actions
Fort Monmouth, New Jersey**



Prepared for:
US Army Materiel Command

by

**US Army Corps of Engineers
Mobile District**

July 1996

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment addresses the proposed action of realigning approximately 175 personnel positions to Fort Monmouth, New Jersey. It provides analysis of the potential environmental and socioeconomic impacts as required by Army Regulation 200-2 and the National Environmental Policy Act.

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

SECTION 1 ***PURPOSE, NEED, AND SCOPE*** summarizes the purpose of and need for the proposed action and describes the scope of the environmental impact analysis process.

SECTION 2 ***PROPOSED ACTION*** describes the proposed action of realigning approximately 175 positions.

SECTION 3 ***ALTERNATIVES*** examines alternatives for implementing the proposed action.

SECTION 4 ***AFFECTED ENVIRONMENT*** presents the environmental and socioeconomic setting of Fort Monmouth without the realignment of the 175 positions.

SECTION 5 ***ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES*** identifies potential environmental and socioeconomic effects of implementing the proposed action.

SECTION 6 ***FINDINGS AND CONCLUSIONS*** identifies potential impacts associated with the alternatives and draws a conclusion as to which alternative should be implemented.

SECTION 7 ***LIST OF PREPARERS*** identifies persons who prepared the document and their areas of expertise.

SECTION 8 ***DISTRIBUTION LIST*** indicates recipients of this Environmental Assessment.

SECTION 9 ***REFERENCES*** provides bibliographical information for cited sources.

SECTION 10 ***PERSONS AND AGENCIES CONSULTED*** provides a listing of persons/agencies consulted during preparation of the Environmental Assessment.

APPENDICES ***A*** US Fish and Wildlife Service Coordination Letter
 B State Historic Preservation Office Coordination Letter
 C Record of Non-Applicability
 D EIFS Model Input/Output Data

An ***ACRONYM LIST*** (foldout) is provided immediately following the appendices.



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Finding of No Significant Impact
BRAC 95 Realignment Actions, Fort Monmouth, New Jersey

Pursuant to the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508) for implementing the procedural provisions of the National Environmental Policy Act (42 U.S.C. 4321 et seq.) and Army Regulation 200-2 (Environmental Effects of Army Actions), the US Army Materiel Command (AMC) conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with the 1995 Defense Base Closure and Realignment Commission recommendation pertaining to Fort Monmouth, New Jersey.

Consistent with the BRAC Commission recommendations, AMC proposes to relocate the communications-electronics materiel management missions and functions and approximately 175 positions from the Aviation and Troop Command, St. Louis, Missouri, to the Communications-Electronics Command, Fort Monmouth, New Jersey. The Army also proposes to relocate three US Army Audit Agency personnel positions from St. Louis, Missouri, to Fort Monmouth. Implementation of the relocations will involve renovation of Building 206 at Fort Monmouth to house the administrative activities related to the communications-electronics materiel management missions and functions. Army Audit Agency personnel will be housed in existing administrative spaces in Building 418. The relocations are proposed to occur from July through September 1997, and in any case, not later than December 1997.

The Army has considered the proposed action and a no action alternative. The no action alternative, as prescribed by Council on Environmental Quality regulations, has been considered as the benchmark against which proposed actions may be considered. Renovation of Building 206 is the preferred alternative for providing spaces to accommodate the additional communications-electronics employees at Fort Monmouth, and use of existing spaces is the preferred alternative to accommodate the additional US Army Audit Agency personnel. These preferences were selected over alternatives involving leasing of spaces or new construction.

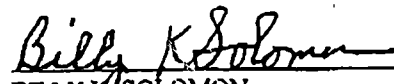
The EA, which is incorporated by reference into this Finding of No Significant Impact, examines potential impacts of the proposed action and alternatives on 13 resource areas and areas of environmental concern: land use, air quality, noise, water resources, geology, infrastructure, training areas and ranges, hazardous and toxic materials, biological resources, cultural resources, the sociological environment, economic development, and quality of life.

Implementation of the proposed action would result in either no impacts on the various resource areas and areas of environmental concern or impacts that are not individually or cumulatively significant. Mitigation that would avoid or further reduce impacts associated with the action would be achieved via use of best management practices.

Based on the EA, it has been determined that implementation of the proposed action would have no significant or cumulative effects on the quality of the natural or human environment. Because no significant environmental impacts will result from implementation of the proposed action, an Environmental Impact Statement is not required and will not be prepared.

The AMC plans to initiate this proposed action 15 days from the date of execution of this Finding of No Significant Impact. Copies of the EA may be obtained by contacting the US Army Corps of Engineers, Mobile District, ATTN: CESAM-PD-E, Dr. Neil Robison, P.O. Box 2288, Mobile, Alabama 36628-0001, (304) 690-3018.

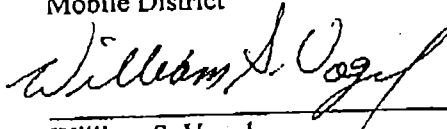
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for BRAC 95 Realignment Actions
Fort Monmouth, New Jersey**

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ENVIRONMENTAL ASSESSMENT

LEAD AGENCY: US Army Materiel Command

TITLE OF PROPOSED ACTION: Environmental Assessment for BRAC 95 Realignment Actions at Fort Monmouth, New Jersey

AFFECTED JURISDICTION: Fort Monmouth, New Jersey; Tinton Falls, New Jersey; Monmouth County, New Jersey

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ABSTRACT: This Environmental Assessment addresses an action directed by the 1995 Defense Base Closure and Realignment Commission: the relocation of communications-electronics materiel management missions and functions from the Aviation and Troop Command (ATCOM), St. Louis, Missouri, to the Communications-Electronics Command (CECOM), Fort Monmouth, New Jersey. It also addresses a discretionary action on the part of the Army: the relocation of US Army Audit Agency (AAA) functions from St. Louis, Missouri, closed by the BRAC Commission recommendation, to Fort Monmouth, New Jersey. The proposed action includes renovation of Building 206 to accommodate the personnel positions being transferred to Fort Monmouth. In addition to the proposed action, a no action alternative is evaluated; other alternatives are discussed but not analyzed because they are considered infeasible. The effects of the proposed action on the environment and on social and economic systems are analyzed in the document. None of the effects resulting from implementation of the proposed action would cause significant impacts to the environment.

REVIEW COMMENT DEADLINE: Comments may be provided to Dr. Neil Robison at the Corps of Engineers, Mobile District (ATTN: CESAM-PD-E), P.O. Box 2288, Mobile, Alabama 36628-0001, or by facsimile at (334) 690-2605. Comments on this Environmental Assessment must be received within 15 days of publication.

EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Assessment (EA) addresses the BRAC 95 actions associated with the relocation of communications-electronics materiel management missions and functions from the Aviation and Troop Command (ATCOM), St. Louis, Missouri, to the Communications-Electronics Command (CECOM), Fort Monmouth, New Jersey. The Army also proposes to take a discretionary action: the relocation of U.S. Army Audit Agency (AAA) functions from St. Louis, Missouri, to Fort Monmouth, New Jersey, to support the realigning ATCOM mission. Altogether, approximately 175 positions will be relocated to Fort Monmouth.

IMPLEMENTATION OF THE PROPOSED ACTION

Directed Action. The relocation of the communications-electronics materiel management function from ATCOM to CECOM involves the transfer of 8 military positions and 167 civilian positions. The personnel will be temporarily accommodated in the CECOM Office Building, located approximately 2 miles west of Fort Monmouth's Main Post. Per the 1993 BRAC Commission's recommendation, the Army will vacate that leased space and by the end of 1997 will relocate the CECOM headquarters and other functions occupying the CECOM Office Building to Fort Monmouth's Main Post.

The preferred action to provide for long-term space for the relocated positions involves the renovation of Building 206 on the Main Post. Renovation of Building 206, an underutilized barracks, will provide 28,566 square feet of office space. The renovation project will principally involve gutting interior walls; replacing heating, ventilation, and air-conditioning systems; and increasing electrical system capacity. A paved parking area adjacent to the building, formerly used for storage of recreational vehicles, is available for Building 206 employees; additional parking spaces, if required, are available nearby. Movement of personnel is proposed to occur from July through September 1997, and in any case, not later than December 1997.

Discretionary Action. The relocation of AAA personnel positions to Fort Monmouth to maintain adequate audit capabilities associated with the communications-electronics materiel management function requires the relocation of three civilian personnel positions. The preferred alternative to house these personnel involves use of AAA's existing adequate CECOM field office spaces in Building 418. Movement of personnel is proposed to occur from July through September 1997, and in any case, not later than December 1997.

ALTERNATIVES

Directed Action. The Army has considered four means of accommodating increased numbers of personnel involved in the communications-electronics materiel management function.

- **Use of Existing Administrative Spaces.** As a result of earlier BRAC actions and other realignments and relocations, Fort Monmouth does not have excess existing facilities suitable to accommodate the entire incoming workforce.

- **Modernization or Renovation of Existing Facilities.** A facilities survey found Building 206 a suitable candidate for modernization to adequately house personnel performing communications-electronics materiel management. Building 206 meets the space requirements of the incoming workforce.
- **Leasing.** Prior BRAC Commission actions recommended the consolidation of activities at Main Post to obtain maximum utilization of facilities. Because leasing could be contrary to such directive, it is not further analyzed as a means to accommodate the incoming workforce.
- **New Construction.** Army policy, as well as cost comparisons, render use of new construction to house the incoming workforce not feasible.

Discretionary Action. Sufficient existing space is available at the present AAA field office, located in Building 418, for the three AAA personnel positions proposed for relocation to Fort Monmouth. Locating the personnel in the AAA field office, as opposed to any other spaces, maintains that function's unity of organization. Because existing space is adequate, consideration of other alternatives such as renovation, leasing, or new construction would be contrary to Army policies for the efficient and economical use of current assets and would, therefore, not be feasible.

No Action Alternative. The baseline established to evaluate the environmental and socioeconomic effects of receiving the new organizations is the conditions at Fort Monmouth at the time of arrival of the missions and functions being relocated (1997), as described in Section 4, "Affected Environment." This document defines the continuation of existing environmental and socioeconomic conditions without the implementation of the proposed action as the no action alternative. Inclusion of the no action alternative is prescribed by Council on Environmental Quality regulations as the benchmark against which federal actions are to be evaluated. Although the no action alternative is not feasible because action has been directed by the BRAC 95 Commission, it is useful as a comparison to the proposed action.

CONTROVERSIAL AND UNRESOLVED ISSUES

There are no controversial or unresolved issues associated with the proposed action.

CONSEQUENCES

The impacts of the preferred alternative would not be significant. Table ES-1 summarizes impacts to Fort Monmouth resources and commitments required to mitigate these levels of impact. The employee population on the Main Post will increase slightly as a result of the proposed action, but not enough to cause any adverse environmental or socioeconomic impacts to Fort Monmouth or the surrounding communities.

Table ES-1. Summary of Preferred Alternative Impacts and Mitigation		
Resource	Level of Impact ¹	Suggested Mitigation
LAND USE		
Geographic Setting/Location	None	
Climate	None	
Land/Airspace Use	N.S.	
AIR QUALITY		
Construction Emissions	N.S.	-Confine potential fugitive dust to work areas and remove as necessary
Vehicle Emissions	N.S.	
NOISE	N.S.	-Restrict renovation activities to daytime hours -Provide construction personnel with protective hearing devices if necessary
WATER RESOURCES		
Surface Water	None	
Groundwater	None	
Stormwater Management	None	
GEOLOGY		
Geologic Structure	None	
Topography	None	
Soils	N.S.	-Backfill trenches -Compact and seed disturbed soils
INFRASTRUCTURE		
Potable Water Supply	N.S.	
Wastewater Treatment	N.S.	
Solid Waste Disposal	N.S.	
Roadways and Traffic	N.S.	-Initiate a Traffic Management Study to determine optimum course of action.
Public Transportation	None	

Table ES-1. Summary of Preferred Alternative Impacts and Mitigation

Resource	Level of Impact ¹	Suggested Mitigation
Runways	None	
Incinerators	None	
Energy	N.S.	
TRAINING AREAS AND RANGES	None	
HAZARDOUS AND TOXIC MATERIALS		
Regulated Substances	None	
Contaminated Sites	None	
Asbestos	N.S.	-Follow best management practices and federal, state, and local regulations if disturbance and removal of asbestos become necessary
Radon	None	
Polychlorinated Biphenyls	None	
Lead Paint	N.S.	-Follow best management practices and federal, state, and local regulations if analysis identifies lead concentrations in debris above regulatory threshold levels
Pesticides	None	
Medical and Biohazardous Waste	None	
Underground Storage Tanks	None	
BIOLOGICAL RESOURCES		
Wildlife	N.S.	
Aquatic Environment	N.S.	
Vegetation	N.S.	-Seed and landscape disturbed areas
Threatened and Endangered Species	None	-Notify USFWS and NJDEP immediately if any suspected species are encountered during implementation of proposed action

Table ES-1. Summary of Preferred Alternative Impacts and Mitigation		
Resource	Level of Impact ¹	Suggested Mitigation
Wetlands	None	
CULTURAL RESOURCES		
Prehistory	None	
History	None	
Summary of Cultural Resource Investigations	N.S.	
SOCIOECONOMIC ENVIRONMENT		
Demographics	N.S.	
Visual and Aesthetic Values	None	
Native American and Ethnic Concerns	None	
Homeless and Other Special Programs	None	
Police Services	N.S.	
Fire Stations	N.S.	
Environmental Justice	None	
ECONOMIC DEVELOPMENT		
Regional Economic Impact	N.S.	
Installation Contribution, Local Expenditures	N.S.	
Military Force Structure, Salaries, and Expenditures	N.S.	
Communications	N.S.	
QUALITY OF LIFE		
On- & Off-Post Housing	N.S.	
Schools for DoD Dependents	N.S.	

Table ES-1. Summary of Preferred Alternative Impacts and Mitigation

Resource	Level of Impact ¹	Suggested Mitigation
Family Support Services	N.S.	
Medical Facilities	N.S.	
Shops and Services	N.S.	
Recreation	N.S.	
¹ N.S. = Not Significant		

FINDINGS AND CONCLUSIONS

Implementation of the preferred alternative would not substantially alter baseline environmental conditions. Additional personnel would be accommodated in Building 206 upon completion of a renovation project and in Building 418. Renovation of Building 206 would produce a limited number of short-term effects that would be confined to the project site and would not be significant. Impacts on traffic conditions near the project site would be negligible at an intersection (Oceanport-East Gate) having a level of service B. Impacts on traffic conditions at other locations, particularly the intersection of SR 35 and Tinton Avenue (West Gate) would be negligible and would not result in degradation beyond its level of service E. No impacts would occur with respect to wetlands, biological resources, cultural resources, environmental pollution related to air, land, or water resources, or noise. The Economic Impact Forecast System model indicates that changes in total sales, employment, population, and income within the region of influence would be insignificant.

Known and potential impacts of the proposed action on the physical, natural, and cultural environment are not significant. Implementation of the proposed action will not require the preparation of an Environmental Impact Statement. Preparation of a Finding of No Significant Impact is appropriate.

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SECTION 1: **PURPOSE, NEED, AND SCOPE**

1.1 PURPOSE AND NEED

On July 1, 1995, the 1995 Defense Base Closure and Realignment Commission (BRAC 95) recommended certain realignment and closure actions for military installations. These recommendations were approved by the President on July 13, 1995, and forwarded to the United States Congress. Subsequent review by the Congress did not alter any of the recommendations, which now must be executed under the provisions of the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510). This Environmental Assessment (EA) addresses the BRAC 95 actions associated with the relocation of communications-electronics materiel management missions and functions from the Aviation and Troop Command (ATCOM), St. Louis, Missouri, to the Communications-Electronics Command (CECOM), Fort Monmouth, New Jersey. The Army also proposes to relocate US Army Audit Agency (AAA) functions from St. Louis, Missouri, closed by the BRAC Commission recommendation, to Fort Monmouth, New Jersey.

1.2 SCOPE

This EA analyzes and documents the environmental and socioeconomic effects associated with two types of actions: Commission-directed realignments and discretionary moves being realigned by the Army at the same time to Fort Monmouth. For BRAC actions, the Base Closure and Realignment Act of 1990 states that the National Environmental Policy Act of 1969 (NEPA) does not apply to actions of the President, the Commission, or the Department of Defense 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."

The Defense Base Closure and Realignment Act of 1990 further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned will not have to consider: "(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected."

This EA addresses the cumulative impacts of all realignments and other present and reasonably foreseeable future actions (federal and non-federal) planned to occur at Fort Monmouth.

The study area for this EA includes Fort Monmouth and its region of influence (ROI), which consists of Monmouth, Middlesex, and Ocean Counties, New Jersey.

1.3 IMPACT ANALYSIS

This EA identifies and analyzes the relevant environmental and socioeconomic effects of the proposed action, as described in Section 2, "Proposed Action," on the existing resources within the ROI of Fort Monmouth.

An interdisciplinary team of engineers, biologists, archaeologists, historians, and military experts has analyzed the proposed action against the baseline conditions described in Section 4, "Affected Environment." Section 5, "Environmental and Socioeconomic Consequences," presents the effects identified and the mitigation measures planned. Section 6, "Findings and Conclusions," presents the results of the environmental impact analysis process.

1.4 AGENCY AND PUBLIC INVOLVEMENT

Agency and public participation in the NEPA process promotes both open communications between the public and government 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 decision-making process.

Public participation opportunities with respect to the proposed action that is the subject of this EA are guided by Army Regulation 200-2. Upon completion, the EA will be made available to the public. A copy will be furnished to the Borough of Tinton Falls Library, the Monmouth County Library, Eastern Branch, and the Oceanport Public Library. Where the Army determines that issuance of a Finding of No Significant Impact is appropriate, the Finding of No Significant Impact will be published. The Army will then observe a 30-day waiting period, during which time any comments submitted by agencies, organizations, or members of the public on the proposed action or EA will be considered.

SECTION 2: PROPOSED ACTION

In response to national security changes, the Army plans to streamline its structure to enhance productivity and efficiency. Realignment of activities such as those which are the subject of this analysis will achieve this objective. "Realignment" in this sense means the reduction and relocation from one Army installation to another of personnel and functions. Functions planned for realignment to Fort Monmouth would be combined with similar functions already present to provide the Army with increased capability at one installation. Locating these functions in a single area is more efficient. The Army plans to implement two types of realignments to Fort Monmouth: a BRAC Commission-directed realignment and a discretionary realignment. Figure 2-1 shows Fort Monmouth's location.

2.1 DESCRIPTION OF THE DIRECTED ACTION

2.1.1 Background

Under the Defense Base Closure and Realignment Act of 1990, the House's action made further action by the Senate unnecessary; the Commission's recommendations become binding on the Department of Defense if the Congress fails to disapprove of such recommendations within a specified period of time. No disapproval was so issued, and thus the 1995 BRAC Commission's recommendation became binding on September 28, 1995.

The 1995 BRAC Commission's recommendation with respect to the Aviation-Troop Command, Missouri, had the following implications for Fort Monmouth and others:

"... disestablish Aviation-Troop Command (ATCOM), and close by relocating its mission/functions as follows: relocate Aviation Research, Development & Engineering Center; Aviation Management; and Aviation Program Executive Offices to Redstone Arsenal, Huntsville, Alabama, to form the Aviation & Missile Command. Relocate functions related to soldier systems to Natick Research, Development, Engineering Center, Massachusetts, to align with the Soldier Systems Command. Relocate functions related to materiel management of communications-electronics to Fort Monmouth, New Jersey, to align with Communications-Electronics Command. Relocate automotive materiel management functions to Detroit Arsenal, Michigan, to align with Tank-Automotive and Armaments Command."

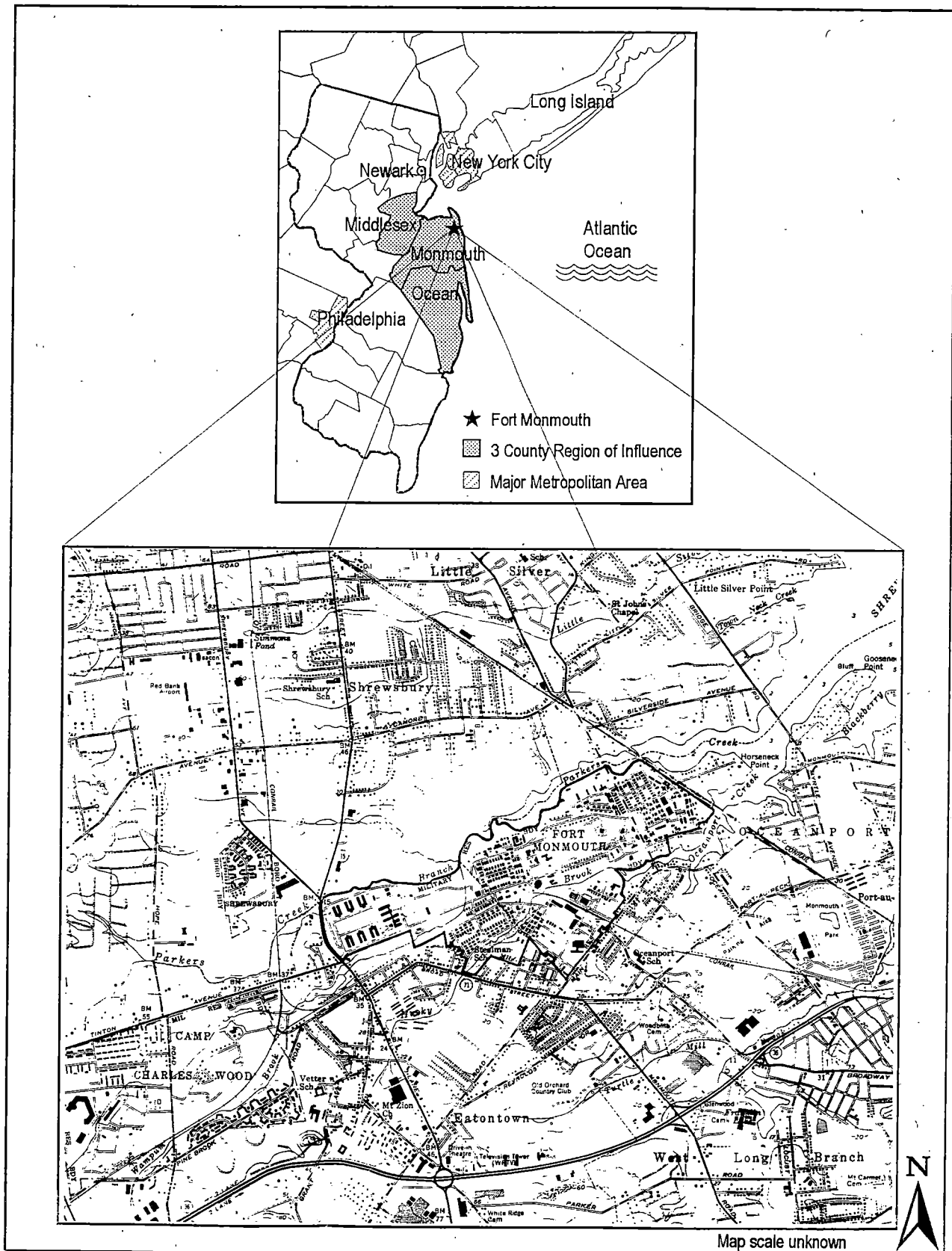


Figure 2-1. Location of Fort Monmouth

The function carried out by personnel to be relocated is the management and acquisition of equipment in the following business areas: physical security, battlefield deception, electric power, remote mine detection/neutralization, environmental controls, and low cost/low observables. The work is executed in an administrative office environment. The function is administrative in nature and does not require warehouse, maintenance, or any other type of work-related space. Performance of the function does not involve use of military vehicles, weapons systems, readiness training, or Army lands. With the disestablishment of ATCOM planned to occur by September 30, 1997, the transfer of personnel positions and function to CECOM is proposed to occur between July and September 1997, and in any case, not later than December 1997.

2.1.2 Implementation of the Directed Action

The relocation of the communications-electronics materiel management function from ATCOM to CECOM involves the transfer of 8 military positions and 167 civilian positions. Under the proposed action, personnel would initially be accommodated in the CECOM Office Building, located approximately 2 miles west of Fort Monmouth's Main Post. In accordance with the 1993 BRAC Commission's recommendation, the Army must vacate that leased space by the end of 1997, and thus at that time would relocate the CECOM headquarters and other functions occupying the CECOM Office Building to Fort Monmouth's Main Post.

Long-term space for the relocated positions would be achieved through renovation of Building 206 on the Main Post. Figure 2-2 depicts Fort Monmouth and the location of Building 206. Renovation of Building 206, an underutilized barracks, would provide 28,566 square feet of office space. The renovation project would principally involve gutting interior walls; replacing heating, ventilation, and air-conditioning systems; and increasing electrical system capacity. A paved parking area adjacent to the building, formerly used for storage of recreational vehicles, would be available for Building 206 employees; additional parking spaces, if required, would be available nearby.

Movement of personnel is proposed to occur from July through September 1997, and in any case, not later than December 1997.

2.2 DESCRIPTION OF THE DISCRETIONARY ACTION

2.2.1 Background

Discretionary realignment actions are actions other than those specifically identified by a BRAC Commission or required to implement BRAC Commission recommendations. Concurrent with the 1995 BRAC Commission directed action, the Army proposes to relocate three US Army Audit Agency (AAA) personnel to Fort Monmouth as a result of closure of ATCOM in St. Louis, Missouri. The three auditors would be colocated with the 31 auditors currently supporting CECOM activities at Fort Monmouth.

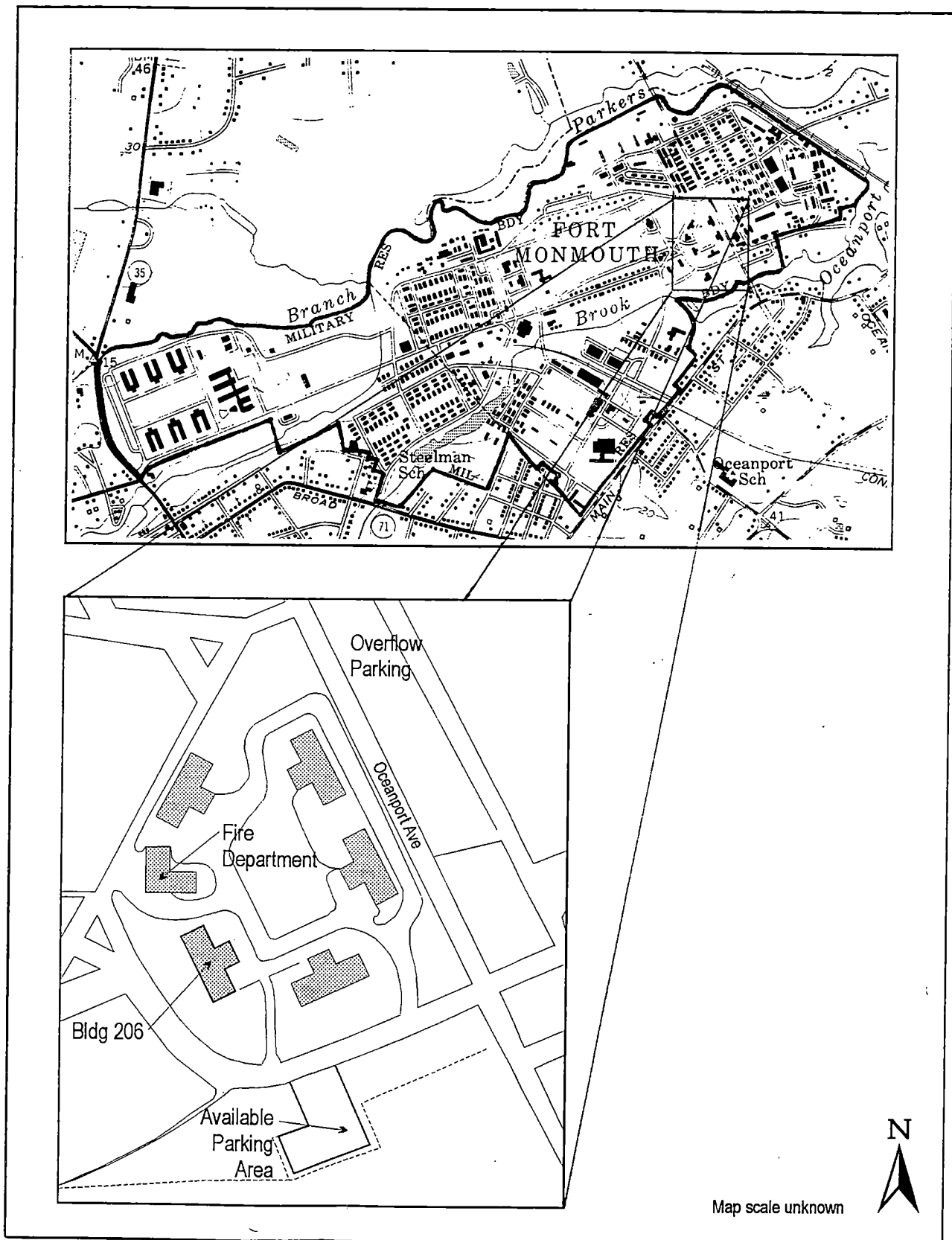


Figure 2-2. Fort Monmouth and Project Site Location

The AAA is a principal management consultant to Army activities. The Agency's mission is to provide independent and objective internal audits for the Army's information systems, procurement and maintenance programs, personnel management activities; financial management systems and records, and nonappropriated fund activities. The agency executes its mission primarily through field offices located near major activities requiring audit services.

Thirty-one AAA personnel in the St. Louis, Missouri, field office provide audit support to ATCOM. They support aviation-related functions that, per 1995 BRAC Commission recommendations, are to be relocated to Redstone Arsenal in Huntsville, Alabama. Three of the AAA personnel provide audit support to the communications-electronics materiel management function. The function proposed for relocation is entirely administrative in nature and does not require warehouse, maintenance, or any other type of work-related space. Performance of the audit function does not involve use of military vehicles, weapons systems, readiness training, or Army lands. With the disestablishment of the ATCOM planned to occur by September 30, 1997, the transfer of personnel positions and function to Fort Monmouth to support CECOM is proposed to occur by September 30, 1997, and in any case, not later than December 1997.

2.2.2 Implementation of the Discretionary Action

The relocation of AAA personnel positions to Fort Monmouth to maintain adequate audit capabilities associated with the communications-electronics materiel management function requires the relocation of three civilian personnel positions.

The AAA's existing CECOM field office space in Building 418 is adequate to house the additional three personnel. Movement of personnel is proposed to occur from July through September, 30 1997, and in any case, not later than December 1997.

SECTION 3: ALTERNATIVES

3.1 PREFERRED ALTERNATIVE

The Army's preferred alternative is implementation of the proposed actions described in Section 2.

Three areas potentially offer alternative ways for the Army to implement the proposed action: the identification of the receiving installation, means for accommodating increased numbers of personnel, and scheduling. Each of these is discussed below for the BRAC Commission directed action and the Army's discretionary action.

3.2 ALTERNATIVES FOR THE DIRECTED ACTION

3.2.1 Receiving Installation

The 1995 BRAC Commission directed the relocation of the communications-electronics materiel management function from ATCOM in St. Louis, Missouri, to CECOM at Fort Monmouth. The BRAC Commission's selection of CECOM is based, in part, on obtaining greater efficiencies by locating similar functions together. The Army is legally obligated to adhere to the BRAC Commission directive identifying Fort Monmouth as the receiving installation.

3.2.2 Accommodating Increased Number of Personnel

The Army has considered four means of accommodating the increased number of personnel involved in the communication-electronics materiel management function. These four means are discussed below:

- **Use of Existing Administrative Spaces.** As a result of earlier BRAC actions and other realignments and relocations, Fort Monmouth does not have excess existing administrative facilities suitable to accommodate the entire incoming workforce. Spaces not presently used can accommodate only small numbers of personnel and, where available, are widely dispersed over the entire installation.
- **Modernization or Renovation of Existing Facilities.** A Fort Monmouth staff survey of buildings resulted in the identification of Building 206 as a suitable candidate for modernization to adequately house personnel performing communications-electronics materiel management. The survey eliminated several buildings from further consideration based on nonamenability to modernization, excessive costs, or inappropriate size. Building 206 meets the space requirements of the incoming workforce.
- **Leasing.** The 1993 BRAC Commission recommended that CECOM Headquarters vacate leased space and move into space at Fort Monmouth Main Post and previously occupied by

513th Military Intelligence Brigade and the Chaplain School. The 1993 BRAC Commission further recommended that the Army "... consolidate activities to maximize utilization of main post Fort Monmouth..." In light of these recommendations, as well as the availability of an adequate facility amenable to renovation, leasing is not a feasible alternative and is not further considered.

- **New Construction.** Army Regulation 210-20 (*Master Planning for Army Installations*) establishes Army policy to maximize use of existing facilities. The regulation directs that installation commanders will not propose new construction, and new construction will not be authorized, to meet a mission that can be supported by existing underutilized adequate facilities, provided that the use of such facilities does not degrade operational efficiency. Renovation of Building 206 to obtain 28,566 square feet of space is estimated to cost \$2,850,000, or about \$99.77 per square foot. By comparison, four other construction projects associated with BRAC '95 actions at McAlester Army Ammunition Plant, Redstone Arsenal, and Detroit Arsenal, obtaining a total of 404,300 square feet of space, are estimated to cost \$52,086,000, or \$128.83 per square foot. These comparisons show that renovation of Building 206 is at least 20 percent less expensive than new construction. Moreover, cost estimates by the Fort Monmouth Department of Public Works showed that new construction to obtain a facility similar to that which would be obtained by renovation of Building 206 would cost \$167 per square foot, which is approximately 65 percent more expensive than renovation. From the standpoint of Army policy and comparative costs, new construction is deemed not feasible and is not further considered.

3.2.3 *Schedule*

Execution of the proposed relocation according to the schedule identified in Section 2.1 is intended to minimize the disruption of mission activities and is timed to avoid placing unnecessary stress on both the losing and gaining communities. ATCOM-leased spaces will be vacated upon the command's disestablishment by September 30, 1997. To obtain the cost and operational efficiencies posed by the realignments as soon as practicable, the Army proposes to conduct the personnel transfers from July through September 1997, and in any case, not later than December 1997.

Alternatives to this schedule could increase the stress on the nearby communities or unnecessarily delay realization of benefits to be gained through realignment. Since these possible outcomes are wholly avoidable and unnecessary, alternative schedules are not further analyzed. Moreover, minor shifts in any of the elements of the schedules would not produce any different environmental impacts.

3.3 *ALTERNATIVES FOR DISCRETIONARY ACTION*

The Army's proposed relocation of AAA personnel is discretionary. Under regulations promulgated by CEQ, the Army must consider feasible alternatives to the proposed action that would satisfy the purpose and need for the proposed action.

3.3.1 *Receiving Installation*

The Army's need is to provide adequate audit capability to those functions requiring such support. The purpose of the Army's proposal to relocate elements of the AAA to Fort Monmouth is to position auditors near Army functions that need such services. Placement of audit capabilities at any other location would not provide the at-hand, on-site capability necessary to perform the audit function. Relocation of auditors to other installations is not feasible because of the auditors' needs to inspect documentation and data and to conduct interviews frequently, and to assess programs and projects on a regular basis. Accordingly, alternative installations for relocation of elements of the AAA would not support the purpose of, or need for, the proposed relocation and hence do not provide potential alternatives for study.

3.3.2 *Accommodating Increased Number of Personnel*

Sufficient space is available at the present AAA field office, located in Building 418, for the three AAA personnel positions proposed for relocation to Fort Monmouth. Locating the personnel in the AAA field office, as opposed to any other space, maintains that function's unity of organization. Because existing space is adequate, consideration of other alternatives such as renovation, leasing, or new construction would be contrary to Army policies for the efficient and economical use of current assets and therefore such alternatives are not further considered.

3.3.3 *Schedule*

For the reasons underlying identification of schedule with regard to the directed action (addressed in Section 3.2.3, above), the Army proposes to relocate the three AAA personnel between July and September 1997, and in any case, not later than December 1997. Alternative schedules are not further analyzed.

3.4 *NO ACTION ALTERNATIVE*

The baseline established to evaluate the environmental and socioeconomic effects of receiving the new organizations are the conditions at Fort Monmouth at the time of arrival of the missions and functions being relocated (1997), as described in Section 4, "Affected Environment." This document defines the continuation of existing environmental and socioeconomic conditions without the implementation of the proposed action as the no action alternative. Inclusion of the no action alternative is prescribed by CEQ regulations as the benchmark against which federal actions are to be evaluated. Although the no action alternative is not feasible because action has been directed by the BRAC 95 Commission, it is useful as a comparison to the proposed action.

SECTION 4: AFFECTED ENVIRONMENT

4.1 INTRODUCTION

Section 4 describes the environmental and socioeconomic conditions at Fort Monmouth, New Jersey. It provides information to serve as a baseline from which to identify and evaluate environmental and socioeconomic changes resulting from implementation of the proposed action. The effects of the preferred realignment alternative (the proposed action) and of the no-action alternative on these baseline environmental and socioeconomic conditions are discussed in Section 5.

The 1995 BRAC Commission directed action and the Army's discretionary action would occur in the context of 1993 BRAC Commission recommendations and Army initiatives scheduled for implementation in 1997. This section therefore describes Fort Monmouth's affected environment at the end of 1997, after such 1993 actions have been completed. This section also analyzes the cumulative impact of the proposed action in conjunction with the activities to be completed before 1997.

The 1993 BRAC Commission directed the following actions affecting Fort Monmouth:

- Transfer of all Army functions out of the leased CECOM Office Building in Tinton Falls, New Jersey, onto Fort Monmouth.
- Disposal of excess facilities and real property at Evans and Charles Woods subposts, as well as Main Post Fort Monmouth.
- Transfer of functions performed at Vint Hill Farms Station in Warrenton, Virginia, to either the Main Post or Charles Wood subpost of Fort Monmouth, including Program Executive Officer for Intelligence and Electronic Warfare; Project Manager for Signals Warfare; Intelligence Materiel Management Center; CECOM Acquisition Center; and CECOM Legal Office. (It should be noted that the latter two functions were not specifically identified by the BRAC Commission.)

Other actions altering the present-day baseline and creating the baseline against which the present proposal will be evaluated include the relocation from Fort Monmouth of the 513th Military Intelligence Brigade to Fort Gordon, Georgia (non-BRAC); the Electronic Power Sources Directorate (now the Physical Sciences Directorate) to Adelphi, Maryland (BRAC 91); and the US Army Chaplain School to Fort Jackson, South Carolina (BRAC 93).

4.2 LAND USE

4.2.1 Geographic Setting and Location

Fort Monmouth is located in the east-central portion 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 and two subposts, Charles Wood and Evans.¹ The Main Post is generally 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 (see Figure 2-2).

4.2.2 Climate

Fort Monmouth and Monmouth County are characterized by warm summers and moderate winters. The mean annual temperature for Monmouth County is 53 degrees Fahrenheit. Temperatures frequently reach the 90s from late May through early September. Winter temperatures rarely fall below 0 degrees Fahrenheit. The average annual precipitation for Fort Monmouth County is 45.18 inches, with the heaviest rainfalls occurring during the summer months. Though summer thunderstorms occasionally combine high winds with heavy rainfall, destructive storms are infrequent in Monmouth County. Heavy rains have occurred in connection with hurricanes, which sometimes move northward along the mid-Atlantic coast. The average seasonal snowfall for Monmouth County is 25 inches; at least 1 inch of snow is present on the ground an average of 9 days a year.

4.2.3 Land Use and Airspace Use

The 626-acre Main Post consists of a total of 348 buildings and structures (15 percent of which are temporary), a supporting road network, and utility systems. The Main Post provides supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for Fort Monmouth. The installation is well planned with ample green space and attractive landscaping. Specific land use categories are provided in Table 4-1.

The proposed project area (Building 206 and the adjacent parking area) is located in the east-central portion of the Main Post (see Figure 2-2). Building 206 is one of five similar brick structures identified on the Fort Monmouth General Site Map as troop housing (barracks). One of the structures is currently used by the Fort Monmouth Fire Department. Available space in the remaining four buildings is currently underutilized. A summary of the various types of land use at the Main Post is provided in Figure 4-1.

¹ The Evans subpost is being closed under BRAC 93. Furthermore, none of the activities discussed as part of the proposed action and alternatives would take place on or affect the Charles Wood subpost. Therefore, for the purposes of this EA, only baseline information for the Main Post has been provided, except in instances where baseline information is inherently linked such as utility consumption rates.

Table 4-1. Land Use at Main Post

Land Use Categories	Percentage
Research, Development, & Testing	2
Maintenance & Supply	13
Administrative	24
Recreation	11
Family Housing	6
Troop Housing	8
Community Support*	21
Buffer Zones	10
Medical	4
Training	1
Total	100
* Community Support includes theater, chapel, NCO club area, commissary, and PX area.	

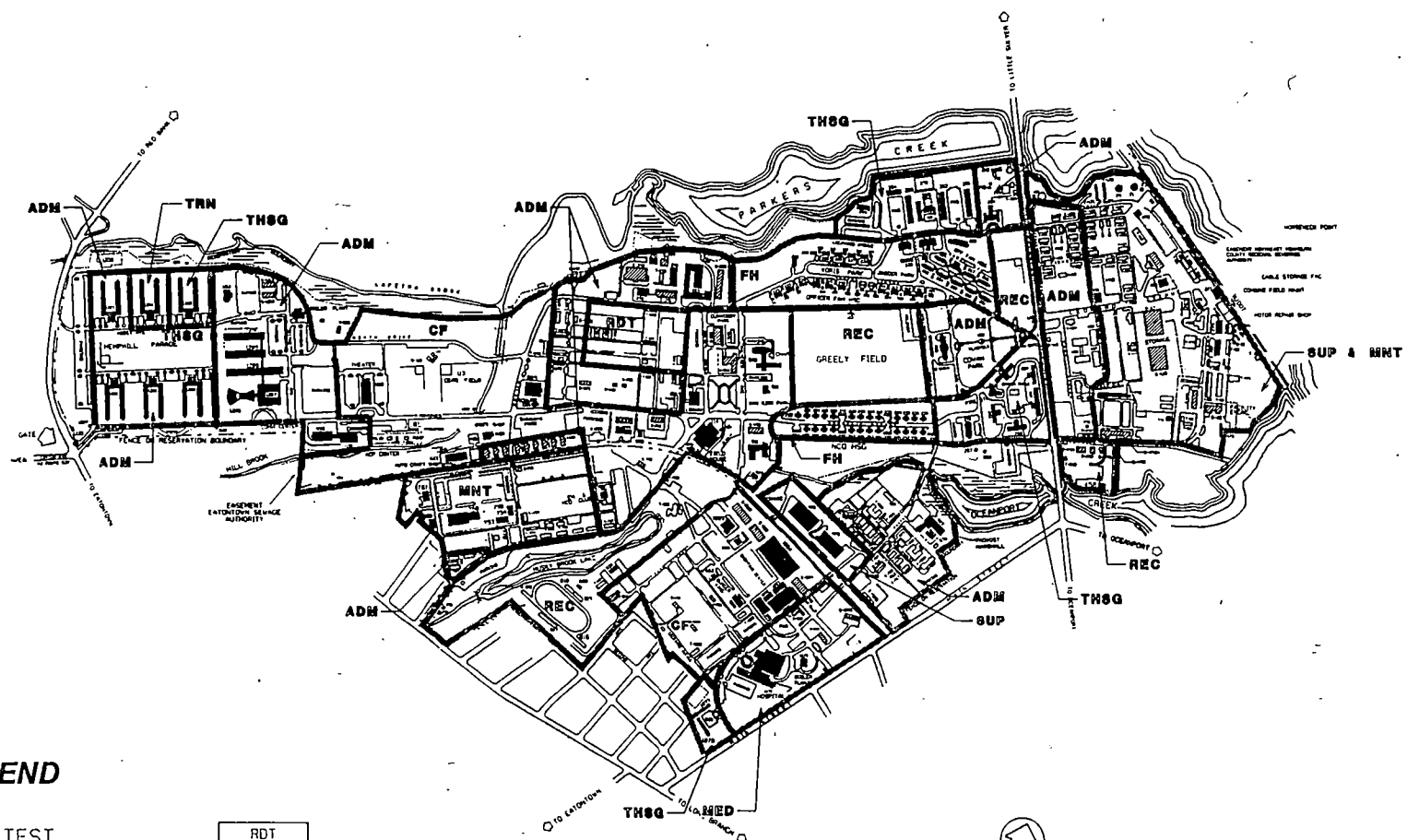
Source: Kencik, 1995.

The areas surrounding Fort Monmouth are characterized by a mixture of residential, commercial, and light industrial uses. Because federal facilities are not subject to local planning and zoning regulations, zoning restrictions of the surrounding townships and boroughs do not apply to Fort Monmouth. A review of the land use plans for the surrounding municipalities shows that land uses in the surrounding municipalities are compatible with those along the inside perimeter of the Main Post.

Fort Monmouth has no restricted airspace.

4.3 **AIR QUALITY**

National ambient air quality standards have been adopted for six criteria pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate, and lead. Areas that violate air quality standards are designated "non-attainment" areas for the relevant pollutants.



LEGEND

RD & TEST

RDT

MAINTENANCE & SUPPLY

SUP & MNT

ADMINISTRATIVE

ADM

RECREATION

REC

COMMUNITY

CF

FAMILY HSG

FH

TROOP HSG

THSG

MEDICAL

MED

TRAINING

TRN

LAND USE BOUNDARY LINE

FORT MONMOUTH "THE ARMY COMMUNITY OF EXCELLENCE"			
DIRECTORATE OF ENGINEERING & HOLDING SELF-PROVIDED U.S. ARMY CAMPUS FORT MONMOUTH, NEW JERSEY 07703		MASTER PLAN BASIC INFORMATION MAPS	
GENERAL SITE MAP MAIN POST			
CAPITAL IMPROVEMENT PROGRAM & LAND USE PLAN			
THIS MAP COMPILED BY SCANNING AND VECTORIZING MAP ORIGINALLY PRODUCED BY HARLAND BARTHOLOMEW & ASSOCIATES, INC. MEMPHIS, TENNESSEE		DATE AUG 08 1993 1 OF 10	18-02-01 7529-3623

Figure 4-1. Installation Land Use and General Site Map, Ft. Monmouth Main Post

Monmouth County, located within the New York-Northern New Jersey-Long Island Air Quality Control Region, monitors carbon monoxide, PM-10 (particulate matter), and ozone as part of its air quality monitoring program. Based on monitoring by the air quality control region, Monmouth County is classified as an ozone non-attainment area. The county does not meet federal and state air quality standards for ozone.

Fort Monmouth has three types of emission sources: fossil-fuel-burning boilers, volatile organic materials storage (primarily gasoline storage tanks), and vehicles. The New Jersey Department of Environmental Protection (NJDEP) has issued a Title V Air Operating Permit for the operation of the installation's heating plant boilers. Proper storage of volatile organic materials, in accordance with applicable federal, state, and local laws and regulations, minimizes potential emissions from that source category. Fort Monmouth is in compliance with all air quality regulations applicable to the installation.

4.4 NOISE

Noise sources at Fort Monmouth consist of helipad operations, roadway traffic, and general activities associated with office and residential developments. Fort Monmouth does not have high-amplitude impulsive noise resulting from armor, artillery, and detonation activities or noise from small arms ranges.

The Army's Installation Compatible Use Zone (ICUZ) program, set forth in Chapter 7 of Army Regulation 200-1, implements federal law concerning environmental noise generated by Army activities. The ICUZ program defines three noise zones:

- Zone I - compatible (the majority of people adapt to these noise levels).
- Zone II - normally incompatible (some people find it difficult to adapt to these noise levels).
- Zone III - incompatible (most people find it difficult to adapt to these noise levels).

These compatibility zones are used for land use planning to prevent conflicts with noise-sensitive land uses, such as residential housing and hospitals.

Based on an evaluation of potential noise studies performed by the US Army Environmental Hygiene Agency (AEHA, now called the US Army Center for Health Promotion and Preventive Medicine (USACHPPM)), operations at the helipads are the only installation-generated noise source with the potential to cause annoyance to the nearest sensitive receptors. The AEHA further concluded that, based on day/night averaging, the small number of helicopter flight operations per month, and the location of the helipads, Zones II and III (as defined above) do not extend beyond Fort Monmouth (DA, 1991).

4.5 WATER RESOURCES

4.5.1 Surface Water

Several waterways, which generally flow from west to east, drain the Main Post. Mill Brook enters Fort Monmouth along the southwest boundary and flows northwesterly to Lafetra Brook. Lafetra Brook originates west of the Main Post and flows east along the northern boundary of the Main Post. Parkers Creek originates at the confluence of Lafetra Brook and Mill Brook and flows along the northern boundary of the

Main Post until it discharges to the Shrewsbury River. Parkers Creek is a shallow tidal creek with an average depth of 3 feet at high tide (HBA, 1984).

The southern portion of the Main Post is drained by Husky Brook, a freshwater stream that originates southwest of the Main Post. A portion of the stream has been dredged, widened, and dammed to form a lake that is used for recreational purposes. Downstream from the lake, Husky Brook is piped for approximately 1,100 feet before it surfaces and flows east into Oceanport Creek. Oceanport Creek is a tidal stream that flows along the southern boundary of the Main Post before discharging into the Shrewsbury River. A portion of Oceanport Creek east of the Oceanport Avenue Bridge is periodically dredged by Fort Monmouth to maintain a marina for Fort Monmouth personnel (HBA, 1984).

The Installation Assessment of Fort Monmouth, Report No. 171 (USATHAMA, 1980), describes poor water quality conditions for Lafetra Brook. Light industry and a large shipping center discharge into Lafetra Brook upstream of the Main Post. Husky Brook is also described as receiving storm drainage and drainage from apartment complex sump pumps prior to entering the Main Post.

The Main Post of Fort Monmouth is geographically located within the coastal area of New Jersey. As provided in the Coastal Zone Management Act, federal lands, including Fort Monmouth, are excluded from New Jersey's Coastal Zone regulations (NJAC Chapter 7E). Although the federal Coastal Zone Management Act specifies that federal lands are excluded from a state's coastal zone, New Jersey has the authority to review activities on federal lands when the activities have spillover impacts that would significantly affect New Jersey's coastal zone.

4.5.2 *Groundwater*

Fort Monmouth's Main Post is located within the Atlantic Coastal Plain. Eroded edges of the Coastal Plain are exposed at the surface in bands generally oriented northeast-southwest in Monmouth County. The Main Post is situated in an area where tertiary Hornerstown sand and the Cretaceous Red Bank sand are exposed at the surface (DA, 1994).

The Hornerstown sand is a body of relatively impermeable soil that is capable of slowly absorbing water. The Hornerstown sand acts as an upper boundary of the Red Bank aquifer, but may yield enough water within its own outcrop to supply individual household needs (DA, 1994).

The Red Bank sand outcrops along the northern edges of the Main Post. The Red Bank contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer, but because of erosion prior to deposition of the Hornerstown, it terminates down-dip within 6 to 10 kilometers of its outcrop. The upper sand member is probably present on some of the surface of the Main Post and at a shallow depth below the remainder of the installation. The Red Bank sand supplied many domestic wells with water at one time (USATHAMA, 1980).

The water table is relatively shallow at the Main Post and fluctuates with the tidal action in Parkers and Oceanport Creeks. The depth to groundwater on the Main Post is between 5 and 12 feet (USATHAMA, 1980).

Rainwater and melting snow recharge the Hornerstown deposits below the Main Post. Recharge from rainfall, melting snow, surface runoff, or bodies of water may occur in the upper member of the Red Bank aquifer (USATHAMA, 1980).

4.5.3 Stormwater Management

Two natural drainage systems convey surface water runoff from the Main Post. The northern portion of the Main Post is drained by Lafetra Brook and Mill Brook. These two creeks join to form Parkers Creek, which forms the northern boundary of the Main Post. Surface water runoff from the southern portion of the Main Post is conveyed by Husky Brook to Oceanport Creek (DA, 1994).

An extensive stormwater drainage system was constructed on the Main Post approximately 50 years ago. The system was designed to supplement the natural drainage and prevent localized flooding. The stormwater drainage system discharges at various points into Husky Brook, Husky Brook Lake, Lafetra Brook, Mill Brook, Parkers Creek, and Oceanport Creek. Because of the age of the system, many pipes and catch basins are in need of repair. The storm drainage system in the 600 area of the Main Post adequately carries stormwater drainage and is not subject to flooding. Some of the stormwater drainage system outfalls are below the elevation of the mean high tide, particularly along Oceanport Creek and Parkers Creek. Thus, during high tides water backs up into the stormwater drainage system (HBA, 1984). The extreme southeastern portion of the Main Post is subject to flooding during high tides combined with heavy rains. (USATHAMA, 1980).

4.6 GEOLOGY

4.6.1 Geologic Structure

Monmouth County is situated within the Atlantic Coastal Plain physiographic province, which is underlain by unconsolidated sediments of the Mesozoic and Cenozoic Ages. The coastal plain sediments of Monmouth County are primarily of marine and continental origin. The sediments are composed mainly of sands, silts, and clays, and green sands or glauconite sands with interspaced gravel beds. Strata of iron-cemented sandstone are present locally. A thin veneer of sand, clay, and gravel deposits of more recent age overlie the older coastal plain sediments. This layer is less than one million years old (Quaternary Age) and was deposited by outwash or meltwater from the glacial ice that covered the land as far south as northern New Jersey (HBA, 1984).

4.6.2 Soils

The soils of Monmouth County are varied, ranging from fertile deep soils to droughty infertile soils with little humus or organic material present. The US Department of Agriculture's Soil Conservation Service (now the Natural Resource Conservation Service) recognizes 32 soil series, with 85 types or subtypes in Monmouth County (USDA, 1989).

Soils within the Main Post are primarily mapped as Udorhents. This map unit consists of areas of soils that have been altered by excavating or filling. Other soil types found within the Main Post include Freehold,

Downer, and Kresson. The Freehold and Downer soil types are typically well-drained soils that occur on upland areas. Kresson soils are somewhat poorly drained soils that also occur on upland areas (USDA, 1989).

The Soil Survey of Monmouth County, New Jersey (USDA, 1989) provides information on the degree and types of soil limitations that might affect shallow excavations (such as basements and trenches for utility lines), small dwellings, and small commercial buildings. Both the Freehold and Downer soil types found within Fort Monmouth have slight limitations for dwellings and small commercial buildings and severe limitations for shallow excavations. The severe limitations of these soils are due to the tendency of the walls of excavations to cave in. The Kresson soil type found within Fort Monmouth has severe limitations for excavations, dwellings, and small commercial buildings. The severe limitations of this soil type are associated with wetness. The Main Post is not classified as "lands suitable for cultivation" by the Monmouth County Soil Conservation District.

4.6.3 Topography

The topography of the Main Post is generally flat, with elevations ranging from 6 feet above mean sea level near the stream edges to 30 feet above mean sea level near the center of the post (USATHAMA, 1980). Because the land areas are relatively flat, there are no soil erosion problem areas within the Main Post.

4.7 INFRASTRUCTURE

4.7.1 Potable Water Supply

Potable water at the Main Post is supplied by the New Jersey American Water Company with no quantity limitation. Water is supplied through three metering stations at the Main Post. These metering stations have a total delivery capability of 3.8 million gallons per day (mgd). Two additional stations can be activated if additional demand is anticipated and can supply an additional 3.9 mgd, thereby effectively doubling the total delivery capability. Using a model based on a per capita consumption rate of approximately 320 gallons per person, it is projected that in 1997 potable water consumption will approach 3.5 mgd.²

4.7.2 Wastewater Treatment

Wastewater treatment is provided by the Northeast Monmouth County Regional Sewerage Authority. The average combined flow from the Main Post and Charles Wood subpost is 0.696 mgd. By contract between the installation and the sewerage treatment facility, wastewater flows cannot exceed 3.6 mgd. This flow rate ceiling would support a post population of 49,686 people (Main Post and Charles Wood subpost combined).

Based on a per capita consumption model, the average flow rate in 1997 would approach 0.756 mgd.

² The model is based on the following calculation: current (1995) per capita consumption rate multiplied by projected daytime installation population following implementation of BRAC 91, 93, and discretionary actions equals 1997 baseline consumption rate prior to implementation of this proposed action. This basic calculation is used throughout much of the utilities discussion to provide 1997 baseline as accurately as possible.

4.7.3 Solid Waste Disposal

Solid waste generated at Fort Monmouth is collected by a private contractor and disposed of at the Monmouth Reclamation Center Landfill in Tinton Falls, New Jersey. The existing landfill has sufficient capacity through 1996. An expansion of the landfill is scheduled to be operational by mid-1996, with adequate capacity through 2015.

Monmouth County has an extensive recycling program in which Fort Monmouth participates. Newspapers, corrugated cardboard, high-grade paper, glass, tin, steel, aluminum, concrete, asphalt, yard waste, asphalt shingles, batteries, and white goods (major appliances such as washing machines) are all recycled. Recyclable waste is picked up by a contractor and transported to the county recycling center at the landfill.

4.7.4 Roadways and Traffic

4.7.4.1 Roadways

Figure 4-2 depicts the external and internal network of roads serving the Fort Monmouth area. Key north-south roadways serving the area include Hope Road, State Route 35, and Oceanport Avenue. State Route 35 is a principal arterial and serves as the primary access from the north and south to the Main Post via the intersection at the West Gate. Oceanport Avenue (County Highway 11) is located along the east side of the Main Post, providing access to the Main Post via Hartman Gate (East Gate).

East-west roadways serving Fort Monmouth include Tinton Avenue, State Route 71 (Broad Street), Main Street, and State Route 36 (located approximately 1 mile south of Tinton Avenue). Tinton Avenue serves as the primary roadway between the Main Post and Charles Wood subpost. 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 providing access and traffic circulation to base activities.

The Avenue of Memories, Saltzman Avenue, and Hildreth Avenue tie together to form the principal continuous east-west roadway through the Main Post, in effect connecting the West and East Gates. This roadway system provides one through lane in each direction of travel from east to west, with a flush median provided to the west along the Avenue of Memories.

Sherrill Avenue and Wilson Avenue provide for circulation and access to base activities north of Saltzman Avenue. These are minor local roadways providing one lane in each direction. Alexander Avenue and Murphy Drive provide circulation to base activities to the south of Saltzman Avenue (primarily the hospital and commercial areas). These are also minor roadways that provide one lane in each direction of travel.

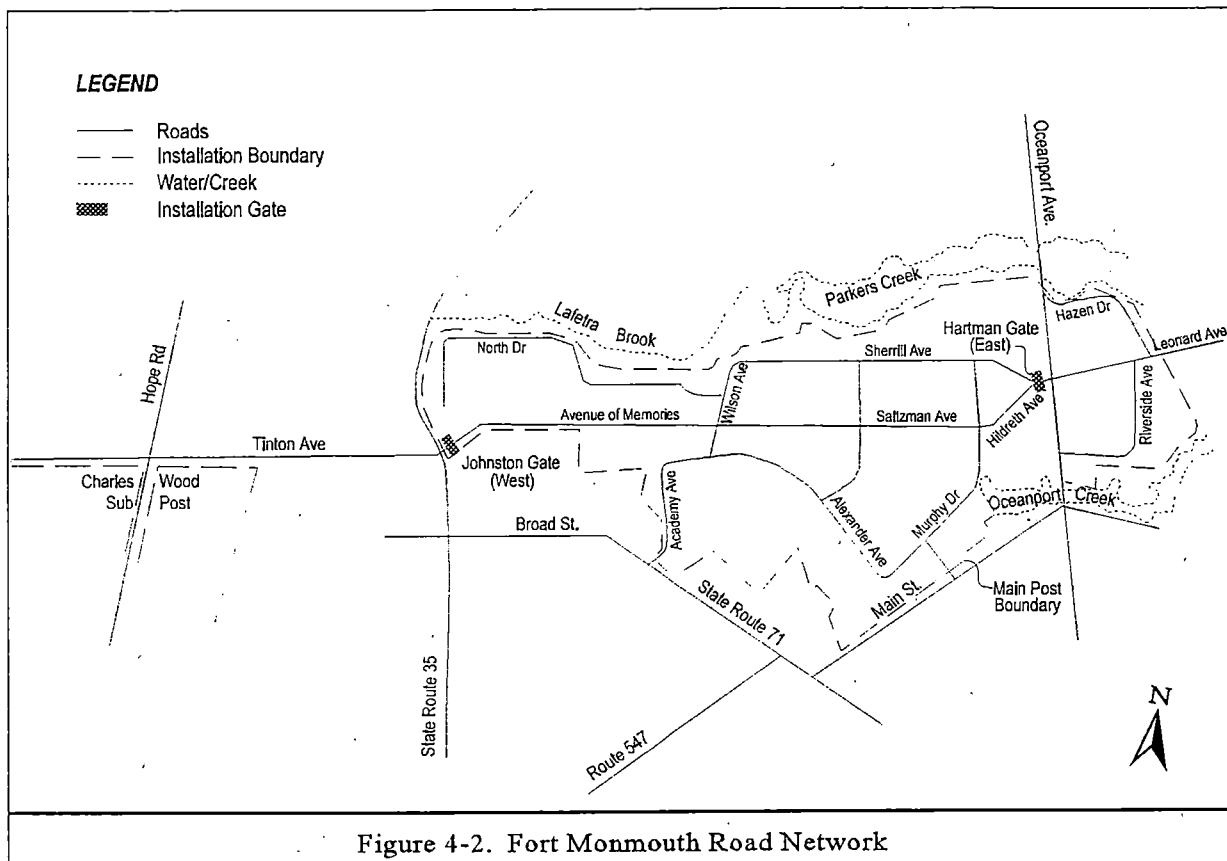


Figure 4-2. Fort Monmouth Road Network

4.7.4.2 Existing Traffic Conditions

Descriptions of existing traffic conditions and operations are based on a 1994 traffic and transportation analysis report prepared by CH2MHILL for the BRAC 93 realignment actions taking place at Fort Monmouth. The CH2MHILL study was based on 1993 peak-hour traffic. The baseline traffic conditions of this EA are the projected conditions at Fort Monmouth in 1997 upon completion of the BRAC 93 realignments and downsizing.

Traffic conditions of urban arterial systems are generally controlled by the operation of their signalized intersections. Two principal measures are used to estimate peak-hour traffic conditions and operations at signalized intersections—level of service (LOS) and volume-to-capacity ratio (v/c).

LOS is defined and measured in terms of the average stopped delay per vehicle entering the signalized intersection (that is, how long it takes the average vehicle to travel through the intersection). LOS is considered a good measure of the quality of traffic flow at an intersection. LOS ranges from A (less than 5 seconds of stopped delay per vehicle) to F (greater than 60 seconds of stopped delay per vehicle). LOS E, ranging from 40 to 60 seconds of stopped delay per vehicle, is considered the lower limit of acceptable delay. LOS D or better is generally considered acceptable for peak-hour operation in urban areas. LOS E often results at complex intersections that have high levels of turning traffic and no left-turn signals.

The v/c ratio is another measure of the operation of a signalized intersection. The v/c ratio measures the magnitude of traffic at an intersection and compares it to the intersection's practical capacity. Intersections with v/c ratios greater than 1.0 represent potential problems; queue-building and a rapid degradation in LOS can occur with minor traffic increases.

The following signalized intersections were studied as part of this environmental assessment:

- Hope Road and Tinton Avenue
- SR 35 and Tinton Avenue (West Gate)
- Oceanport Avenue and East Gate

Table 4-2 summarizes the 1993 peak-hour conditions on which the original traffic analysis was based, as well as the projected traffic conditions in 1997 upon completion of the BRAC 93 realignments. At the time of the original traffic study, the intersections of Tinton Road with Hope Road and Tinton Avenue with SR 35 were approaching capacity. Conditions at these intersections are expected to remain virtually the same with implementation of the BRAC 93 actions in 1997. At Tinton Avenue and Hope Road, the relatively heavy through-movement on Tinton Avenue, which has only one through lane, will in 1997 result in a less-than-desirable LOS E and a v/c ratio of 0.94 during the peak PM hour. At Tinton Avenue (West Gate) and SR 35 (both southbound and northbound), the v/c ratio will be at capacity (v/c = 1.0) during the peak AM hour and will be very close to capacity during the peak PM hour. Furthermore, LOS E has been computed for the peak AM hour in 1997. The signalized intersection of Oceanport Avenue and East Gate shows no capacity or operational problems as a result of the BRAC 93 actions taking place in 1997.

Table 4-2. Signalized Intersection Conditions: Original Study Year (1993) and Projected 1997 Conditions (assuming BRAC 93 actions)							
Intersection		1993 Original Study Year			Projected 1997 with BRAC 93 Actions		
		LOS	Average Stopped Delay	v/c	LOS	Average Stopped Delay	v/c
Hope Rd.-Tinton Ave.	AM	D	28.2	0.91	C	20.6	0.79
	PM	E	55.0	1.03	E	41.0	0.94
SR 35-Tinton Ave.	AM	E	41.8	1.01	E	45.7	1.00
	PM	D	34.4	0.97	E	45.5	0.97
Oceanport Ave.-East Gate	AM	B	7.7	0.48	B	7.5	0.44
	PM	B	7.6	0.40	B	7.5	0.46
LOS = level of service v/c = volume-to-capacity ratio							

Source: CH2MHILL, 1994.

4.7.5 Public Transportation

Within the Fort Monmouth area, U.S. and state highways allow easy movement in all directions. Major highways include the Garden State Parkway, Interstate 195, and U.S. Route 9. Mass transportation via New Jersey Transit Corporation provides regional and local transportation. The North Coast Line has 12 railroad stations in Monmouth County. Four private bus companies and New Jersey Transit offer express bus service to Manhattan, Newark, and Jersey City. Ten local bus routes, operated by Monmouth Bus Lines, serve local employers, recreational centers, and shopping centers in Monmouth County. The Monmouth County Office of Transportation provides a network of taxi and van services in rural areas for senior citizens and handicapped residents. Air service in the county is provided at Allaire Airport, which is located within 10 miles from Fort Monmouth. Freight service in the area is handled by Conrail and numerous interstate trucking companies, while Port Elizabeth and Newark offer import/export facilities (Monmouth County Economic Development, 1995).

The existing transportation network around Fort Monmouth consists of a combination of state, county, and local roadways. North-south rail service is provided by New Jersey Transit, with stations located in Red Bank and Little Silver. In addition, Fort Monmouth operates its own shuttle-bus service between the Charles Wood subpost and the Main Post, as well as within the Main Post (DA, 1994).

4.7.6 Runways

Newark International Airport provides scheduled and chartered flights to domestic and international locations. There are also three small airports within Monmouth County. Two of the county airports, Colts Neck Airport and Prestion Airport, provide service only for private planes. Allaire Airport, formerly Monmouth County Airport, provides scheduled commercial flights to Washington, D.C., Philadelphia, Newark, and Boston, as well as charter service. Most travelers use Newark International Airport to reach Fort Monmouth.

4.7.7 Incinerators

There are no incinerators on Fort Monmouth. An average annual volume of 13,000 pounds of biomedical waste, primarily hospital waste, is collected, manifested, and removed from Fort Monmouth by a contractor. The biomedical waste is subsequently incinerated at a permitted facility off post.

4.7.8 Energy

Electricity is supplied to Fort Monmouth by Jersey Central Power and Light Company through two 34,500-volt, three-phase, 60-hertz transmission lines. The power is transformed at two substations on the Main Post. The total capacity of the two substations is approximately 25,000 kilovolt-ampere (kVA). Fort Monmouth averages a per capita peak energy consumption of 0.93 kVA. Using a model based on per capita peak hour demand, it is projected that electricity consumption will approach 10,000 kVA by the end of 1997.

Fort Monmouth uses three different heating fuels—fuel oil, natural gas, and propane. Both fuel oil and propane are supplied by private contractors with no limit of supply. Natural gas is supplied by New Jersey Natural Gas Company, and although no contractual limit has been established, additional supply is limited to that which can be delivered at current line pressures. The natural gas lines have recently been upgraded

and the majority of the installation converted from fuel oil heating to natural gas. The system's pressure capacity will be more than adequate to meet the installation's total demand at the end of 1997.

4.8 TRAINING AREAS AND RANGES

There are no designated ranges at Fort Monmouth. The only designated training area on the Main Post is Building 1204 and 3.82 acres of grounds surrounding the facility, which is used for classroom-type training activities.

4.9 HAZARDOUS AND TOXIC MATERIALS

Numerous substances that can be considered hazardous are stored and used on Fort Monmouth. These substances are primarily petroleum products, solvents, degreasers, and photo developers. All of these materials are stored and handled in accordance with local, state, and federal regulations. Employees using hazardous materials are trained in their proper use to minimize injury and the potential for contamination (DA, 1994).

Fort Monmouth currently collects and recycles waste oils and lubricants generated on the post and ships them offsite for recycling. In 1994, Fort Monmouth replaced its halogenated degreasers with less toxic petroleum-based degreasers. This eliminated the need for special handling of the spent degreasers because the petroleum-based degreasers can be mixed and disposed of with the waste oils currently generated (DA, 1994).

4.9.1 Regulated Substances

Less than 300 pounds of high explosive material are stored for test use at Fort Monmouth in an igloo-type magazine and small bunker. Each of these structures is covered on three sides by earth, with the fourth side facing the installation. The fragment distance for this class of explosives extends approximately 600 feet into a residential area of Eatontown, New Jersey. Typically, the required storage distance for a facility of this type is a minimum of 1,250 feet for 400 pounds of explosives. Because less than 300 pounds of material are stored in the igloo bunker, Fort Monmouth has obtained a waiver for the minimum safety distance (DA, 1994).

4.9.2 Contaminated Sites

In December 1995 the US Army Corps of Engineers, Baltimore District, prepared a Final Site Investigation for the Main Post and Charles Wood area. The report represents the results of the field investigation activities that were performed at 13 sites at the Main Post and 8 sites at the Charles Wood area. The field investigation activities included surface geophysical investigations, sediment and surface-water sampling, transformer site sampling, surface and subsurface soil sampling, groundwater monitor well installation and sampling, and tidal monitoring (DA, 1995). Of the 13 sites identified, 3 are within a 1,500-foot radius of the Building 206 project area. Table 4-3 provides a summary of those sites and the Corps of Engineers' recommended course of action for each.

4.9.3 Other Toxic or Hazardous Substances

4.9.3.1 Asbestos

Fort Monmouth completed a post-wide asbestos survey in 1993. Approximately 2.9 million square feet of building space were surveyed for asbestos-containing materials. Buildings found to contain friable (easily crumbled) asbestos have been scheduled for remediation. All of the material being removed is hauled offsite and disposed of in an approved facility. Building 206 was identified as containing nonfriable asbestos during the survey. Buildings containing nonfriable asbestos are not being remediated. Management plans have been implemented to prevent the asbestos from becoming friable and to protect human health and the environment.

4.9.3.2 Radon

Fort Monmouth completed a post-wide radon survey in 1989. The entire installation was found to have radon levels well below the 4-picocurie action level recommended by the US Environmental Protection Agency (USEPA).

Table 4-3: Contaminated Areas Summary and Recommendations (sites within 1,500-foot radius of Bldg 206 only)		
Site & Location	Compounds that Exceed NJDEP Criteria & Maximum Background	Recommendations
M-12 Landfill (~ 1,250 ft SW of Bldg 206)	Groundwater: None	Conduct groundwater monitoring on a long-term basis.
M-14 Landfill (~ 1,250 ft SW of Bldg 206)	Groundwater: None Surface Water: None	Conduct groundwater and surface water monitoring on a long-term basis.
M-16 Former Pesticide Storage Building (~ 750 ft East of Bldg 206, across Oceanport Ave)	Soil: Aldrin in 1 sample Dieldrin in 4 samples Heptachlor in 1 sample DDE in 1 sample DDT in 2 samples Groundwater: None	Excavate contaminated soil and perform confirmatory sampling. Abandon site monitoring well.

Source: DA, 1995.

4.9.3.3 Polychlorinated Biphenyls (PCBs)

Fort Monmouth has completed an inventory and testing of all electrical transformers on post. All PCB transformers were eliminated before the USEPA deadline of October 1990. A total of 104 PCB-contaminated transformers³ were identified. Of the 104 PCB-contaminated transformers, 54 were disposed of, 2 were retrofilled, and 48 are in use. None of the remaining transformers are leaking. Fort Monmouth has acquired retrofilling equipment for use in draining and refilling the remaining transformers.

4.9.3.4 Lead Paint

Fort Monmouth has not completed a post-wide lead paint survey. However, based on their age, it is assumed that all of the WWII era buildings on the post contain some lead paint. The AEHA (now USACHPPM) has concluded, based on sampling of buildings, that there is sufficient evidence to classify demolition debris from Fort Monmouth as nonhazardous. The AEHA survey assumed complete demolition of a facility as opposed to discrete portions thereof that might contain higher concentrations of contaminant materials.

4.9.3.5 Pesticides

As part of the pest management program, Fort Monmouth personnel regularly use pesticides to prevent and eliminate insect, bird, and rodent infestations. The most commonly used substances include chlorpyrifos, boric acid, pyrethrin, hydramethylnon, acephate, and cypermethrin. The Directorate of Public Works is responsible for maintaining a list of all substances used for pest control on a monthly basis, for ensuring the proper handling and usage of the substances, and for ensuring that only substances approved by the USEPA and the NJDEP are used as part of Fort Monmouth's pest control program.

4.9.3.6 Medical and Biohazardous Wastes

The hospital and dental facilities produce approximately 13,000 pounds of medical waste annually. All of this waste is transported off site for incineration at a licensed facility in accordance with local, state, and federal regulations.

4.9.3.7 Underground Storage Tanks

There are no underground storage tanks (USTs) in the proposed project area. Building 206 has been converted from fuel oil heat to natural gas.

³ A "PCB-contaminated transformer" is defined as a transformer having a PCB concentration of 50 to 500 ppm. A "PCB transformer" is defined as a transformer having a PCB concentration greater than 500 ppm.

4.10 BIOLOGICAL RESOURCES

4.10.1 Wildlife

Most of Fort Monmouth consists of developed areas with open lawns and scattered ornamental trees and shrubs that provide little habitat for wildlife. Vegetative buffer areas along the creeks within Fort Monmouth provide food and cover for species that commonly occur in Monmouth County (DA, 1994).

Mammals. Commonly occurring mammals in Monmouth County include racoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), eastern chipmunk (*Tamias striatus*), eastern gray squirrel (*Sciurus carolinensis*), muskrat (*Ondatra zibethica*), eastern cottontail rabbit (*Sylvilagus floridanus*), and Norway rat (*Rattus norvegicus*) (HBA, 1984). These species are also expected to occur at Fort Monmouth.

Birds. Bird species that commonly occur in Monmouth County include the Canada goose (*Branta canadensis*), herring gull (*Larus argentatus*), mallard (*Anas platyrhynchos*), blue jay (*Cyanocitta cristata*), European starling (*Sturnus vulgaris*), American robin (*Turdus migratorius*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), red-winged blackbird (*Agelaius phoeniceus*), northern cardinal (*Cardinalis cardinalis*), house finch (*Carpodacus mexicanus*), and song sparrow (*Melospiza melodia*) (USACE, 1993). These species are also expected to occur at Fort Monmouth.

Amphibians and Reptiles. Locally occurring amphibians likely to occur at Fort Monmouth include the red back salamander (*Plethodon cinereus*), spring peeper (*Hyla crucifer*), wood frog (*Rana sylvatica*), bullfrog (*Rana catesbeiana*), and green frog (*Rana clamitans*). Commonly occurring reptiles likely to occur at Fort Monmouth include the common snapping turtle (*Chelydra serpentina*), northern brown snake (*Storeria dekayi*), northern water snake (*Nerodia sipedon*), and eastern garter snake (*Thamnophis sirtalis*) (USACE, 1993).

Wildlife Management. There are no areas on the Main Post set aside for hunting activities. No special wildlife management activities for game species occur on the Main Post. The most common game birds that migrate over, or in the general vicinity of, Fort Monmouth are the Canada goose (*Branta canadensis*), snow goose (*Chen caerulescens*), mallard (*Anas platyrhynchos*), canvasback (*Aythya valisneria*), blue-winged teal (*Anas discors*), and green-winged teal (*Anas crecca*) (HBA, 1984).

4.10.2 Aquatic Environment

Parkers Creek and Oceanport Creek are brackish, tidally influenced creeks located on the northern and southern boundaries, respectively, on the Main Post. Fish known to occur in these creeks include menhaden (*Brevoortia tyrannus*), blueback herring (*Alosa aestivalis*), and alewife (*Alosa pseudoharengus*).

Freshwater creeks within the Main Post include Mill Brook, Lafetra Brook, and Husky Brook. Fish species that might occur in these creeks include white perch (*Morone americana*), carp (*Cyprinus carpio*), catfish (*Ictalurus* spp.), sunfish (*Lepomis* spp.), and crappie (*Pomoxis* spp.) (USACE, 1993). Husky Brook Lake is stocked with approximately 1,000 rainbow and brook trout each year in March and May for a "put and take" fishery. The fish are each about 10 to 12 inches in length. The trout do not survive beyond August of each year because the increase in water temperature causes depletion of available oxygen. Largemouth bass

have also been introduced to Husky Brook Lake in an attempt to create a recreational bass fishery. The bass did not proliferate as expected, and Fort Monmouth personnel are experimenting with artificial spawning beds to help develop the recreational fishery (USACE, 1993).

4.10.3 Vegetation

Forests, Shrubs, Grasses, and Timber Activities. Natural areas within Fort Monmouth are vegetated with oak (*Quercus* spp.), pine (*Pinus* spp.), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudoacacia*), huckleberries (*Gaylussacia* spp.), and ferns in the genus *Aythia*. Reeds, sedges, and marsh grasses are common along the banks of Oceanport Creek and Parkers Creek on the Main Post. Many other species of trees and shrubs occur in lesser quantities in the Main Post. Trees are planted on the installation in accordance with the *Fort Monmouth Installation Design Guide* (B&V, 1991).

Lawns, ball fields, parade grounds, and roadside areas within the Main Post are planted in grass mixtures that may include Kentucky bluegrass, Merion bluegrass, Chewings fescue, and perennial ryegrass (B&V, 1991).

There are no timber harvesting activities at Fort Monmouth.

Preserves, Special Habitat, and Significant Natural Areas. There are no preserves or special habitats for threatened or endangered species within the Main Post. The *Analytical/Environmental Assessment Report on Plans for Future Development* (HBA, 1987a) describes the areas adjacent to streams within the Main Post as environmentally sensitive. These areas are designated in the land use plan as such and are recommended to be left in a natural state. The natural areas within the Main Post are generally small and surrounded by urban and suburban land uses.

Critical Habitat (Officially Designated). There are no officially designated critical habitat areas within the Main Post.

Vegetation Management. Vegetation management within the Main Post is conducted in accordance with the *Fort Monmouth Natural Resources Management Plan*. Routine maintenance activities include lawn mowing, application of herbicides and fertilizers, and installation of new plant materials. Approximately 60 percent of the lawn mowing work and 50 percent of the fertilizer application work on the Main Post is performed by contractors.

4.10.4 Threatened and Endangered Species

Appendix A contains letters from the US Fish and Wildlife Service (USFWS) and NJDEP regarding the occurrence of threatened and endangered species within and in the vicinity of Fort Monmouth. Other than the occasional transient bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*), no federally listed or proposed threatened or endangered flora or fauna are known to occur within Fort Monmouth. The USFWS and NJDEP have indicated that suitable habitat for swamp pink (*Helonias bullata*) might exist within Fort Monmouth. The swamp pink is federally listed as a threatened plant species. It typically occurs in forested wetlands and can occur within scrub/shrub wetlands. Suitable habitat for swamp pink might occur in the forested wetlands along the southern portion of the Charles Wood subpost, but it is not suspected to occur within the Main Post.

Correspondence with the USFWS and NJDEP (Appendix A) also provided lists of protected species that have been recorded in Monmouth County. Suitable habitat for these species is unlikely to occur within Fort Monmouth.

4.10.5 Wetlands

Most of the wetland areas located within the Main Post are associated with Parkers Creek, Oceanport Creek, and Husky Brook. The NJDEP wetland maps indicate that the wetland areas associated with these water bodies are characterized as palustrine forested and emergent wetlands.

The NJDEP has assumed jurisdiction for wetland permitting in New Jersey under section 404 of the Clean Water Act. However, the US Army Corps of Engineers has retained jurisdiction over wetlands located on or adjacent to tidally influenced waterways (e.g., Parkers Creek and Oceanport Creek).

4.11 CULTURAL RESOURCES

4.11.1 Prehistory

The prehistory of the Fort Monmouth region spans the time from approximately 10,000 B.C. until European contact (early 17th century). It is generally divided into the Paleo-Indian, Archaic, and Woodland periods. Following the retreat of the glaciers, the Paleo-Indians were the first human occupants of New Jersey (10,000 to 8,000 B.C.). Paleo-Indians were migratory hunters and gatherers who traveled in small bands, often following herds of large game animals (DA, 1994).

During the Archaic period (approximately 8,000 B.C. to 1,000 B.C.), the Fort Monmouth region was occupied by small groups of seasonally mobile Indians who were dependent on hunting and gathering. An increased reliance on plant foods is indicated by the appearance and proliferation of ground stone tools. Hunting became focused on smaller animal species (DA, 1994).

Woodland Period Indian populations (1,000 B.C. to 17th century) are primarily distinguished from earlier groups by the introduction of pottery. Later in the Woodland Period, Indian groups lived in larger villages and subsisted largely on corn, beans, and squash, while continuing their traditional hunting and gathering activities. At the time of European contact, the Delaware or Lenape Indians occupied this region. European settlers had largely driven the Delaware out of the coastal areas of New Jersey by the early 1700s (DA, 1994).

4.11.2 History

English colonists established the first permanent European settlements in the Monmouth region in 1664. This area developed quickly. Agriculture was the predominant occupation of most settlers, but a number also engaged in timber harvesting, grist milling, and small-scale iron manufacturing. The first railroad development in the Monmouth region (the Raritan and Delaware Bay Railroad) occurred later than in most other areas of the state (1854). The tracks passed along the southern side of what is now the Charles Wood subpost. Although improved transportation systems were developed within this region during the late 19th and early 20th centuries, it remained largely an area characterized by small towns surrounded by agricultural land (DA, 1994).

The majority of the land that would eventually become the Main Post was owned by Monmouth Park Association between 1866 and 1891 and was used, in part, as a horse racetrack. After the track closed, the land was again used for agricultural purposes until it was purchased by the Army in 1917 (DA, 1994).

4.11.3 *Summary of Historic Resource Investigations*

No historic preservation plan or memorandums of agreement concerning historic resources have been prepared for Fort Monmouth or its subposts. In 1984 an archaeological overview and an architectural inventory of historic buildings were completed for Fort Monmouth and its subposts. These two reports were produced as part of a nationwide effort by the Army Materiel Command to initiate an inventory of its historic properties.

The 1984 architectural inventory recommended that 71 permanent buildings and 33 associated garages constructed at the Main Post between 1927 and 1937 were eligible for the National Register as a district. Nearly all of these buildings are neo-colonial styles constructed of red brick. They include barracks, living quarters, administration, recreation, and supporting buildings. A National Register nomination for this district has been submitted to the New Jersey State Historic Preservation Officer (SHPO), but it was returned to the Army for additional information and has not yet been finalized.

Building 206, a barracks building that is to be renovated as part of this action, is considered to be a contributing element of the proposed Fort Monmouth National Register District. Renovation activities for Building 206 are to be restricted to the interior of the building and will not affect the exterior building elements, which are definitely known to contribute to its National Register eligibility. Cultural resource personnel from the US Army Corps of Engineers, Fort Worth District evaluated the interior of the building to determine whether original elements exist that would contribute to its National Register significance. This evaluation found that the interior of the building has been extensively renovated and no longer possesses any intact original elements that would contribute to its National Register significance. A report of findings has been coordinated with and signed by the New Jersey State Historic Preservation Officer. A copy of the State Historic Preservation Office coordination letter is provided in Appendix B.

4.12 *SOCIOLOGICAL ENVIRONMENT*

4.12.1 *Introduction*

The following section describes the contribution of Fort Monmouth to the economy and social conditions in the region. The socioeconomic indicators for this study include population, housing, regional economic development (employment and income), and schools. In addition, recreational and community facilities, public health and safety, race and ethnic concerns, and social services are discussed. These indicators characterize the region of influence (ROI) that would be most affected by the Fort Monmouth realignment. For the purpose of this EA, the ROI for Fort Monmouth has been defined as the New Jersey counties of Monmouth, Ocean, and Middlesex, on the basis of existing commuting patterns and also in accordance with previous NEPA documentation for BRAC actions involving Fort Monmouth. The ROI lies on the periphery of two of the Nation's largest metropolitan centers. New York City is located approximately 50 miles to the north, and Philadelphia lies approximately 70 miles to the southwest. The ROI covers an area of nearly 1,930 square miles.

4.12.2 Demographics

Most of the Fort Monmouth workforce living off post resides within the ROI. Middlesex, Monmouth, and Ocean Counties were the three fastest growing counties in New Jersey between 1980 and 1990. At the time of the 1990 census, the total combined population in the three counties was more than 1.65 million persons (Middlesex County - 671,780; Monmouth County - 553,124; Ocean County - 433,203), compared to the total 1990 population of 7.7 million for the entire state of New Jersey (New Jersey Department of Labor, 1990). The state population is projected to be 8.1 million in 2000 (Middlesex County Planning Department, 1994). The population density in the ROI area averages 777 persons per square mile, which is typical of New Jersey, the most densely populated state in the Nation (Monmouth County Planning Board, 1993; Census, 1990).

The workforce population at Fort Monmouth currently is approximately 9,700 persons and is composed of approximately 800 military personnel and 8,900 civilians. In addition, approximately 1,500 dependents live on the Main Post or Charles Wood subpost in family housing, bringing the total combined installation population to approximately 11,000. Included in this baseline population count are those persons employed at the Charles Wood subpost and the Main Post. In addition, approximately 23,000 retired military personnel live in the vicinity of Fort Monmouth (Kencik, 1995).

4.12.3 Visual and Aesthetic Values

The Main Post is visible to the surrounding community. Although the Main Post is bounded by Parkers Creek to the north, there is extensive residential development to the south. There is scattered vegetation to provide some visual screening, but in general views of the post are open.

The *Fort Monmouth Installation Design Guide* (B&V, 1991) defines visual zones, provides design themes for each zone, and provides design criteria for new projects. Personnel responsible for the design of new facilities are responsible for incorporating the proper design criteria into each project. Implementation of the design criteria ensures that new facilities are in harmony with established design themes and maintains the overall image of Fort Monmouth.

According to the *Fort Monmouth Installation Design Guide*, five visual zones have been identified for Fort Monmouth: administrative/mission support, community support facilities, housing, industrial facilities, and open spaces. These zones have been defined on the basis of land use and type of activity. Architectural styles in these zones include neo-colonial, traditional, modified traditional, and high-technology (DA, 1994).

4.12.4 Native American and Ethnic Concerns

As identified by the 1990 census, less than 1 percent of the three-county ROI was American Indian, Eskimo, or Aleutian. Approximately 6 percent of the population was identified as being of Hispanic origin (Census, 1990).⁴

⁴ Origin can be viewed as the ancestry, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. Persons of Hispanic origin may be of any race.

4.12.5 Public Safety

Police Services. Police protection at Fort Monmouth is provided by approximately 20 military police officers, 30 Department of Defense police, and 45 security guards. An additional 10 police officers and 15 security guards could potentially be added under currently authorized personnel levels at Fort Monmouth (DA, 1994).

Fire Stations. Two fire stations, located on the Main Post and Charles Wood subpost, provide fire protection at Fort Monmouth. The Fort Monmouth stations maintain one ladder truck with a 100-foot ladder, two 1,000-gallon pumper trucks, two 200-gallon squad trucks, one rescue truck, and three cars used by fire chiefs and inspectors (DA, 1994).

4.12.6 Environmental Justice

On February 11, 1994, President Clinton issued Executive order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations." The purpose of the order is to avoid the disproportionate placement of any adverse environmental or economic impacts from federal policies and actions on minority and low-income populations (DA, 1994).

As identified by the 1990 census, approximately 87 percent of the three-county ROI was Caucasian, 7 percent was African-American, 4 percent was Asian or Pacific Islander, and 2 percent was other (Figure 4-3).⁵ In the State of New Jersey, approximately 7.5 percent of the population has an income below the poverty level. Approximately 5 percent of the population of Monmouth County falls below the poverty level (Monmouth County Planning Department, 1990).

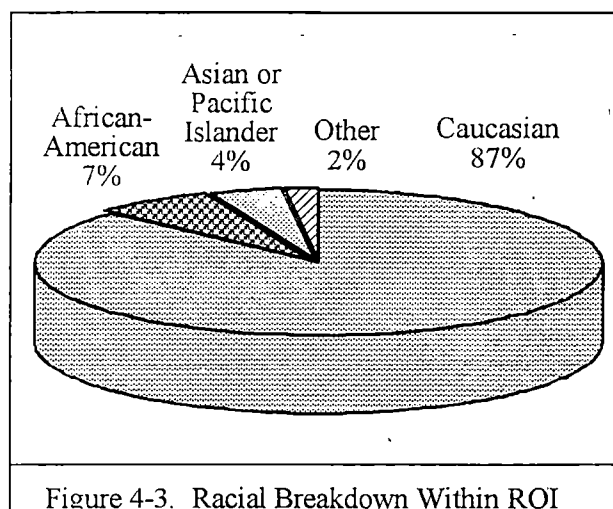


Figure 4-3. Racial Breakdown Within ROI

4.13 ECONOMIC DEVELOPMENT

4.13.1 Regional Economic Activity

The 1990 unemployment rate for the United States averaged 5.5 percent, and the rate for the State of New Jersey averaged 3 percent (Grolier, 1995). The Middlesex County unemployment rate was 4.4 percent in 1990 (Middlesex County Planning Department, 1994). The Monmouth County unemployment rate was 4 percent in 1990 (Monmouth County Economic Development, 1995). The unemployment rate for Ocean

⁵ The racial classification used by the Census Bureau generally adheres to the guidelines in Federal Statistic Directive No. 15, which provides standards on ethnic and racial categories for statistical reporting to be used by all federal agencies. The racial categories used in the 1990 census data products were as follows: White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; and Other.

County was 4.2 percent in 1990 (Ocean County Planning Board, 1995). Table 4-4 compares the median household income to state and national values.

Table 4-4. 1990 Median Household Income				
Middlesex County	Monmouth County	Ocean County	State of New Jersey	United States
\$45,623	\$45,912	\$33,500	\$40,927	\$30,056

Source: Middlesex County Planning Department, 1994; Monmouth County Planning Board, 1990; Toms River-Ocean County, 1993.

4.13.2 Installation Contribution, Local Expenditures

Fort Monmouth's estimated annual nonsalary (operational) expenditures are anticipated to be approximately \$126 million in fiscal year (FY) 1997. This figure reflects expenditures for utilities, services, supplies, construction, and operations but does not include expenditures for technical procurement. The estimated annual average operational expenditure is \$13,000 per employee.

Fort Monmouth currently employs approximately 9,700 persons, including about 8,900 civilians (including 236 Non-Appropriated Fund personnel) and approximately 800 military personnel. Civilian salaries total approximately \$335 million, and military salaries total approximately \$21 million (DA, 1994).

4.13.3 Military Force Structure, Salaries and Expenditures

Table 4-5 provides salary information for military and civilian personnel at Fort Monmouth.

Table 4-5. 1997 Military and Civilian Personnel Levels and Salaries		
Employee Type	Number	Average Salary/Wage
Permanent Military - Officer	207	\$41,800
Permanent Military - Enlisted	583	\$21,300
Permanent Civilian - GS series	6,204	\$54,000
Wage Grade	52	—
Exchange and Commissary	167	—
Other Non-appropriated Funds	236	—
Contractual Workers	2,250	—
Total	9,699	—

Source: Kencik, 1995.

4.13.4 *Communications*

Fort Monmouth maintains its own telephone system, which consists of Northern Telecom Inc. S1-100 and S1-1 switches. Bell Atlantic, formerly New Jersey Bell, provides DOD, WATSBO, and DID trunk lines. AT&T provides long-distance services through FTS 2000. AT&T also provides Defense Systems Network trunk lines. The Main Post is supported by two main switches (S1-100 and S1-1). The S1-1 supports three buildings; the rest of the buildings are supported by S1-100. The Charles Wood subpost is supported by the S1-100 through a remote standalone module.

Fort Monmouth's computers are interconnected by a campus-area network. Local area networks are also provided within buildings for individual activities (DA, 1994).

4.14 *QUALITY OF LIFE*

4.14.1 *On-Post Housing*

Barracks and Single Officer Quarters. Housing for unaccompanied personnel is located on the Main Post only. There are 1,773 available spaces for enlisted personnel and 100 for officers. The current vacancy rate is approximately 23 percent for enlisted personnel and 13 percent for officers (DA, 1994).

Family Housing. Approximately 1,120 family housing units are located in the two areas of Fort Monmouth, of which approximately 1,000 units are located at Charles Wood subpost and approximately 120 units on the Main Post. Typically, more than half of these units are occupied by enlisted personnel. There are no vacancies in family housing at the present time. The average waiting period to obtain family housing is 1 to 2 months (DA, 1994).

4.14.2 *Off-Post Housing*

In 1990, there were approximately 688,000 housing units in the three-county Fort Monmouth ROI. The average vacancy rate was 12 percent, somewhat higher than the average New Jersey vacancy rate of 9 percent (New Jersey Department of Labor, 1990).

The average cost of housing in the Fort Monmouth area is higher than the statewide average of \$162,300. According to the 1990 census, the value of owner-occupied houses ranged from a median of \$126,000 in Ocean County to a median of \$180,400 in Monmouth County. The median contract rent in the Fort Monmouth ROI was also higher than the statewide median (\$521/month), ranging from a low of \$567/month in Monmouth County to a high of \$608/month in Middlesex County (Census, 1990).

4.14.3 *Schools for DoD Dependents*

There are no schools for military dependents, other than preschool and child care facilities, located on Fort Monmouth. Children of military personnel residing on the post attend schools in the surrounding area. School districts that support students whose parents live or work on Fort Monmouth are eligible for federal impact aid, pursuant to Public Law 103-383. Public schools are mostly administered by individual municipalities (townships, boroughs, and cities); vocational and technical schools are administered by the

counties. Total public school enrollment is approximately 250,000 students. In addition to the public schools, there are numerous private and parochial schools in the area. Nearby colleges include Monmouth University, a 4-year university with graduate programs, and Brookdale Community College, which offers a 2-year program. In addition, DeVry Institute offers undergraduate degree and diploma programs in various technical fields (Monmouth County Planning, 1995.)

Fort Monmouth has two child care centers with spaces for a total of about 240 children, a preschool serving about 50 children, and a "latchkey" center for school-age children. (The two centers will be replaced by a new facility that is scheduled for occupancy in the July 1996 time frame.) In addition, there are a number of homes on the post in which daycare is provided by trained daycare providers (DA, 1994).

Monmouth County has 128 elementary schools and 39 secondary schools. In the county approximately 13,000 children are enrolled in preschool, 89,300 students are enrolled in elementary or high school, and 33,600 students are enrolled in college; 15.1 percent of the total student population are enrolled in private schools (Monmouth County Planning, 1995). In Middlesex County there are 169 schools, which have a total of approximately 82,500 pupils (Middlesex County Planning Department, 1994). In Ocean County, approximately 8,400 children are enrolled in preschool, 65,000 students are enrolled in elementary or high school, and 20,600 students are enrolled in college; 33 percent of the total student population are enrolled in private schools (Toms River-Ocean County, 1993).

4.14.4 *Family Support Services*

The Fort Monmouth area has a wealth of family support services. Monmouth County's Family and Children's Service provides counseling and assistance to all ages. Family Resource Associates provides services and activities for children with disabilities. The Ronald McDonald House provides housing for families with seriously ill children (Monmouth County Economic Development, 1995). Monmouth County also provides four centers devoted to senior citizens and their special needs (Monmouth County Planning, 1995). Ocean County's Harbor House offers shelter to runaway or abused teens. In addition, Toms River Outreach Center, Early Intervention Program, Alcoholism and Drug Abuse Council, and many other special social service programs are available to members of the community (Toms River-Ocean County, 1993).

4.14.5 *Medical Facilities*

Emergency and urgent medical care for military personnel and dependents is provided on post by Patterson Army Community Hospital (PACH) and by an outpatient clinic. PACH has 35 hospital beds and 5 emergency beds. Additional beds are available but are not in active use. A dental clinic with 14 chairs is also located at Fort Monmouth (DA, 1994).

Several hospitals and many medical centers are located near Fort Monmouth, providing emergency facilities as well as urgent care, inpatient care, psychiatric services, rehabilitative services, and outpatient surgical facilities. A hospital and four medical centers are located in Monmouth County (closest to Fort Monmouth), with a combined capacity of approximately 2,000 beds (Monmouth County Economic Development, 1995). Eight hospitals are located in Ocean County, with a total capacity of 1,661 beds (Toms River-Ocean County, 1993).

4.14.6 Shops and Services

Numerous shopping facilities are available in the Fort Monmouth area, including several malls, as well as local shops and business services in urban and suburban areas. Fort Monmouth active-duty and retired personnel and their dependents can also shop at the commissary and post exchange (PX) located at Fort Monmouth (DA, 1994).

The total volume of wholesale sales in the three-county Fort Monmouth ROI was more than \$32.6 billion in 1987. The total volume of retail sales in the ROI was more than \$15 billion in 1987 (Census, 1991).

4.14.7 Recreation

Fort Monmouth offers a number of recreational facilities, such as a community center, library, bowling alley, several youth centers, Boy Scout and Girl Scout buildings, several physical fitness centers, approximately 10 ball fields, several picnic areas with one picnic shelter, and an arts and crafts center. Other community facilities include a commissary, PX, and officers' club. Recreational, medical, commissary, and other community facilities on the post are used by nearby retired military personnel as well as by active-duty personnel (DA, 1994).

Additional recreational opportunities are available in the Fort Monmouth ROI. Approximately 9 percent of the land area of Monmouth County (more than 26,000 acres) is devoted to public open space under federal, state, county, or municipal stewardship. Several area parks offer sports facilities, historic sites, picnicking, camping, fishing, hunting, boating, and hiking. In addition, area residents have access to New Jersey's many seashore resorts and to cultural attractions in New York City, located within 50 miles of the installation (DA, 1994).

4.15 INSTALLATION AGREEMENTS

Police Services. Township and borough police departments, county sheriffs, and the New Jersey state police provide police protection to the areas surrounding Fort Monmouth. At present, there are no formal agreements for assistance with local or state police jurisdictions, and there is no regular contact between military and civilian police in the area (DA, 1994).

Fire Stations. Fort Monmouth has a first-response agreement for emergency response to fires with the nearby townships of Oceanport and Eatontown, and specifically with the Tinton Falls Fire Department. The post also has mutual aid agreements with the Earle Naval Weapons Station, located southwest of Fort Monmouth, and with 20 townships in the surrounding area (DA, 1994).

Table 4-6 provides information concerning written mutual aid agreements which exist between Fort Monmouth and a number of surrounding communities. These agreements are related primarily to public safety issues.

Table 4-6. Installation Agreements				
Agreeing Agencies	Purposes of Agreement	Effective Date of Agreement	Ending Date of Agreement	Location of Official Agreement Copy
Fort Monmouth & Mid Monmouth Mutual Aid Association	Mutual aid for fire protection and emergencies	June 1986	Open	Fort Monmouth Garrison Headquarters
Fort Monmouth PACH and Monmouth-Ocean County Mobile Intensive Care Unit (MONOC)	PACH allows MONOC to use government facilities to position an EMS vehicle and personnel	July 1986	Open	Fort Monmouth Garrison Headquarters

Source: DA, 1994.

SECTION 5: ENVIRONMENTAL CONSEQUENCES

5.1 INTRODUCTION

This section identifies and evaluates the potential environmental and socioeconomic consequences of implementing the proposed action. The consequences are discussed in terms of their effect on the 1997 baseline conditions described in Chapter 4. The no action alternative would result in no change to the conditions described in Chapter 4 and is not considered further.

The proposed action in Section 2 identifies relocation of 167 civilian and 8 military positions from ATCOM and 3 positions from the AAA for a total of 178 relocating personnel positions. Because this number is likely to fluctuate slightly (+/- 5 positions) between now and the time the proposed action is implemented, the number has been rounded to 175. All of the computations and models in this section are based on relocation of 175 personnel positions.

5.2 LAND USE

Geographic Setting and Location. Geographic setting and location would not be affected by implementation of the proposed action.

Climate. The proposed action will have no effect on climate.

Land Use and Airspace Use. Because Fort Monmouth is not subject to zoning restrictions, planning approvals would not be required for the conversion of Building 206 from housing to office use. Furthermore, the conversion of Building 206 from barracks to office space is within the guidelines of the Fort Monmouth Master Plan and would not disproportionately alter the land use percentages established in the Master Plan. Because there are no existing or proposed airspace restrictions at Fort Monmouth and because the proposed action does not involve the use of airspace, no impacts to airspace would occur.

5.3 AIR QUALITY

Air quality impacts associated with implementation of the proposed action fall into two general categories: emissions associated with construction activities and emissions associated with employee vehicle travel. Construction activities would occur at Building 206 in connection with renovation of that structure from barracks to office space. Impacts to air quality resulting from construction activities would be confined primarily to the immediate project area. Employee travel would consist primarily of commuting to and from work, resulting in potential impacts at Fort Monmouth and in the immediately surrounding counties.

Construction-related emissions are expected to be minor and not to create any permanent ambient air quality impacts. Renovation of Building 206 would occur entirely within the structure, where dust could be collected before it escaped to the ambient air. Since the renovation project does not include site preparation, tractors, bulldozers, scrapers, front-end loaders, paving equipment, and mobile cranes typical of construction projects

would not be involved. Some heavy trucks would be necessary to remove demolition debris and to deliver construction supplies. Exhaust emissions from these vehicles would be minimal and would not cause any violations of ambient air quality standards.

A Record of Non-Applicability, prepared by Fort Monmouth (shown in Appendix C), demonstrates that emissions of nitrogen oxides (ozone precursors) and hydrocarbons would be below threshold levels requiring air quality conformity determination and that only minor impacts of the vehicle emissions would be associated with an additional 175 personnel. Employee travel would not have any significant impact on air quality within the New York-Northern New Jersey-Long Island Air Quality Control Region. There would be no adverse impacts on the State Implementation Plan.

5.4 NOISE

The majority of the renovation work necessary to transform Building 206 from barracks to office space would occur entirely within the structure. Noise generated during renovation activities would be negligible. Construction personnel would be provided proper hearing protection if necessary during interior renovation activities.

5.5 WATER RESOURCES

Surface Water. The proposed action does not involve activities that would affect surface water.

Groundwater. Groundwater resources would also be unaffected by the conversion of Building 206 to office space.

Stormwater Management. No additional impervious surface areas, such as parking lots, have been proposed in conjunction with the proposed action. Therefore, no impacts to stormwater management are expected.

5.6 GEOLOGY

Geologic Structure. Geologic structure would not be affected by the proposed action.

Topography. No changes to topography are planned as part of the proposed action.

Soils. Soils could be slightly disturbed if trenching is required to bring additional utility or communication lines to Building 206. In that case, all trenches would be backfilled and the soils compacted. Additional landscaping or regrading and seeding could also disturb soils temporarily, but would in the long run decrease the potential for erosion.

5.7 INFRASTRUCTURE

Potable Water Supply. Potable water resources would not be negatively affected by the proposed action. The addition of 175 people to the Main Post would increase potable water consumption rates by a negligible

factor. Total potable water consumption rates would remain approximately 3.5 mgd.

Wastewater Treatment. The addition of 175 people would increase wastewater treatment throughput capacity by a negligible factor. The system's 3.69-mgd flow rate will support a post population of 49,686 people (Main Post and Charles Wood combined). The post population is anticipated to be slightly less than 11,000 people (Main Post workforce and residents combined) following implementation of the proposed action.

Solid Waste Disposal. The total increase in solid waste generation resulting from implementation of the proposed action would be negligible. Assuming that the expansion of the Monmouth Reclamation Center Landfill is in operation by mid-1996 as scheduled, there will be more than adequate capacity to meet the solid waste disposal needs in the region (including population growth) through 2015.

Roadways and Traffic. No significant impact on traffic and transportation is expected to result from implementation of the proposed action.

The three locations potentially affected by the proposed action are the major intersections of Hope Road-Tinton Avenue, SR 35-Tinton Avenue, and Oceanport-East Gate. In 1997, traffic would be at a less-than-desirable LOS E during the AM peak hour at Hope-Tinton Avenue and during both the AM and PM peak hours at SR 35-Tinton Avenue. The volume-to-capacity (v/c) ratio at SR 35-Tinton Avenue for both the AM and PM peak hours reflects that intersection operating at full capacity. These LOS and v/c ratios are based on a workforce of 9,700 persons. The additional 175 persons joining the workforce as a result of implementation of the proposed action would represent an increase of less than 2 percent. This negligible increase would not be likely to cause any perceptible changes to LOS or v/c measures.

Of the 175 new personnel positions, 172 would be housed in Building 206. This building is very close to the Oceanport-East Gate intersection, which operates at LOS B and has a v/c ratio of 0.44 during the AM peak hour and 0.46 during the PM peak hour. The proximity of Building 206 to East Gate and the Oceanport-East Gate's preferable LOS and v/c ratio make it possible that personnel would favor access and egress via the Oceanport-East Gate intersection. In such case, further degradation of LOS or v/c likely would not occur at the other intersections of concern.

Public Transportation. No impacts to public transportation resources would result from implementation of the proposed action.

Runways. The proposed action does not involve activities that include a significant amount of air travel or the use of military aircraft; therefore, no impact to runways is expected.

Incinerators. There are no incinerators on Fort Monmouth, and none of the activities planned as part of the proposed action involve waste that would require incineration off site.

Energy. Electrical energy consumption would increase slightly as a result of the proposed action, but the impact to the installation's overall capacity would be negligible. Peak hour per capita consumption rates would continue to average 10,000-kVA, well within the system's 25,000-kVA capacity.

5.8 TRAINING AREAS AND RANGES

No impacts to the limited training areas on Main Post would occur as a result of the proposed action. No ranges exist at Fort Monmouth.

5.9 HAZARDOUS AND TOXIC MATERIALS

The proposed action does not involve the direct use of materials considered either hazardous or toxic. It is possible that during the renovation activities some substances that could be considered hazardous or toxic might be used. In that case, employees and workers using or exposed to those substances would follow the safety precautions and correct handling, use, and storage directions for each substance.

Regulated Substances. No regulated substances such as explosives would be handled, used, stored, or disposed of as part of the proposed action.

Contaminated Sites. No impacts are anticipated. The nearest contaminated site to Building 206 is a former pesticide storage facility located approximately 750 feet to the east across Oceanport Avenue. The two landfill sites located approximately 1,250 feet to the southwest of Building 206 are below NJDEP threshold levels for groundwater and surface water contamination.

Asbestos. Nonfriable asbestos has been identified in Building 206 and is being managed in place. Should it become necessary to disturb the asbestos during renovation activities, appropriate steps would be taken to ensure the safe handling, removal, and disposal of the material.

Radon. Radon levels in Building 206 are well below 4 picocuries and would not be affected by the proposed action.

Polychlorinated Biphenyls (PCBs). There are no PCB transformers or PCB-contaminated transformers in the area of Building 206.

Lead Paint. Previous surveys for lead paint indicated the likelihood that special measures for the handling of demolition waste would not be required and that materials removed from the site may be disposed of as solid waste. This conclusion was based on the assumption that an entire facility would be demolished. Only the interior of Building 206 will be affected by the renovation work, thereby presenting a possibility of higher lead concentration in debris. To ensure proper disposal of Building 206 renovation debris, a composite sample of the materials to be disposed of will be subjected to toxicity characteristic leaching procedure analysis for lead concentration.

Pesticides. Pesticide application around Building 206 would continue as part of the installation pest management program. Pesticides applied to grounds would be handled in accordance with all labels and would be regulated and recorded by the Directorate of Public Works.

Medical and Biohazardous Wastes. The quantity of medical hazardous waste generated on the Main Post would not increase measurably as a result of implementing the proposed action.

Underground Storage Tanks (USTs). Building 206 has been converted from fuel oil heat to natural gas. All USTs in the project area have been removed.

5.10 BIOLOGICAL RESOURCES

Wildlife. No significant impacts to wildlife (mammals, birds, amphibians, and reptiles) or wildlife management are expected as a result of implementing the proposed action. Wildlife common to the project area are well adapted to a suburban environment and would not be affected by an additional 175 personnel on site. It is possible, however, that the number of wildlife killed each year by vehicles could increase by a negligible factor due to the addition of as many as 175 commuters traveling onto and leaving the installation daily.

Aquatic Environment. No direct impacts to aquatic resources are expected. It is possible that during periods of heavy rain petroleum, oils, and lubricant runoff to Oceanport Creek could increase slightly due to the use of the empty recreational vehicle storage parking area across from Building 206 and the additional parking area across Ocean Port Avenue by as many as 172 vehicles. (The three auditors would be housed in a different location.) However, because Oceanport Creek is a tidally influenced, brackish creek, any small amounts of vehicle runoff entering the creek would quickly dilute and dissipate. It is highly unlikely that any aquatic life would be negatively affected.

Vegetation. The environmentally sensitive area adjacent to Oceanport Creek would not be disturbed by implementation of the proposed action. Any ornamental vegetation removed during renovation activities would be replaced promptly and maintained. Vegetation management would continue in the project area in accordance with the Fort Monmouth Natural Resources Management Plan.

Threatened and Endangered Species. No federal or state-listed threatened, endangered, or special concern species have been identified on the Main Post of Fort Monmouth. Should any suspected species be identified prior to or during implementation of the proposed action, Fort Monmouth would promptly initiate consultation and coordination with the USFWS and NJDEP.

Wetlands. No impacts to the limited wetland areas along Oceanport Creek are anticipated.

5.11 CULTURAL RESOURCES

Prehistory. The area around Building 206 has been highly disturbed by past construction activities, and it is unlikely that any intact archaeological resources exist within the project area. However, if archaeological resources are encountered while trenching for utility lines, work would stop and the installation would initiate immediate consultation with the SHPO to determine an appropriate course of action.

History. See discussion under *Prehistory*.

Summary of Cultural Resource Investigations. Implementation of the proposed action will not affect the historical significance or National Register eligibility of Building 206. The interior of the building has been extensively renovated in the past and no longer has any intact original elements that would contribute to its

National Register significance. Renovation activities required to create administrative space for incoming personnel will not affect the exterior of the building.

5.12 SOCIOLOGICAL ENVIRONMENT

5.12.1 Introduction

The economic effects of the proposed realignment have been estimated using the Economic Impact Forecast System (EIFS) model, developed by the US Army Construction Engineering Research Laboratory. Outputs generated by the EIFS model are discussed in terms of annual changes within the region where the action occurs. For the purpose of this EA, the region of influence (ROI) for Fort Monmouth has been defined as the New Jersey counties of Middlesex, Monmouth, and Ocean, on the basis of existing commuting patterns and also in accordance with previous National Environmental Policy Act (NEPA) documentation for Defense Base Closure and Realignment Commission actions involving Fort Monmouth.

Method of Analysis. Baseline social and economic indicators provided in Section 4 are used as the basis for the socioeconomic analysis. The area of impact is assumed to be the three-county ROI. Impacts are expected to be spread more or less evenly across jurisdictions within the ROI.

Socioeconomic impacts are linked through cause-and-effect relationships. Department of Defense spending on payroll and local procurement supports part of the economic foundation for the ROI. A realignment action would have a "multiplier" effect on local and regional economies, resulting in an increase in income generation and personal spending within the ROI. Such actions affect secondary jobs and business volume, migration patterns, housing availability, and funding for schools and other social services.

The EIFS Model. EIFS is a computer-based economic modeling tool that calculates multipliers to estimate the primary and secondary impacts resulting from realignment and closure actions. Based on these calculated multipliers, the model estimates changes in employment, income, population, sales, housing, and schooling for the ROI due to the realignment action. The analysis presented in this section is based on EIFS output.

Significance Criteria. EIFS includes a rational threshold value (RTV) model that determines whether the expected change generated by a proposed action is significant. The RTV is calculated on the basis of yearly historical fluctuations in business volume, personal income, employment, and population within the region. For a change to be significant, it must exceed the computed positive (or negative) RTV. The positive and negative RTV extremes for the Fort Monmouth ROI for the years 1969-1992, along with RTVs for the 1995 action, are listed in Table 5-1.

Table 5-1. Rational Threshold Values

Affected Resources	1969-1990 Range of Extreme Values		Proposed Action
	Positive RTV Value	Negative RTV Value	EIFS RTV Value
Business Volume	9.495%	-8.267%	0.060%
Personal Income	7.635%	-5.201%	0.035%
Employment	4.101%	-5.580%	0.046%
Population	1.452%	-0.789%	0.027%

Appendix D contains complete RTV tables for the Fort Monmouth ROI for the years 1969-1992. As detailed in the analysis that follows, none of the impacts predicted for the proposed action approach the historical RTVs for any of the affected resources. All of the predicted changes are less than 1 percent.

This section presents the impacts of the proposed BRAC 95 action. Appendix D contains a series of tables with detailed information on the inputs and outputs of the EIFS model, followed by a table depicting changes in sales volume, employment, income, population, demand for housing, and expenditures directly resulting from the proposed action.

Construction and building renovations needed to accommodate the activities being realigned are expected to occur in FY 1997. Because Fort Monmouth is located in a well-populated area, in which the construction industry accounts for about 6 percent of total employment, it is also assumed that few if any construction workers would migrate to the area during the construction period.

Personnel Changes Caused by the Proposed Action. In FY 1998, 175 personnel (167 civilian and 8 military) would be realigned to Fort Monmouth. All military personnel are expected to relocate to Fort Monmouth, approximately 60 percent of whom are expected to be authorized to live on post. Similarly, 100 percent of the 167 civilians are expected to relocate to the Fort Monmouth ROI, none of whom are expected to live on post. In addition, BRAC 95 includes a projected attrition rate of approximately 3 percent per year, to accomplish Department of Defense (DoD) downsizing objectives at Fort Monmouth.

5.12.2 Demographics

According to the EIFS model, the movement of 175 personnel to the receiving installation would result in a negligible increase in population of less than 1 percent (see Table 5-1).

5.12.3 Visual and Aesthetic Values

Interior renovations at the Main Post would have no visible impact on the surrounding community. No exterior changes are expected to be made.

5.12.4 Native American and Ethnic Concerns

The proposed action, consisting essentially of relocation of jobs from St. Louis, Missouri, to Fort Monmouth, New Jersey, and renovation of a building at Fort Monmouth, is not of such a nature to affect Native Americans or particular ethnic groups. No known Native American sites would be affected. According to the 1990 census, fewer than 1 percent of the three-county ROI is American Indian, Eskimo, or Aleutian, and about 6 percent is identified as being of Hispanic origin. In light of the equal employment opportunity policies practiced by the Army, there is no reason to conclude these groups would be measurably affected, either positively or negatively, by implementation of the proposed action.

5.12.5 Public Safety

Police Services. The proposed action would increase the on-post residential population of Fort Monmouth by as many as 20 (less than 1 percent), which should not change the demand for police services. Including personnel and their families, the realignment would increase the number of persons living off post by as many as 435. The increase in demand for off-post police service would be spread over multiple jurisdictions, and therefore no significant impact on police services is expected.

Fire Stations. The proposed action would increase the on-post residential population of Fort Monmouth by as many as 20 (less than 1 percent), which should not change the demand for fire services. Including personnel and their families, the realignment would increase the number of persons living off post by as many as 435. The increase in demand for off-post fire service would be spread over multiple jurisdictions, and therefore no significant impact on fire services is expected.

5.12.6 Environmental Justice

The proposed action, consisting essentially of relocation of jobs from St. Louis, Missouri, to Fort Monmouth, New Jersey, and renovation of a building at Fort Monmouth, is not of such a nature to affect Native Americans or particular ethnic groups. No known Native American sites would be affected. According to the 1990 census, fewer than 1 percent of the three-county ROI is American Indian, Eskimo, or Aleutian, and about 6 percent is identified as being of Hispanic origin. In light of the equal employment opportunity policies practiced by the Army, there is no reason to conclude these groups would be measurably affected, either positively or negatively, by implementation of the proposed action.

5.13 ECONOMIC DEVELOPMENT

5.13.1 Regional Economic Activity

The effects of the proposed action on the fiscal structure of the Fort Monmouth region, including personal income, are not expected to be significant.

The increase in off-post population in FY 1998, as a result of the proposed action, would cause a slight increase in demand for municipal services and should also slightly increase property tax and income tax collections. Annual sales tax revenues would increase in proportion to the change in sales volume. Because

the changes in regional population and sales volume are negligible (less than 1 percent), these related effects are not expected to be significant.

The EIFS model predicts an increase in regional personal income of approximately \$14 million in FY 1998 as a result of the realignment. This increase represents a change of less than 1 percent in the annual average in the area and is not considered significant.

5.13.2 *Installation Contribution, Local Expenditures*

A predicted one-time nonconstruction cost of \$2.8 million reflects permanent change of station costs related to the realignment action. Construction-related expenditures associated with the realignment would be approximately \$2.7 million in FY 1997. This cumulative increase of \$5.5 million represents a change of less than 1 percent for expenditures on goods and services. Construction-related expenditures would result in short-term increases in regional employment; however, these changes are not considered to be significant in the region (Kencik, 1995).

The proposed action would cause an increase of approximately \$32 million in Fort Monmouth's annual expenditures for the procurement of goods and services (see Appendix D).

5.13.3 *Military Force Structure, Salaries, and Expenditures*

The 1997 total operational and salary expenditures at Fort Monmouth are predicted to be \$482 million. Estimated annual operational and salary expenditures per employee are approximately \$50,000. Table 5-2 depicts the 1998 military and civilian personnel levels and average salaries at Fort Monmouth.

5.13.4 *Communications*

Communications systems are sufficient to sustain use by additional personnel as a result of the proposed realignment. No significant impact is expected.

Table 5-2. 1998 Military and Civilian Personnel Levels and Salaries		
Employee Type	Number	Average Salary/Wage
Permanent Military - Officer	205	\$41,800
Permanent Military - Enlisted	583	\$21,300
Permanent Civilian - GS series	6050	\$54,000
Wage Grade	52	—
Exchange and Commissary	167	—
Other Nonappropriated Fund	236	—
Contractual Workers	2247	—
Total	9540	

Source: Kencik, 1995.

5.14 QUALITY OF LIFE

5.14.1 On-Post Housing

Barracks and Single Officer Quarters. As a result of the proposed realignment, the number of single or unaccompanied military could increase by as many as eight personnel. There are currently enough vacancies in single officer quarters to accommodate incoming personnel.

Family Housing. As many as eight military personnel and their families (approximately 20 people) could be eligible for on-post housing as a result of the proposed action. The average waiting period to obtain family housing is 1-2 months.

5.14.2 Off-Post Housing

At most, 175 civilian and military personnel and their families, or approximately 435 people total, would obtain off-post housing. This change in demand for housing located within the ROI would result in an increase of less than 1 percent of the regional supply of rental and owner-occupied units. No significant effect on the regional housing market is expected.

5.14.3 Schools for DoD Dependents

According to the EIFS model, as a result of the proposed realignment, the additional school-age children accompanying incoming personnel would result in an increase of an estimated 70 children in FY 1997. This change represents less than 1 percent of total public school enrollment in the Fort Monmouth ROI. Because the change represents a small proportion of regional enrollments and would be spread over multiple municipalities, no significant impact on area schools is expected.

5.14.4 Family Support Services

The partial listing provided in Section 4.14.4 of family support services and agencies available to assist an increased work force appears sufficient to support any increase in demand that might be attributable to 175 employees and their families in an ROI having a population of 1.65 million.

5.14.5 Medical Facilities

Any increase in demand for on-post and off-post medical services as a result of the proposed action would be spread over multiple jurisdictions; therefore, no significant impact on medical services is expected.

5.14.6 Shops and Services

According to the EIFS model, in FY 1997 the proposed realignment would result in an increase in regional sales volume (including both primary and induced, or secondary, sales) of approximately \$32 million. This change is less than 1 percent of annual sales volume, well within historical RTV levels, and is not considered to be significant in the region. (See Appendix D for business volume RTVs.)

5.14.7 Recreation

No significant effect on demand for recreational or community facilities is expected as a result of the proposed action.

5.15 INSTALLATION AGREEMENTS

Police Services. The increase in demand for on- and off-post police services as a result of the proposed action would be spread over multiple jurisdictions; therefore, no significant impact on police services is expected.

Fire Services. The increase in demand for on- and off-post fire services as a result of the proposed action would be spread over multiple jurisdictions; therefore, no significant impact on police services is expected.

5.16 CUMULATIVE IMPACTS

A cumulative impact is defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

As identified in Section 4.1, a considerable number of changes to the force structure and organization of resources located at Fort Monmouth are occurring or will occur during the mid 1990s. At the outset of 1993, prior to announcement of changes directed by the 1993 BRAC Commission and by the Army on its own initiative, Fort Monmouth's rolls numbered nearly 11,000 people. These personnel were located at the Main Post, Charles Wood subpost, Evans subpost, and the CECOM Office Building. Upon completion of the proposed actions initiated in 1995, the Fort Monmouth population would be about 9,500 people, housed only at the Main Post and Charles Wood subpost. The capacity of the Main Post and Charles Wood subpost to accommodate the personnel is ensured by one construction project and three renovation projects related to the BRAC '93 actions (evaluated in *Realignment of Fort Monmouth, Fort Monmouth, New Jersey, Environmental Assessment Final* (July 1994) and *Realignment of Fort Monmouth, Charles Wood Subpost Actions, Fort Monmouth, New Jersey, Supplemental Environmental Assessment Final* (May 1995)) and the proposed renovation project associated with the present action.

The 1995 BRAC Commission is the last in a series of three commissions appointed under the terms of the Defense Base Closure and Realignment Act of 1990. Future force structure and basing actions that might affect Fort Monmouth would be at the Army's discretion as it carries out its national defense missions; all presently known actions affecting Fort Monmouth have been presented.

Traffic patterns at Fort Monmouth will change between 1993 and 1997 primarily as a result of the termination of the CECOM Office Building lease and relocation of those nearly 3,000 personnel to the Main Post. Analyses of present and projected traffic indicate probable improvement in traffic conditions at the intersection of Tinton Avenue and Hope Road, deterioration of traffic conditions at SR 35 and Tinton Avenue (West Gate), and no change in traffic conditions at the Oceanport-East Gate intersection. Further changes

in traffic conditions that would result from implementation of the present proposal would be minor, if at all measurable.

Minor impacts that would occur as a result of implementation of the proposed action would extend to land use, air quality (temporary construction-related and vehicle emissions), soils (construction-related), infrastructure (potable water supply usage, wastewater treatment volumes, solid waste disposal requirements, and roadways and traffic volume), energy use, asbestos and lead paint (demolition removal), biological resources, demographics, police and fire services, regional economic impact (including installation contributions to local expenditures and military force structure), and quality of life. Some of these minor impacts would occur immediately and would be temporary; others would be characterized as permanent. Taken together, these minor impacts do not pose potential for the occurrence of any significance regarding any single one of them.

5.17 MITIGATION

Mitigation actions associated with renovation activities at Building 206 would accompany the proposed action. Noise related to construction work and truck traffic (demolition waste and materials delivery) would be generally limited to daytime hours, thus avoiding disturbance to residential areas in the vicinity of the project site at times when people are more likely to be at home. Disturbed soil would be compacted and seeded to prevent erosion. Potential fugitive dust would be controlled by enclosure of work areas. Disturbance and removal of asbestos, if required, would be in accordance with best management practices and federal, state, and local regulations designed to minimize or avoid the release of the hazardous fibers. If analysis identifies lead concentrations in debris above regulatory threshold levels, best management practices and federal, state, and local regulations will be followed for disposal.

Peak-hour traffic conditions at the intersection of SR 35 and Tinton Avenue (West Gate) are expected to be level of service E at the time of implementation of the proposed action. The proposed action, which would add a small amount of traffic to that intersection, would not be expected to degrade traffic conditions to level of service F. Implementation of the proposed action might hasten actions to improve traffic conditions. Potential improvements at the West Gate include engineering actions, such as development of a right-turn lane on northbound SR 35. Implementation of this particular improvement would be at the discretion of local officials. Fort Monmouth is also considering the analysis and adoption of transportation demand management solutions. These are measures that could reduce traffic impacts by reducing the number of vehicle trips through an intersection or by reducing the number of trips during peak periods. Potential transportation demand management solutions include implementation of flexible working hours for as many base activities as possible, provision of incentives such as preferred parking for high-occupancy vehicles, and limitations on the number of future parking spaces available to single-occupant vehicles by designating some spaces as high-occupancy vehicle parking only.

Table 5-3 summarizes the level of impact to each resource resulting from implementation of the proposed action and suggested mitigation measures.

Table 5-3. Summary of Preferred Alternative Impacts and Mitigation

Resource	Level of Impact¹	Suggested Mitigation
LAND USE		
Geographic Setting/Location	None	
Climate	None	
Land/Airspace Use	N.S.	
AIR QUALITY		
Construction Emissions	N.S.	-Confine potential fugitive dust to work areas and remove as necessary
Vehicle Emissions	N.S.	
NOISE	N.S.	-Restrict renovation activities to daytime hours -Provide construction personnel with protective hearing devices if necessary
WATER RESOURCES		
Surface Water	None	
Groundwater	None	
Stormwater Management	None	
GEOLOGY		
Geologic Structure	None	
Topography	None	
Soils	N.S.	-Backfill trenches -Compact and seed disturbed soils
INFRASTRUCTURE		
Potable Water Supply	N.S.	
Wastewater Treatment	N.S.	
Solid Waste Disposal	N.S.	
Roadways and Traffic	N.S.	-Initiate a Traffic Management Study to determine optimum course of action
Public Transportation	None	
Runways	None	
Incinerators	None	

Table 5-3. Summary of Preferred Alternative Impacts and Mitigation

Resource	Level of Impact¹	Suggested Mitigation
Energy	N.S.	
TRAINING AREAS AND RANGES	None	
HAZARDOUS AND TOXIC MATERIALS		
Regulated Substances	None	
Contaminated Sites	None	
Asbestos	N.S.	-Follow best management practices and federal, state, and local regulations if disturbance and removal of asbestos become necessary
Radon	None	
Polychlorinated Biphenyls	None	
Lead Paint	N.S.	-Follow best management practices and federal, state, and local regulations if analysis identifies lead concentrations in debris above regulatory threshold levels
Pesticides	None	
Medical and Biohazardous Waste	None	
Underground Storage Tanks	None	
BIOLOGICAL RESOURCES		
Wildlife	N.S.	
Aquatic Environment	N.S.	
Vegetation	N.S.	-Seed and landscape disturbed areas
Threatened and Endangered Species	None	-Notify USFWS and NJDEP immediately if any suspected species are encountered during implementation of proposed action
Wetlands	None	
CULTURAL RESOURCES		
Prehistory	None	
History	None	

Table 5-3. Summary of Preferred Alternative Impacts and Mitigation		
Resource	Level of Impact¹	Suggested Mitigation
Summary of Cultural Resource Investigations	N.S.	
SOCIOECONOMIC ENVIRONMENT		
Demographics	N.S.	
Visual and Aesthetic Values	None	
Native American and Ethnic Concerns	None	
Homeless and Other Special Programs	None	
Police Services	N.S.	
Fire Stations	N.S.	
Environmental Justice	None	
ECONOMIC DEVELOPMENT		
Regional Economic Impact	N.S.	
Installation Contribution, Local Expenditures	N.S.	
Military Force Structure, Salaries, and Expenditures	N.S.	
Communications	N.S.	
QUALITY OF LIFE		
On- & Off-Post Housing	N.S.	
Schools for DoD Dependents	N.S.	
Family Support Services	N.S.	
Medical Facilities	N.S.	
Shops and Services	N.S.	
Recreation	N.S.	
¹ N.S. = Not Significant		

SECTION 6:

FINDINGS AND CONCLUSIONS

The proposed action to implement the 1995 BRAC Commission recommendation and the Army's discretionary action for Fort Monmouth and the no action alternative have been reviewed in accordance with the National Environmental Policy Act of 1969 as implemented by the regulations of the Council on Environmental Quality and Army Regulation 200-2. Baseline environmental and socioeconomic conditions at Fort Monmouth have been described, and the environmental consequences of implementing the proposed action have been evaluated. Evaluation of the preferred alternative (implementation of the proposed action) and the no action alternative indicates that environmental resources at Fort Monmouth and in the region of influence would not be significantly affected.

Implementation of the preferred alternative would not substantially alter baseline environmental conditions. Additional personnel would be accommodated in Building 206 (upon completion of a renovation project in 1997) and in Building 418. Renovation of Building 206 would produce a limited number of short-term effects that would be confined to the project site and would not be significant. Impacts on traffic conditions near the project site would be negligible at an intersection (Oceanport-East Gate) having a level of service B. Impacts on traffic conditions at other locations, particularly the intersection of SR 35 and Tinton Avenue (West Gate) would be negligible and would not result in degradation beyond its current LOS E. No impacts would occur with respect to wetlands; biological resources; cultural resources; environmental pollution related to air, land, or water resources; or noise. The Economic Impact Forecast System model indicates that changes in total sales, employment, population, and income within the region of influence would be insignificant.

Known and potential impacts of the proposed action on the physical, natural, and cultural environment would not be significant. Implementation of the proposed action will not require the preparation of an Environmental Impact Statement. Preparation of a Finding of No Significant Impact is appropriate.

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Terry Garnett	B.S., Environmental Science	Senior Technical Reviewer Biological Resources
Susan Bartow	M.E.M., Water Resource Ecology B.A., Biology	Environmental Analyst Environmental Justice, Cultural Resources, Water Resources
Chelie Billingsley	B.A., Economics	Environmental Analyst Socioeconomics
Paula Proctor	B.A., Environmental Science	Environmental Analyst Land Use, Administrative Record
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State College Field Office
USFWS
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Washington, DC 20515
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Long Branch, NJ 07740

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New Jersey Address
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Borough of Tinton Falls Library
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Tinton Falls, NJ 07724
(908) 542-3110

Monmouth County Library, Eastern Branch
Highway 35
Shrewsbury, NJ 07702
(908) 389-7614

Oceanport Public Library
Monmouth Blvd and Myrtle Ave
Oceanport, NJ 07757
(908) 229-2626

SECTION 9: REFERENCES

- B&V. July 1991. *Fort Monmouth Design Guide*. Black and Veatch.
- CH2MHill. 1994. *Traffic and Transportation Analysis; Fort Monmouth Realignment*. Report.
- DA. 1995. *Final Site Investigation Fort Monmouth, New Jersey Main Post and Charles Wood Areas*. December 1995. Prepared for US Army Corps of Engineers, Baltimore by Roy F. Weston, Inc.
- DA. 1994. *Realignment of Fort Monmouth, Fort Monmouth, New Jersey, Final Environmental Assessment*. Prepared for the Department of the Army by CH2MHill.
- DA. 1993. *Final Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey*. December 1993. Prepared for US Army-Fort Monmouth Directorate of Public Works by Roy F. Weston, Inc.
- Department of the Army - US Army Environmental Hygiene Agency (AEHA). January 1991. *Environmental Noise Consultation No. 52-34-0662-91*.
- Fort Monmouth. 1994. *Natural Resources Management Plan*.
- Grolier. 1995. *The Academic American Encyclopedia* (1995 Grolier Multimedia Encyclopedia Version). Grolier, Inc., Danbury, CT.
- HBA. 1987a. *Analytical/Environmental Assessment Report on Plans for Future Development, Fort Monmouth New Jersey*. Harland Bartholomew & Associates Inc.
- HBA. 1987b. *Fort Monmouth Mobilization Master Plan of Installation Facilities*. Prepared for the New York District Corps of Engineers by Harland Bartholomew & Associates Inc..
- HBA. March 1984. *Analysis of Existing Facilities and Environmental Assessment Report, Fort Monmouth New Jersey*. Harland Bartholomew & Associates Inc.
- Kencik, Christopher. December 1995. Response to Fort Monmouth BRAC '95 Realignment Environmental Assessment Socioeconomic Data Questionnaire.
- Middlesex County Planning Department. 1994. *Bureau of Census for 1970, 1980, 1990, 1992, and 1994 Demographics and NJ Department of Labor State Projections*.
- Monmouth County Department of Economic Development. 1995. *Economics and Demographics Package*.
- Monmouth County Planning Board and Department of Promotion/Tourism. 1995. *Monmouth County Welcome Package*.
- Monmouth County Planning Department. 1990. Selected demographics factsheets.

Ocean County Planning Board. 1995. *1995 Annual Report, Ocean County Databook, and Ocean County Comprehensive Master Plan.*

State of New Jersey Department of Labor. 1990. Selected demographics factsheets.

Toms River-Ocean County Chamber of Commerce. 1993. *Profile of Ocean County.*

USACE. 1993. *Fort Devens-Fort Huachuca-Fort Monmouth Realignment Draft Environmental Impact Statement.* US Army Corps of Engineers.

USATHAMA. May 1980. *Installation Assessment of Fort Monmouth.* Report No. 171. US Army Toxic and Hazardous Materials Agency.

US Bureau of Economic Analysis. 1992. *Economic Impact Forecast System* [computer model]. US Department of the Army, Construction Engineering Research Laboratory.

USDA. Soil Conservation Service. April 1989. Soil Survey of Monmouth County. US Department of Agriculture.

US Department of Commerce, Bureau of the Census. 1991. *Censuses of Wholesale Trade, Retail Trade and Service Industries* on CD-ROM 1-D, 1987: Geographic Area Series.

US Department of Commerce, Bureau of the Census. 1990. *Economic Impact Forecast System* [computer model]. US Department of the Army, Construction Engineering Research Laboratory.

SECTION 10:
PERSONS AND AGENCIES CONSULTED

Chase, Linda. Bureau of the Census, Ethnic and Hispanic Statistics Branch, Population Division.

Cuiffo, Frank. Headquarters USACECOM, Fort Monmouth, New Jersey, BRAC Division.

Day, Clifford G. US Department of the Interior, Fish and Wildlife Service.

Desai, Dinkerrai. Fort Monmouth, New Jersey, Directorate of Public Works.

Donofrio, Anthony. Ocean County Office of Economic Development, Demographics, and Mapping.

Durish, Helen. Union County Chamber of Commerce.

Eastern Monmouth County Chamber of Commerce.

Hernandez, Louis. Fort Monmouth, New Jersey, Directorate of Public Works.

Kencik, Christopher. Headquarters, USACECOM, Fort Monmouth, New Jersey, BRAC Division.

Lapp, Vivian. Ocean County Chamber of Commerce.

Mattei, Lou. Middlesex County Planning Office.

McDowell, Robert. New Jersey Department of Environmental Protection and Energy, Division of Fish, Game, and Wildlife.

Richman, Tamara. Middlesex County Office of Economic Development.

Southern Monmouth County Chamber of Commerce.

Strickler, Harietta. Monmouth County Planning Office.

Union County Economic Development Corporation.

Velknap, Randy. New Jersey Department of Labor.

Western Monmouth County Chamber of Commerce.

APPENDIX A

**US Fish and Wildlife Service
Coordination Letter**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
927 North Main Street (Bldg. D1)
Pleasantville, New Jersey 08232

IN REPLY REFER TO:

ES-96/21

Tel: 609-646-9310
FAX: 609-646-0352

February 12, 1996

Ms. Susan Bartow
Tetra Tech, Incorporated
10306 Eaton Plaza
Suite 340
Fairfax, Virginia 22030

Re: Proposed Addition of 175 Military Personnel to the Main Post, Fort Monmouth, Monmouth County, New Jersey

Dear Ms. Bartow:

This is in response to your January 29, 1996 telephone conversation with Thomas McDowell of my staff. The conversation between you and Thomas McDowell clarified that 175 military personnel would be placed at the Main Post, Fort Monmouth and not the Charles Wood Subpost, Fort Monmouth as our January 22, 1996 letter stated.

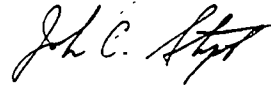
The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced proposed project pursuant to Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*) or peregrine falcon (*Falco peregrinus*), no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur in the vicinity of the proposed project site. Therefore, no further consultation pursuant to Section 7 of the Endangered Species Act is required by the Service. If additional information on federally listed threatened or endangered species becomes available, this determination may be reconsidered.

These comments pertain to federally listed species only and do not preclude separate review and comment by the Service as afforded by the Fish and Wildlife Coordination Act (48 Stat. 401, 16 U.S.C. 661 *et seq.*), if any federal permits or licenses are required for the proposed project nor do they preclude comment on any forthcoming environmental documents pursuant to the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*).

Enclosed are current summaries of the federally listed and candidate species in New Jersey. The addresses of State agencies to contact for site-specific candidate and State-listed species information in New Jersey are also enclosed for your consideration in project planning.

Please contact Thomas McDowell of my staff if you have any questions or require further assistance regarding federally listed threatened or endangered species. The Service apologizes for the delay in responding to your request for information. The delay was due to the recent three-week partial federal government shutdown.

Sincerely,

A handwritten signature in dark ink, appearing to read "John C. Staples". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

John C. Staples
Assistant Supervisor

Enclosures

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **ENDANGERED SPECIES** is any species that is in danger of extinction throughout all or a significant portion of its range.

A **THREATENED SPECIES** is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FISHES

Sturgeon, shortnose*

Acipenser brevirostrum

E

REPTILES

Turtle, Atl. Ridley*

Lepidochelys kempii

Turtle, green*

Chelonia mydas

Turtle, hawksbill*

Eretmochelys imbricata

Turtle, leatherback*

Dermochelys coriacea

Turtle, loggerhead*

Caretta caretta

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BIRDS

Eagle, bald

Haliaeetus leucocephalus

Falcon, Am. peregrine

Falco peregrinus anatum

Plover, piping

Charadrius melodus

Tern, roseate

Sterna dougallii dougallii

T
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MAMMALS

Bat, Indiana

Myotis sodalis

Cougar, eastern

Felis concolor cougar

Whale, blue*

Balaenoptera musculus

Whale, finback*

Balaenoptera physalus

Whale, humpback*

Megaptera novaeangliae

Whale, right*

Balaena glacialis

Whale, sei*

Balaenoptera borealis

Whale, sperm*

Physeter macrocephalus

Wolf, gray

Canis lupus

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E+
E+

FEDERAL CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species that appear to warrant consideration for addition to the federal List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the U.S. Fish and Wildlife Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

SPECIES

Bog turtle

Clemmys muhlenbergii

Bog asphodel

Narthecium americanum

Note: Taxa formerly known as "Category 2" candidate species are now known as "species of concern." Species of concern are those species for which the Service does not have conclusive data to support listing the species under the Endangered Species Act at this time. Taxa formerly known as "Category 3B" or "Category 3C" candidate species are no longer considered candidate species nor are they considered species of concern. Category 3B species were determined, on the basis of current taxonomic understanding, not to represent distinct taxa meeting the Act's definition of "species." Category 3C species are those species that have proven to be more abundant than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion as candidate species or species of concern.

For complete listings of taxa under review as candidate species or species of concern, refer to Federal Register Vol. 59, No. 219, Nov. 15, 1994 (Animal) and Vol. 58, No. 188, September 30, 1993 (Plants).

APPENDIX B

State Historic Preservation Office
Coordination Letter

REPLY TO
ATTENTION OFDEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300H90-C96-7
PL-R
RECEIVED

FEB 28 1996

February 21, 1996

HISTORIC PRESERVATION OFFICE

Planning Division

SUBJECT: Section-106 Coordination on Building 206 at Fort Monmouth,
New JerseyDS
TP 96-1004Deputy State Historic Preservation Officer
New Jersey Department of Environmental Protection
ATTN: Mr. Terry Karschner
CN 404
Trenton, New Jersey 08625-2023

Dear Mr. Karschner:

Fort Monmouth, New Jersey is included as part of a realignment action initiated by the Defense Closure and Realignment Act of 1990 (Public Law 101-510), 1995. authorized action, and this transmittal is part of our commitment to complete the National Historic Preservation Act (NHPA) Section 106 requirements for the installation.

Building 206 was identified as part of a potential National Register District for Fort Monmouth in the 1984 "Historic Properties Report: Fort Monmouth, New Jersey and Subinstallations Charles Wood Area and Evans Area," (prepared by Building Technology Incorporated for the National Park Service under contract to the U.S. Army Materiel Development and Readiness Command)(now U.S. Army Materiel Command (AMC)). Building 206 was one of a series of barracks (buildings 205-208) built in 1927 around what is termed Barker Circle (Enclosure A and B).

The realignment action will require conversion from barracks space to administrative space and the modifications will impact the interior portions of the building. On February 5-6 1996, Mr. Joseph S. Murphey, the historic architect for the Fort Worth District, U.S. Army Corps of Engineers, examined the building to determine the potential effect of the undertaking on the building's integrity. Enclosure C consists of several on-site photographs documenting the current condition of the building. Mr. Murphey considers the interior integrity of Building 206 to be totally compromised and severely reduced on the exterior portions. All of the windows were replaced in the late 70's or early 80's, when it appears the whole interior of the building was

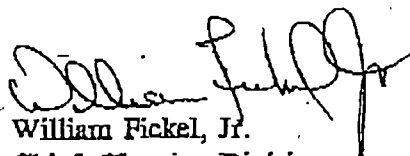
-2-

refurbished. No original interior doors remain and the replacements are hollow metal replacements less than twenty years old. Suspended ceilings are omnipresent and the stairwell contains no original features, i.e., railings. No original flooring was evident. Furnishings, wallpaper, draperies, etc. are all vintage 1980. The group restroom on each floor was a non-distinctive 1950s Army facility with gang arrangement of wall hung sinks on hollow light green glazed tile. These buildings appear to have been gutted and totally reconfigured within the last twenty-five years.

The exterior of Building 206 has been highly modified as well. However, it does retain integrity of location, massing and materials (i.e., brick) on the exterior. As a part of a district, it still could be considered as a contributing element. On its own merits, it has lost sufficient integrity to void its eligibility.

In consideration of the above, we have applied the criteria of effect to this property and determined that the action will have No Adverse Effect. We appreciate your comments on this determination. For your convenience, if you concur with our determination, you may sign the signature block provided and return a copy of this letter to our office. If we do not hear from you within 30 days of receipt of this letter we will assume concurrence and provide appropriate documentation to the Advisory Council on Historic Preservation (ACHP) for final comment. If you should have any questions, please contact Mr. Stephen P. Austin at (817) 885-6385.

Sincerely,


William Fickel, Jr.
Chief, Planning Division

Enclosure

-3-

Concurrence:

Dorothy J. Gizzo 3-1-96
New Jersey State Historic Preservation Officer Date

Copies Furnished w/o Enclosure:

Commander
HQ U.S. Army Materiel Command
ATTN: AMCEN-R (Ms. Maria Chuck)
5001 Eisenhower Avenue
Alexandria, Virginia 22333-0001

Commander
Fort Monmouth
ATTN: AMSBL-PE-BR (Mr. Chris Kencik)
Fort Monmouth, New Jersey 07703-5000

Commander
U.S. Army Corps of Engineers
Mobile District, ATTN: CESAM-PD-M (Dr. Neil Robison)
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Mobile, Alabama 36628-0001

APPENDIX C

Record of Non-Applicability

**MEMORANDUM FOR FILE
RECORD OF NON-APPLICABILITY
CONCERNING THE GENERAL CONFORMITY RULE
(40 C.F.R. 51)**

As recommended by the 1995 Base Closure and Realignment Commission and approved by Congress, the Army proposes to realign 175 personnel positions from the Aviation and Troop Command in St. Louis, Missouri, to the Communications-Electronics Command at Fort Monmouth. This relocation of jobs to Fort Monmouth necessitates the Army's completion of a conformity review to determine whether the proposed action is subject to the General Conformity Rule of the U.S. EPA (40 C.F.R. 51).

Fort Monmouth is within the New York-Northern New Jersey-Long Island Air Quality Control Region, an area that is in nonattainment status for ozone. The General Conformity Rule provides that actions proposed to occur within nonattainment or maintenance areas must, unless otherwise exempt, be accompanied by a Conformity Determination.

Ozone precursors produced by vehicles used by the increased employee population must be calculated. Values for calculations are provided in the U.S. EPA's *Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources* (AP-42, September 1985). The following conservative assumptions and data apply in use of an elementary load-rate model for making calculations for nitrogen oxide and hydrocarbon emissions: there would be 175 vehicles; the commuting distance for each vehicle would be 30 miles each workday; there would be 250 workdays each year; the average vehicle age would be three years old; and nitrogen oxide emissions per mile driven would be 0.756 grams and hydrocarbon emissions per mile driven would be 0.463 grams per mile. Application of these values in an elementary load-rate model (175 employees x 30 miles daily x 250 days x 0.756 grams NO_x/mile = 1,009,260 grams) results in estimated annual nitrogen oxide emissions of 992,250 grams, or 2,186 pounds. Calculation of hydrocarbon emissions (175 employees x 30 miles daily x 250 days x 0.463 grams hydrocarbons per mile) results in estimated annual hydrocarbon emissions of 607,688 grams, or 1,338 pounds per year. The administrative duties performed by the additional 175 employees would not include use of volatile organic compounds except in the smallest of amounts (e.g., as an adjunct to cleaning supplies). The base recently converted its heating system to natural gas; the portion of the building heating system emissions attributable to the influx of personnel similarly would be negligible.

The General Conformity Rule provides that certain actions may be exempt from the requirement to prepare a Conformity Determination. Among the recognized exemptions is any action which results in de minimis emissions. The threshold level for either volatile organic compounds or nitrogen oxide is 25 tons per year in "severe" nonattainment areas. Both the calculated projections of emissions of nitrogen oxide and estimated negligible emissions of volatile organic compounds is below the regulatory threshold.

Based on the foregoing, it is determined that the Army proposal is exempt from the General Conformity Rule requirement to prepare a full Conformity Determination.

Proponent: U.S. Army Communications-Electronics Command, Program Analysis and Evaluation
Directorate, BRAC Division, Fort Monmouth, New Jersey 07703-5027

Responsible Official: _____

CHRISTOPHER KENCIK
BRAC Environmental Coordinator

2 January 1996
(date)

APPENDIX D

EIFS Model Input/Output Data

Principal Data for EIFS Modeling

#	FIPS* Code	County	State	'90 Population	Area (sq km)
1	34023	Middlesex	NJ	671,780	836
2	34025	Monmouth	NJ	553,124	1,723
3	34029	Ocean	NJ	433,203	2,372
			Total	1,658,107	4,931

Source: Federal Information Processing System

STANDARD EIFS FORECAST MODEL

Project name: Proposed Action, FY 1998

Price deflators:

baseline year (ex. business volume)	(CPI - 1987) = 100.0
output and incomes (ex b.v.)	(CPI - 1993) = 126.3
baseline year (business volume)	(PPI - 1987) = 100.0
local services and supplies	(PPI - 1993) = 115.7
output and incomes (business volume)	(PPI - 1993) = 115.7

Change in expenditures for services and supplies:	2,314,000
Change in expenditures for local services and supplies:	\$1,694,899 (calculated)
Change in civilian employment:	167
Average income of affected civilian personnel:	\$54,000
Percent expected to relocate:	100
Change in military employment:	8
Average income of affected military personnel:	\$29,000
Percent of military living on-post:	100

STANDARD EIFS MODEL FORECAST FOR PROPOSED ACTION, FY 1998

Export income multiplier: 3.7377

Change in local

Sales volume	Direct:	\$ 8,396,000	
	Induced:	\$22,984,000	
	Total:	\$ 31,380,000	(.059)
Employment	Direct:	51	
	Total:	367	(.045)
Income	Direct:	\$1,136,000	
	Total (place of work):	\$ 13,498,000	
Local population		:422	(.026)
Local off-base population		:402	
Number of school children		:70	
Demand for housing	Rental:	44	
	Owner occupied:	123	
Government expenditures		:\$1,068,000	
Government revenues:		:\$1,081,000	
Net government revenues		:\$13,000	
Civilian employees expected to relocate		:167	
Military employees expected to relocate		: 8	

RATIONAL THRESHOLD VALUES

AREA: aggregated

All dollar amounts are in thousands of dollars.

Dollar adjustment based on Consumer Price Index (1987=100).

BUSINESS VOLUME (using Non-Farm Income)

YEAR	Non-Farm income	Adjusted income	Change	Deviation	%Deviation
1969	3,136,719	9,280,234			
1970	3,466,447	9,682,813	402,579	-103,765	-1.118 %
1971	3,806,670	10,205,550	522,737	16,393	0.169 %
1972	4,253,879	11,020,412	814,863	308,519	3.023 %
1973	4,855,966	11,843,820	823,407	317,063	2.877 %
1974	5,288,892	11,623,938	-219,881	-726,225	-6.132 %
1975	5,551,162	11,169,340	-454,599	-960,943	-8.267 %
1976	6,137,079	11,689,674	520,334	13,990	0.125 %
1977	6,818,105	12,196,967	507,293	949	0.008 %
1978	7,833,379	13,012,257	815,290	308,946	2.533 %
1979	8,742,475	13,048,470	36,213	-470,131	-3.613 %
1980	9,612,152	12,630,949	-417,521	-923,865	-7.080 %
1981	10,602,185	12,636,692	5,743	-500,601	-3.963 %
1982	11,464,647	12,896,116	259,423	-246,921	-1.954 %
1983	12,408,379	13,546,266	650,150	143,806	1.115 %
1984	13,894,744	14,656,902	1,110,637	604,293	4.461 %
1985	15,241,814	15,537,018	880,115	373,771	2.550 %
1986	16,905,489	17,518,641	1,981,624	1,475,280	9.495 %
1987	18,966,007	18,966,007	1,447,366	941,022	5.372 %
1988	21,082,277	20,271,420	1,305,413	799,069	4.213 %
1989	22,274,603	20,435,416	163,995	-342,349	-1.689 %
1990	23,538,197	20,521,532	86,117	-420,227	-2.056 %
1991	23,994,124	20,095,581	-425,951	-932,295	-4.543 %
1992	25,697,306	20,926,144	830,563	324,220	1.613 %

average yearly change: 506,344

maximum historic positive deviation: 1,475,280

maximum historic negative deviation: -960,943

maximum historic % positive deviation: 9.495 %

maximum historic % negative deviation: -8.267 %

positive rtv: 9.495 %

negative rtv: -6.200 %

PERSONAL INCOME

YEAR	Personal income	Adjusted income	Change	Deviation	%Deviation
1969	5,190,155	15,355,489			
1970	5,726,897	15,996,919	641,431	-192,293	-1.252 %
1971	6,341,884	17,002,370	1,005,451	171,727	1.074 %
1972	7,017,684	18,180,529	1,178,159	344,435	2.026 %
1973	7,863,109	19,178,315	997,785	164,062	0.902 %
1974	8,658,817	19,030,367	-147,948	-981,671	-5.119 %
1975	9,380,579	18,874,404	-155,963	-989,687	-5.201 %
1976	10,360,376	19,734,050	859,645	25,922	0.137 %
1977	11,474,123	20,526,159	792,109	-41,614	-0.211 %
1978	12,963,469	21,534,001	1,007,843	174,119	0.848 %
1979	14,652,654	21,869,633	335,631	-498,092	-2.313 %
1980	16,678,245	21,916,223	46,590	-787,134	-3.599 %
1981	18,706,450	22,296,126	379,903	-453,820	-2.071 %
1982	20,232,735	22,758,982	462,856	-370,868	-1.663 %
1983	22,043,168	24,064,594	1,305,613	471,889	2.073 %
1984	24,621,625	25,972,177	1,907,583	1,073,860	4.462 %
1985	26,643,809	27,159,846	1,187,669	353,945	1.363 %
1986	29,014,797	30,067,147	2,907,301	2,073,577	7.635 %
1987	31,482,961	31,482,961	1,415,814	582,090	1.936 %
1988	34,515,078	33,187,575	1,704,614	870,890	2.766 %
1989	36,866,078	33,822,090	634,515	-199,209	-0.600 %
1990	38,708,745	33,747,817	-74,273	-907,997	-2.685 %
1991	39,764,431	33,303,543	-444,274	-1,277,997	-3.787 %
1992	42,404,231	34,531,132	1,227,589	393,865	1.183 %

average yearly change: 833,724

maximum historic positive deviation: 2,073,577

maximum historic negative deviation: -1,277,997

maximum historic % positive deviation: 7.635 %

maximum historic % negative deviation: -5.201 %

positive rtv: 7.635 %

negative rtv: -3.484 %

EMPLOYMENT

YEAR	Employment	Change	Deviation	%Deviation
1969	440,703			
1970	458,291	17,588	552	0.125 %
1971	471,272	12,981	-4,055	-0.885 %
1972	489,939	18,667	1,631	0.346 %
1973	527,068	37,129	20,093	4.101 %
1974	535,989	8,921	-8,115	-1.540 %
1975	523,119	-12,870	-29,906	-5.580 %
1976	539,178	16,059	-977	-0.187 %
1977	562,440	23,262	6,226	1.155 %
1978	599,413	36,973	19,937	3.545 %
1979	617,647	18,234	1,198	0.200 %
1980	631,837	14,190	-2,846	-0.461 %
1981	642,674	10,837	-6,199	-0.981 %
1982	651,300	8,626	-8,410	-1.309 %
1983	671,658	20,358	3,322	0.510 %
1984	714,518	42,860	25,824	3.845 %
1985	741,957	27,439	10,403	1.456 %
1986	773,960	32,003	14,967	2.017 %
1987	809,547	35,587	18,551	2.397 %
1988	840,125	30,578	13,542	1.673 %
1989	843,833	3,708	-13,328	-1.586 %
1990	845,547	1,714	-15,322	-1.816 %
1991	826,765	-18,782	-35,818	-4.236 %
1992	832,538	5,773	-11,263	-1.362 %

average yearly change: 17,036

maximum historic positive deviation: 25,824

maximum historic negative deviation: -35,818

maximum historic % positive deviation: 4.101 %

maximum historic % negative deviation: -5.580 %

positive rtv: 4.101 %

negative rtv: -3.738 %

POPULATION

YEAR	Population	Change	Deviation	%Deviation
1969	1,223,200			
1970	1,261,200	38,000	17,761	1.452 %
1971	1,290,900	29,700	9,461	0.750 %
1972	1,322,100	31,200	10,961	0.849 %
1973	1,344,000	21,900	1,661	0.126 %
1974	1,361,200	17,200	-3,039	-0.226 %
1975	1,373,100	11,900	-8,339	-0.613 %
1976	1,382,500	9,400	-10,839	-0.789 %
1977	1,398,600	16,100	-4,139	-0.299 %
1978	1,418,700	20,100	-139	-0.010 %
1979	1,436,300	17,600	-2,639	-0.186 %
1980	1,448,600	12,300	-7,939	-0.553 %
1981	1,461,800	13,200	-7,039	-0.486 %
1982	1,476,800	15,000	-5,239	-0.358 %
1983	1,494,200	17,400	-2,839	-0.192 %
1984	1,516,300	22,100	1,861	0.125 %
1985	1,547,200	30,900	10,661	0.703 %
1986	1,579,800	32,600	12,361	0.799 %
1987	1,610,500	30,700	10,461	0.662 %
1988	1,630,200	19,700	-539	-0.033 %
1989	1,646,900	16,700	-3,539	-0.217 %
1990	1,661,700	14,800	-5,439	-0.330 %
1991	1,672,700	11,000	-9,239	-0.556 %
1992	1,688,700	16,000	-4,239	-0.253 %

average yearly change: 20,239

maximum historic positive deviation: 17,761

maximum historic negative deviation: -10,839

maximum historic % positive deviation: 1.452 %

maximum historic % negative deviation: -0.789 %

positive rtv: 1.452 %

negative rtv: -0.395 %

Source: Bureau of Economic Analysis

LIST OF ACRONYMS AND ABBREVIATIONS

AAA	US Army Audit Agency
AEHA	US Army Environmental Hygiene Agency
AM	ante meridiem
ATCOM	Aviation and Troop Command
B.C.	before Christ
BRAC	Base Realignment and Closure
CECOM	Communications-Electronics Command
CEQ	Council on Environmental Quality
EA	Environmental Assessment
EIFS	Economic Impact Forecast System
EMS	emergency medical service
FY	fiscal year
GS	government service
HC	hydrocarbon
kVA	kilovolt-ampere
LOS	level of service
mgd	million gallons per day
MONOC	Monmouth-Ocean County Mobile Intensive Care Unit
NCO	non-commissioned officer
NEPA	National Environmental Policy Act
NJDEP	New Jersey Department of Environmental Protection
PACH	Patterson Army Community Hospital
PCB	polychlorinated biphenyl
PM	post meridiem
ppm	parts per million
PX	Post Exchange
ROI	Region of Influence
RTV	rational threshold value
SHPO	State Historic Preservation Officer
SR	State Route
USFWS	US Fish and Wildlife Service
UST	underground storage tank
v/c	volume-to-capacity