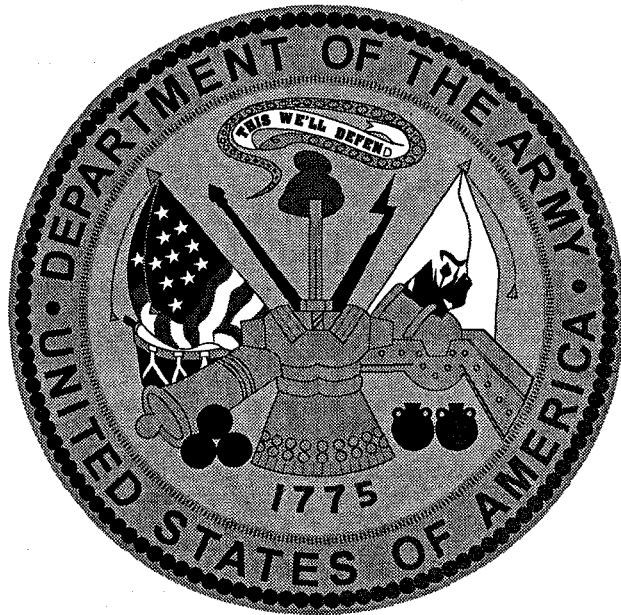


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# FINAL ENVIRONMENTAL IMPACT STATEMENT

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## FUTURE DEVELOPMENT AND OPERATIONS FORT GEORGE G. MEADE, MARYLAND



June 2001

Fort George G. Meade, Maryland  
Directorate of Public Works  
Environmental Management Office  
Fort Meade, Maryland 20755

U.S. Army Military District of Washington  
Fort Lesley J. McNair  
Washington, D.C. 20319

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## FINAL ENVIRONMENTAL IMPACT STATEMENT

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**LEAD AGENCY:** Department of the Army, Military District of Washington.

**TITLE OF THE PROPOSED ACTION:** Future Development and Operations Fort George G. Meade, Maryland.

**AFFECTED JURISDICTION:** State of Maryland, Anne Arundel and Howard Counties.

**PROPONENT REVIEWED BY:** Fort George G. Meade, Maryland, Directorate of Public Works, Environmental Management Office, Fort Meade, Maryland 20755.

**REVIEWED BY:** U.S. Army Military District of Washington, Fort Lesley J. McNair, Washington, D.C. 20319.

**END OF WAITING PERIOD AFTER FILING:** 30 days after publication in the Federal Register.

**ABSTRACT:**

An environmental assessment (EA) prepared in April 1999 determined that potentially significant adverse impacts to traffic and air quality could result from the proposed future development and operations at Fort Meade. Pursuant to NEPA, this Environmental Impact Statement (EIS) was undertaken to evaluate, in detail, the environmental and socioeconomic effects of future development and operations at the installation, specifically planned new construction and associated demolition activities. The Proposed Action includes development and operations expected to occur on the installation between 2001 and 2005. To provide the specificity needed for reasonable predictions of environmental consequences, 11 projects were identified by the Fort Meade Master Planner for consideration within the Proposed Action as being representative of the expected build out. Alternative A consists of constructing 9 of the 11 projects, excluding the two projects least likely to occur; their elimination reduces the number of additional personnel by 272, or 30 percent of the 912 additional personnel included in the Proposed Action. This EIS has identified significant impacts to air quality and traffic from the Proposed Action and Alternative A. In both instances, the contributions of Fort Meade are small relative to the regional air quality and traffic problems; it is reasonable to proceed with the action while implementing mitigation measures at Fort Meade and continuing to work in partnership with other contributing parties. No other significant impacts were identified. Comments from the public focused on additional factors related to traffic impacts. The response to public and agency comments received during the Draft EIS review period that follow this page document the Government's consideration of these factors. The conclusions of the Draft EIS stand and are thus incorporated into this Final EIS. Fort Meade's preferred alternative is the Proposed Action.



*This report has been printed on recycled paper.*

## ERRATA TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT IN RESPONSE TO PUBLIC COMMENTS

Pursuant to the Council on Environmental Quality regulations for implementing procedural provisions of the National Environmental Policy Act in 40 CFR Section 1503.4 subsection (c); and Army Regulation 200-2, *Environmental Effects of Army Actions*, in Section 6.5 subsection (g), these errata sheets have been prepared to incorporate clarifications and minor factual corrections into a Final Environmental Impact Statement (FEIS) for the Future Development and Operations, Fort George G. Meade, Maryland. The following factual corrections and clarifications to the Draft EIS (DEIS, dated February 2001), are hereby incorporated into the FEIS. These errata respond to comments raised by, and discussions with, the public and other agencies during the 45-day public comment period for the DEIS. The Government considers the errata noted to be minor, and because the additional analyses conducted to address the issues raised do not change the conclusions of the DEIS, the full DEIS text is, therefore, incorporated into this FEIS, as noted by the following:

1. Period Considered for Future Development and Operations. To reflect current master planning timelines, the DEIS is hereby changed throughout to read activities from “2001 to 2005.” Table 2-2 on page 2-4 and Figure 2-1 on page 2-6 are specifically revised as attached to these errata sheets to reflect the current condition.
2. Effect of Transient Individuals Visiting Planned Projects on Traffic. Members of the public and EPA Region III asked whether any of the projects envisioned under the Proposed Action would entail an influx of transient individuals that would further affect traffic. The EIS team determined that the Military Entrance Processing Station (MEPS) was the only project that would involve more than a few transient individuals. Because MEPS visitation would primarily be expected to occur during non-peak traffic hours and would involve high occupancy vehicles (primarily buses), it was determined that any additional traffic impacts would be minimal.

The following clarification (underlined) to the DEIS is added to the last sentence beginning on page ES-11 and the second sentence beginning on page 5-3:

- “Given the land use within and surrounding the study area, traffic conditions at times other than the morning and evening peak hour conditions will be less congested. The potential increase in visitor or transient traffic occurring during non-peak hour traffic conditions resulting from the proposed action is expected to be minimal.”

In addition, the following statement is added at the end of Section 4.12.3 on page 4-41:

- “The potential increase in visitor or transient traffic occurring during non-peak hour traffic conditions resulting from the proposed action is expected to be minimal. Potential traffic from visitors can be addressed by breaking the Proposed Action into three different types of activities as follows: (1) the Military Entrance Processing

Station (MEPS) that routinely buses inprocessing soldiers to this facility at varying times, but typically not during peak traffic times; (2) upgrades to (and associated demolition of existing) support facilities (barracks, dining facility, company headquarters, and battalion operations), where anticipated visitor traffic from these upgrades will be approximately the same as current visitation; and (3) federal administrative facilities (the Bold Ventures and 1RBDE) that would be expected to increase the amount of employee commuter traffic (but not visitor traffic to any significant degree), as was addressed in the detailed traffic studies conducted for the EIS. Based on these conditions, only insignificant impacts to traffic from visitors are expected.”

3. Effect of Additional Growth in the Area on Traffic. Members of the public asked that the effects of additional growth and activity in the area surrounding Fort George G. Meade on traffic be considered. After considering additional growth in the area, the EIS team concluded that no additional significant traffic impacts would be expected to occur. The following DEIS sentences at the beginning of the last paragraphs on both pages ES-12 and 5-3 are revised to read as follows:

- “While the population in the area immediately surrounding Fort Meade is expected to continue its historical growth rate, this rate is minimal compared to the growth in populations and activity in the Region of Influence (Anne Arundel and Howard Counties), which is expected to exceed the average annual rate in Maryland of 0.6 percent. Based on these considerations, we expect that the existing traffic impacts at Fort Meade will increase as a result of local and regional cumulative effects.”

In addition, the following related revision to the DEIS text is incorporated into pages ES-12 (last paragraph), 4-17 (paragraph 4.2.4), 4-57 (paragraph 4.12.4), and 5-2 (second full paragraph) to replace the sentence beginning “Nonetheless:”

- “However, detailed studies concluded that the contribution of Fort Meade is small relative to the regional problem. The Government further concluded that it is reasonable to proceed with the Proposed Action given Fort Meade’s commitment to intensify efforts to work in partnership with the State and others to address the larger traffic issues in the region.”

4. Subsequent to the analysis conducted for the DEIS, information on the Residential Communities Initiative (RCI – privatization of Army family housing) at Fort Meade became available. Based on the characteristics of this project (and evaluated in its own National Environmental Policy Act (NEPA) analysis made available for public review on May 25, 2001), the EIS team concluded that no additional significant effects on traffic or air quality are expected. Consideration of the RCI in the FEIS is accomplished by the following changes to the DEIS text on the pages as noted below.

The following bullet is inserted just before the USARC bullet on page 2-23:

- “Residential Communities Initiative - the conveyance of 2,862 existing dwelling units in 5 housing parcels, including the 112 individual dwelling units in the designated Historic District, and its housing maintenance responsibilities from Fort Meade to a

private developer, and the provision for the developer of a 50-year land lease of approximately 1,000 acres of Fort Meade property. The developer is expected to increase the on-post housing inventory by approximately 308 units by the end of the expected, initial 10-year buildout period. Construction is expected to be able to begin by Spring 2002.”

Table 2-6 on page 2-23 is revised to incorporate the RCI and to update the NEPA status of projects as attached in this errata sheet.

In addition, Table 2-6 is revised to note that the NEPA analyses for Fort Meade’s CIDC and Family Travel Camp projects should be noted as postscript 1, Completed.

The following short paragraph is inserted as the second paragraph on page 4-42:

- “In addition, the RCI is being evaluated and analyzed as the transfer of ownership and responsibility for providing military member family housing and ancillary supporting facilities from Fort Meade to a private developer, which is expected to increase the on-post housing inventory by approximately 308 units.”

The first sentence of the last paragraph in page 5-2 is revised as follows:

- “The traffic analysis in this FEIS focuses on cumulative effects and incorporates the following factors: (1) current traffic conditions based on 1999 traffic counts (incorporated into the No-Action Alternative), (2) additional projects approved or under construction but not included in the 1999 baseline (including the RCI), (3) 11 projects within the Proposed Action (or nine projects within Alternative A), (4) future development outside of Fort Meade as contained in the 2020 State Highway Administration (SHA) forecasts, and (5) future planned roadway improvements.”
5. The Distribution List on page 8-1 has also been revised to include all participants in the DEIS public meeting held on 18 April 2001 and follow-up public discussion held on 1 May 2001, and is included as an attachment to these errata sheets.
  6. Appendix D: Public Meeting Minutes. The DEIS included public scoping minutes and related materials in Appendix C. Appendix D is revised in the FEIS to provide similar documentation of the public meeting held on April 18, 2001 and the follow-up public discussion held on May 1, 2001 during the DEIS review period, including all comments received on meeting comment cards or in agency letters.

Table 2-2. Projects Used to Define the Proposed Action.

Year	Title	Scope Magnitude	Cost (\$000)	Additional Personnel	Construction Start Date†	Construction Completion Date
2001	Military Entrance Processing Station (MEPS)	31,179-SF	4,500	50	10/01	12/02
2002	Personnel Barracks Replacement, Phase I	110,483-SF*	20,600	0	01/02	01/04
2002	Personnel Barracks Replacement, Phase II	110,483-SF*	20,600	0	01/02	01/04
2003	Dining Facility	30,225-SF*	8,000	0	01/03	01/04
2003	Company Headquarters	8,316-SF*	1,400	0	4/03	4/05
2003	Battalion Operations	12,160-SF*	1,500	0	4/03	4/05
2003	Bold Venture I	34,000-SF	4,600	210	4/02	4/03
2003	Bold Venture II	80,000-SF	16,500	380	4/03	4/04
2004	Bold Venture III	34,000-SF	4,600	210	4/04	4/05
2004	Bold Venture IV	10,000-SF	1,400	62	4/04	4/05
2004	1RBDE, Army Medical Detachment 1st Brigade, and Baltimore Recruiting Battalion	33,309-SF*	6,200	0	4/04	4/05

\* Replacement facility; demolition of existing facilities and/or WWII wooden buildings likely.  
† All projects have estimated construction start/end dates; dependent upon EIS completion.

Task Name	2001		2002				2003				2004				2005	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Military Entrance Processing Station (MEPS)		█	█	█	█	█										
Personnel Barracks Replacement, Phase I		█	█	█	█	█	█	█	█	█						
Personnel Barracks Replacement Phase II		█	█	█	█	█	█	█	█	█						
Dining Facility							█	█	█	█						
Company Headquarters								█	█	█	█	█	█	█	█	█
Battalion Operations								█	█	█	█	█	█	█	█	█
Bold Venture I			█	█	█	█	█	█	█	█						
Bold Venture II								█	█	█	█	█	█			
Bold Venture III												█	█	█	█	█
Bold Venture IV												█	█	█	█	█
1RBDE												█	█	█	█	█

Figure 2-1. Construction and renovation activities planned for Fort Meade, MD through calendar year 2005

Table 2-6. Additional On-going Federal Projects Considered Under the Fort Meade Future Development and Operations EIS to Assess Cumulative Impacts.

Year	Title	NEPA	Scope Magnitude	Cost (\$000)	Additional Personnel	Construction Start Date	Construction Completion Date
1998	ESSD & SDC-W	Yes <sup>1</sup>	88,425 SF	9,700	290	11/98	5/00
1999	DSS	Yes <sup>1</sup>	75,654 SF	11,800	382	4/99	12/00
1999	Remote Storage Facility for the Library of Congress	Yes <sup>1</sup>	24,00 SF	5,000	6	11/99	5/01
2000	CIDC	Yes <sup>1</sup>	6,363 SF	1,300	0	7/00	4/01
2000	Family Travel Camp	Yes <sup>1</sup>	9,480 SF	7,176	0	01/01	9/01
2002	Residential Communities Initiative	Yes <sup>2</sup>	To Be Determined	To Be Determined	To Be Determined	05/02	05/12
2003	USARC	Yes <sup>2</sup>	53,433	17,842	0	4/03	10/04

<sup>1</sup> Completed.  
<sup>2</sup> In draft.



**8.0 DISTRIBUTION LIST**  
(Revision shows only names added to DEIS List)

**INDIVIDUALS**

Ms. Lore Peterson and Mr. Jerome C. Peterson  
Provinces Civic Association  
7903 Chalice Road  
Severn, MD 21144

Ms. Marie B. Cook  
Provinces Civic Association  
7895 Stone Hearth Road  
Severn, MD 21144

Mr. Ray Srock  
Greenbriar Homeowners Association  
3 Greenknoll Boulevard  
Hanover, MD 21076

Mr. Allan Anderson  
Lockheed Martin Corporation  
8350 Alban Road  
Suite 103  
Springfield, VA 22150

Mr. Charles Levay  
Peach Orchard Civic Association  
7804 Elberta Drive  
Severn, MD 21144

Mr. David A. Cool

**STATE GOVERNMENT**

Mr. Brian Hug  
Maryland Department of the Environment  
Air Quality Planning Division  
Air and Radiation Management Administration  
2500 Broening Highway  
Baltimore, MD 21224

**FEDERAL AGENCIES**

Mr. John Krakowiak  
U.S. Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

Ms. Karen Simpson  
U.S. Army Military District of Washington  
Office of the Deputy Chief of Staff for Support  
Fort Lesley J. McNair  
103 Third Avenue, S.W., Bldg. 42  
Washington, D.C. 20319-5058

Mr. William Valenta  
USARCS  
4411 Llewellyn Avenue  
Fort Meade, MD 20755-5360

**APPENDIX D**  
**PUBLIC MEETING MINUTES AND RELATED MATERIALS**



Mark Southerland and Jennifer Perot  
Versar, Inc.  
May 22, 2001

### **Summary of Fort Meade DEIS Public Meeting**

For the purpose of the Environmental Impact Statement (EIS), a public meeting to discuss comments on the Draft EIS for proposed future development and operations was held in the 8<sup>th</sup> Street Chapel at Fort George G. Meade, Maryland on April 18, 2001 from 1800 to 2100 hours. The public was invited to participate through advertisements in the Federal Register and in local newspapers (see attached notices).

**Public Meeting Format.** The public session was organized as a workshop format with stations addressing the following topics:

- Proposed Action and Alternatives
- Summary of Environmental Consequences
- Traffic
- Air Quality

Each station was staffed by an environmental impact assessment specialist and included visual and written information for the public (see attached handouts).

The Proposed Action and Alternatives station outlined the new construction activities expected to occur on Fort Meade between 2001 and 2005. The description of the Proposed Action included construction projects typical of those that are currently implemented, since it is uncertain which specific actions will be implemented. A large map of Fort Meade depicting the locations of each of the 11 projects was displayed.

The second station summarized environmental consequences likely to affect Fort Meade and the surrounding area. Consistent with the April 1999 Environmental Assessment (EA) of the future development and operations at Fort Meade, the DEIS found that no significant impacts to environmental or socioeconomic resources with the exception of traffic and air quality would likely occur. Copies of the DEIS Executive Summary were provided to describe these analyses. Two large maps illustrating current and future land use at Fort Meade were also provided.

Two additional stations addressed predicted traffic and air quality impacts. Traffic impacts were addressed in terms of the level of service at key intersections within the study area. Air quality impacts addressed included temporary impacts from construction and demolition activities and permanent impacts from the operation of the new facilities and increased employee traffic. The relationship to the city of Baltimore's severe non-attainment area status for ozone was discussed.

**Public Meeting Staffing.** The following six individuals from the U.S. Army Corps of Engineers, Baltimore District; Fort George G. Meade; Versar, Inc.; and the Traffic Group were available throughout the April 18 public session to answer questions or address potential concerns:

USACE, Baltimore District

- Dave Hand

Fort Meade Directorate of Public Works

- Jim Gebhardt, project manager
- Paul Robert, acting director of public works

Versar

- Mark Southerland
- Jennifer Perot

The Traffic Group

- Derek Joost

**Public Meeting Attendees.** The following members of the public attended the April 18 public session:

- John Krakowiak, Environmental Protection Agency, Region 3
- Karen Simpson, U.S. Army Military District of Washington
- Brian Hug, Maryland Department of the Environment
- Lore Peterson, Provinces Civic Association
- Marie B. Cook, Provinces Civic Association
- Jerome C. Peterson, Provinces Civic Association
- Ray Srock, Greenbriar Homeowners Association
- Allan Anderson, Lockheed Martin Corporation
- Charles Levay, Peach Orchard Civic Association
- William Valenta, USARC

**Comments.** Each of the attendees met with members of the EIS team and discussed issues informally. Three written comments were received. The primary concern of the attendees was potential adverse impacts on traffic. Specifically, several attendees commented that additional growth and activity in the vicinity of Fort Meade might contribute even greater impacts than identified in the DEIS. One attendee also commented that the closure of the Llewelyn Street gate may have deterred some potential attendees. To address public concerns about traffic impacts in more detail, Jim Gebhardt scheduled a follow-up meeting with the interested public for May 1.

**Follow-up Meeting Staffing.** The following four individuals from the U.S. Army Corps of Engineers, Baltimore District; Fort George G. Meade; and the Traffic Group attended the follow-up meeting on May 1:

USACE, Baltimore District

- Dave Hand

Fort Meade Directorate of Public Works

- Jim Gebhardt, project manager
- Leayle Galiber, master planner

The Traffic Group

- Derek Joost

**Follow-up Meeting Attendees.** The following members of the public attended the May 1 follow-up meeting:

- Ray Srock, Greenbriar Homeowners Association
- Charles Levay, Peach Orchard Civic Association
- Marie B. Cook, Provinces Civic Association
- David A. Cool

Name: CHARLES LEVAY - PRESIDENT

Organization (If Any): PEACH ORCHARD CIVIC ASSOCIATION

Address: 7804 ELBERTA DRIVE SEVERN, MARYLAND 21144

Phone Number: 410-537-8632

Comment Card for Proposed Future Development and Operations Draft Environmental Impact Statement (DEIS) at Ft. Meade, Maryland, 18 Apr 01 Public Meeting

Comments: *I disagree with the statement that the population in the immediate area surrounding Ft Meade will not increase. There is less acres of proposed housing east of 295 & 175. Blaker Park is proposed for housing. There is more housing proposed for property 1/4 mile west of Rockendock. The Odenton Town Center will add traffic to 175. The governor's smart growth initiative will add businesses to the area. Arundel Mills mall will add traffic to 175.*

*It appears that the traffic study only focuses on Ft. Meade, not the surrounding area.*

**Directions:**

1. Fill in the appropriate blanks for name, address, and phone number.
2. List any organization(s) your comments represent.
3. Write any additional comments in the space provided.
4. Place in the comment box, or stamp and mail the card.
5. Please return all comments by 30 April 2001.

Thank you for your participation!

4/29/01

Name: CHARLES LEVAY - PRESIDENT

Organization (If Any): PEACH ORCHARD CIVIC ASSOCIATION

Address: 7804 ELBERTA DRIVE SEVERN, MD 21144

Phone Number: 410-551-8632

Comment Card for Proposed Future Development and Operations Draft Environmental Impact Statement (DEIS) at Ft. Meade, Maryland, 18 Apr 01 Public Meeting

Comments: *From reviewing the traffic study there is no propose traffic counts of vehicles which will visit the proposed facilities. The 914 new staff members to the post is not a high number of vehicles but the number of visitors who will be serviced by the 914 staff is not restricted.*

*I think a new traffic study with the proposed visitor traffic should be included.*

*I define a visitor as one who lives off base, who comes on base to conduct business, then drives off base.*

**Directions:**

1. Fill in the appropriate blanks for name, address, and phone number.
2. List any organization(s) your comments represent.
3. Write any additional comments in the space provided.
4. Place in the comment box, or stamp and mail the card.
5. Please return all comments by 30 April 2001.

Thank you for your participation!

4/29/01



Name: CHARLES KEVAY - PRESIDENT

Organization (If Any): PEACH ORCHARD CIVIC ASSOCIATION

Address: 7804 ELBERTA DRIVE SEVERN, MD 21144

Phone Number: 410-537-8632

Comment Card for Proposed Future Development and Operations Draft Environmental Impact Statement (DEIS) at Ft. Meade, Maryland, 18 Apr 01 Public Meeting

Comments: There were signs on Route 175 for a public hearing, and use Stewellen Avenue for the route to the public hearing. The problem was, access to Stewellen was blocked by a security gate. Because of the blocked road, approximately 3 people were present for the public hearing. I found the hearing site but I also noticed that there were no other signs on base to direct people to the hearing.

Since there is no way to determine how many people were blocked from attending the public hearing because of the security gate, I recommend another public hearing.

**Directions:**

1. Fill in the appropriate blanks for name, address, and phone number.
2. List any organization(s) your comments represent.
3. Write any additional comments in the space provided.
4. Place in the comment box, or stamp and mail the card.
5. Please return all comments by 30 April 2001.

Thank you for your participation!

4/29/01



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

MAY 02 2001

Mr. Jim Gebhardt  
Department of the Army  
Fort Meade Directorate of Public Works  
Environmental Management Office  
Building 239, ANME-DPW  
Fort Meade, Maryland 200755-5115

Re: Future Development and Operations, Fort George G. Meade, Maryland

Dear Mr. Gebhardt:

In accordance with the National Environmental Policy Act (NEPA) of 1969 and Section 309 of the Clean Air Act, the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the above referenced project. EPA has assigned this DEIS a rating of EC-2 (Environmental Concerns/Insufficient Information), which indicates that we have environmental concerns regarding the proposal and that there is insufficient information in the document to fully assess the environmental impacts of the project. A copy of EPA's ranking system is enclosed for your information.

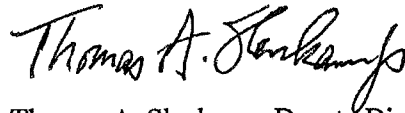
Although EPA has found that the DEIS adequately addresses most environmental impacts associated with the proposed action, additional information is needed in the following area. An increase of approximately 912 individuals is projected to be added to the permanent working population under the proposed alternative. EPA questions whether the functions of some of the proposed projects will constitute an influx of transient individuals which may further impact traffic both on and off the base. More specifically, will the Military Entrance Processing Station (MEPS) be used to receive episodic increases in military personnel? If so, please be specific in the FEIS as to the function of the MEPS facility, the number of military personnel projected to use the facility and when military personnel will use the facility. EPA suggests that transient military personnel use high occupancy vehicles as opposed to single occupancy vehicles to lessen impacts to the road systems. EPA also suggests that military personnel use the MEPS during off-peak hours to avoid added congestion to roads and intersections.

*Customer Service Hotline: 1-800-438-2474*

EPA encourages Fort Meade to make a committed effort to mitigate traffic impacts by adopting alternatives that will alleviate traffic congestion during standard peak hours. For instance, Fort Meade might institute a policy for flextime and flexiplace, as well as designing a car pooling program.

Thank you for the opportunity to review and comment on this project. The staff contact for this review is Karen DeGrosso. She can be reached at (215) 814-2765.

Sincerely,



Thomas A. Slenkamp, Deputy Director  
Office of Environmental Programs

Enclosure



Maryland Department of Planning

Parris N. Glendening
Governor
Kathleen Kennedy Townsend
Lt. Governor

Harriet Tregoning
Secretary
Ronald N. Young
Deputy Secretary

April 30, 2001

Mr. Jim Gebhardt
ATTN: ANME-DPW
Fort George G. Meade
U.S. Department of the Army
Environmental Management Office, Bldg. 239
Fort George G. Meade, MD 20755-5115

STATE CLEARINGHOUSE REVIEW - SPECIAL

State Application Identifier: MD20010427-0403
Project Description: Draft Environmental Impact Statement - Future Development and Operations
Fort George Meade: proposed action of 11 new projects with approximately
900 additional personnel
Project Location: Anne Arundel and Howard Counties
State Clearinghouse Contact: Bob Rosenbush

Dear Mr. Gebhardt:

This is to acknowledge receipt of the referenced project. By copy of this letter, we are providing copies of the project to appropriate agencies, and requesting that they contact your agency directly with any comments or concerns by May 03, 2001, and that they forward a completed response form and any comments to the Clearinghouse.

Please complete the attached form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or not approved.

The State Application Identifier Number must be placed on all documents and correspondence regarding this project.

Please be assured that after May 03, 2001 all intergovernmental review requirements will have been met in accordance with the Maryland Intergovernmental Review and Coordination Process (COMAR 14.24.04). If you need assistance or have questions concerning this review, please call 410-767-4490 and ask for the staff person noted above. Thank you for your cooperation.

Sincerely,

Linda C. Janey, J.D. (handwritten signature)

Linda C. Janey, J.D.
Director, Clearinghouse & Plan Review Unit

LCJ:BR:da

Enclosure

(\* indicates with attachments)

cc: Mary Abrams - MDPC\*

Ron Spalding - MDOT\*

Larry Duket - MDPL\*

David Whittaker - MDPCPDR\*

301 West Preston Street • Suite 1101 • Baltimore, Maryland 21201-2305
Tel: 410.767.4500 • Fax: 410.767.4480 • Toll Free: 1.800.767.6272 • TTY Users: Maryland Relay
Internet: www.mdp.state.md.us



## MARYLAND DEPARTMENT OF THE ENVIRONMENT

2500 Broening Highway • Baltimore, Maryland 21224  
(410) 631-3000 • 1-800-633-6101 • [http:// www. mde. state. md. us](http://www.mde.state.md.us)

Parris N. Glendening  
Governor

Jane T. Nishida  
Secretary

April 30, 2001

Commander  
Fort George G. Meade  
ATTN: ANME-DPW (Mr. Jim Gebhardt)  
Environmental Management Office  
Building 239  
Fort Meade MD 20755

Dear Mr. Gebhardt:

On March 23, 2001, the Maryland Department of the Environment (MDE), Air and Radiation Management Administration (ARMA) received a copy of a Clearinghouse project involving future development at Fort Meade. Upon reviewing the short summary of the project, the Department requested a copy of the Draft Environmental Impact Statement (DEIS) for the Future Development and Operations for Fort Meade from your office. This document was received shortly thereafter. Thank you for the opportunity to review both the summary and the formal DEIS. On April 18, 2001, Brian J. Hug, an MDE representative attended the public meeting involving the DEIS and its potential environmental impacts.

After reviewing the document, it appears that the projected emissions caused by the eleven (11) distinct projects in the DEIS fall at a level below the EPA de minimis levels for general conformity in areas of severe ozone nonattainment (25 tons of VOC or NOx per year). However, when these projected emissions are combined with other concurrent projects being completed on the base, the yearly estimated emissions are higher than the de minimis levels. The general conformity regulations do not require that you combine these emissions and mitigate their potential impact. Nonetheless, the Department is concerned over the potential total emissions caused by the major development at the base. The Baltimore region (including Fort Meade) is a severe nonattainment area for ozone and must attain the current one hour ozone standard by 2005. Large scale development and large increases in emissions drastically increase the difficulty that Maryland has in meeting these standards in the timeframe that the EPA allows.

All reasonable efforts should be made to ensure that Fort Meade work in harmony with the state of Maryland including the following: (1) update the MDE on projects that

TTY Users 1-800-735-2258  
via Maryland Relay Service

*"Together We Can Clean Up"*

  
Recycled Paper

could increase the emissions from the area as soon as possible and (2) attempt to lower emissions from small point sources (such as using more efficient boilers). It shall be noted that both of these suggestions were also identified in the DEIS as potential measures to improve air quality at the base. Thank you for the opportunity to provide comments on the DEIS and good luck with the development project. If you have any questions, please call me at (410)-631-4125.

Sincerely,



Brian J. Hug  
Environmental Specialist  
Air Quality Planning Division  
Air and Radiation Management Administration

CC: Diane Franks, MDE  
Joanne Mueller, MDE  
Ron Turner, MDE

document(s) that may be tiered from this Final FEIS.

*Alternative 3* is the Army's preferred alternative and includes all actions in Alternatives 1 and 2 and additionally would adopt the training uses of the Fort Bliss Training Complex as presented in Chapter 4.0—Future Development Concept, of the Fort Bliss Training Area Development Concept. If approved programmatically, evaluation of specific projects proposed in the future will be evaluated in a separate environmental document(s).

The revised Long-range Component of the Fort Bliss Real Property Master Plan, the Integrated Natural Resources Management Plan, the Integrated Cultural Resource Management Plan, and the Training Area Development Concept are available for review in the following libraries: El Paso Public Library Main Library, 501 North, Oregon Street, El Paso, TX; Irving Schwartz Branch, El Paso Public Library, 1865 Dean Martin Drive, El Paso, TX; Westside Branch, El Paso Public Library, 125 Belvidere Street, El Paso, TX; Branigan Memorial Library, 200 E Picacho Avenue, Las Cruces, NM; Library, Dell City, TX; Library, 920 Oregon, Alamogordo, NM; New Mexico State University Branson Library, Frenger at Williams, Las Cruces, NM; New Mexico State University, Roswell, Library, 52 University Boulevard, Roswell, NM; University of Texas at El Paso Library, 500 West University Avenue, El Paso, TX; and Library, 20 Curfew Place, Cloudcroft, NM.

Dated: March 7, 2001.

Raymond J. Fatz,

*Deputy Assistant Secretary of the Army,  
(Environment, Safety and Occupational  
Health) OASA(I&E).*

[FR Doc. 01-8186 Filed 3-12-01; 8:45 am]

BILLING CODE 3710-08-M

## DEPARTMENT OF DEFENSE

### Department of the Army

#### Draft Environmental Impact Statement (DEIS) for Future Development and Operations at Fort George G. Meade, Maryland

AGENCY: Department of the Army, DoD.

ACTION: Notice of Availability.

**SUMMARY:** This announces the availability of the DEIS that assesses the effects of future development and operations at Fort Meade on the natural and human environment.

The Proposed Action is the preferred alternative of the DEIS, and includes future development and operations of

Fort Meade's Real Property Master Plan expected to occur on the installation between 2000 and 2005 as part of plans to further Fort Meade's new mission as a Federal administrative center. The Proposed Action identifies 11 projects as being representative of the expected build out during this time. These consist of construction of new facilities that would consolidate tenants from dilapidated World War II structures and off-post leased facilities into more cost efficient and effective facilities; demolition and construction of barracks and mess halls; and providing on-post development opportunities for tenants on installations that are currently subject to Base Realignment and Closure. Other alternatives considered by the DEIS include the No Action Alternative and Alternative A. The No Action Alternative is defined as the normal daily operations at Fort Meade and adjacent areas as of 1999.

Alternative A consists of constructing 9 of the 11 projects purposed by the Proposed Action, and excludes the two projects least likely to occur. Alternative A would reduce the number of additional personnel envisioned by the full build out of the Proposed Action to the installation by 272, or 30 percent of the 912 additional personnel included in the Proposed Action.

**DATES:** Written comments received within 45 days of the publication of this Notice of Availability by the Environmental Protection Agency in the Federal Register for this action will be considered by the Army during final decision making and the preparation of the Final Environmental Impact Statement (FEIS).

**ADDRESSES:** Send requests for a copy of the DEIS or provide written comments to Commander, Fort George G. Meade, ATTN: ANME-DPW (Mr. Jim Gebhardt), Bldg. 239, 2 1/2 Street and Ross Road, Fort Meade, Maryland 20755-5115.

**FOR FURTHER INFORMATION CONTACT:** Mr. Jim Gebhardt, Environmental Engineer, Fort Meade Directorate of Public Works, Environmental Management Office at (301) 677-9365.

**SUPPLEMENTARY INFORMATION:** The DEIS concluded that the cumulative impacts of all past, present and reasonably foreseeable future actions would have a significant impact on traffic and air quality in the study area. Whereas the population in the area immediately surrounding Fort Meade is not expected to noticeably increase, growth in population and activity in the Region of Influence (Anne Arundel and Howard Counties) are expected to exceed the average annual rate in Maryland. Detailed studies concluded, however,

that the contribution of Fort Meade is small relative to the regional air quality and traffic problems, and that it is reasonable to proceed with the Proposed Action while intensifying efforts to work in partnership with the State and others to address the larger traffic and air quality issues.

Fort Meade is currently undertaking four initiatives that will help mitigate the adverse air quality impacts in the region: (1) Conversion of existing oil-fired heating systems to natural gas, (2) use of vehicles powered by natural gas, (3) installation of more energy-efficient devices, and (4) fostering an extensive tree planting and reforestation program. To address traffic impacts, Fort Meade is considering encouraging the use of alternative transportation (e.g., carpooling and flextime), although major rail or bus lines do not currently service the installation. In addition, the construction of the MD Route 198 bypass onto Fort Meade via the former Tipton Army Airfield by the Maryland State Highway Administration is designed to limit the through traffic at Fort Meade to those who reside, work or visit the installation for recreation or other purposes. This is expected to reduce congestion at the intersection of MD Routes 198 and 32.

Other resources that would be measurably affected by the Proposed Action or Alternative A are water quality (by stormwater runoff), utility systems infrastructure, and noise. Considering the best management practices planned by Fort Meade to address these effects, no significant impacts to these resources from the Proposed Action, Alternative A or cumulative effects of other actions are expected to occur. The completion of the 11 projects under the Proposed Action would increase Fort Meade's annual economic contribution to the Region of Influence.

A public meeting will be held after publication of this Notice of Availability of the DEIS during the 45-day public comment period at a date to be announced in the local news media. All interested individuals, private organizations, and government agencies are encouraged to provide input into the EIS review process. All comments received will be addressed and included in the FEIS.

Resource agency coordination was undertaken with the following agencies: U.S. Department of the Interior, Fish and Wildlife Service; National Park Service; U.S. Environmental Protection Agency; State of Maryland Department of Natural Resources, Department of the Environment, Department of Agriculture, Highway Administration.

and Historical Trust; Anne Arundel County Office of Planning and Zoning, Soil Conservation District, and Department of Public Works.

Dated: March 7, 2001.

Raymond J. Fatz,

Deputy Assistant Secretary of the Army,  
(Environment, Safety and Occupational Health), OASA(IEE).

[FR Doc. 01-0187 Filed 3-12-01; 8:45 am]

BILLING CODE 3710-08-M

## DEPARTMENT OF DEFENSE

### Department of the Army

#### Privacy Act of 1974; System of Records

AGENCY: Department of the Army, DoD.

ACTION: Notice to Amend Systems of Records.

**SUMMARY:** The Department of the Army is amending a system of records notice in its existing inventory of record systems subject to the Privacy Act of 1974. (5 U.S.C. 552a), as amended.

**DATES:** This proposed action will be effective without further notice on April 12, 2001 unless comments are received which result in a contrary determination.

**ADDRESSES:** Records Management Division, U.S. Army Records Management and Declassification Agency, ATTN: TAPC-PDD-RP, Stop 5603, 6000 6th Street, Ft. Belvoir, VA 22060-5603.

**FOR FURTHER INFORMATION CONTACT:** Ms. Janice Thornton at (703) 806-4390 or DSN 656-4390 or Ms. Christie King at (703) 808-3711 or DSN 658-3711.

**SUPPLEMENTARY INFORMATION:** The Department of the Army systems of records notices subject to the Privacy Act of 1974, (5 U.S.C. 552a), as amended, have been published in the Federal Register and are available from the address above.

The specific changes to the records system being amended are set forth below followed by the notice, as amended, published in its entirety. The proposed amendments are not within the purview of subsection (r) of the Privacy Act of 1974, (5 U.S.C. 552a), as amended, which requires the submission of a new or altered system report.

Dated: March 5, 2001.

L.M. Bynum,  
Alternate OSD Federal Register Liaison  
Officer, Department of Defense.

A0621-1 TAPC

#### SYSTEM NAME:

Civilian Schooling for Military Personnel (February 22, 1993, 58 FR 10002).

#### CHANGES:

#### CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Delete entry and replace with 'Any Active Duty Army, Army National Guard and Army reserve member who applies for and is selected or attendance at a civilian school or training with industry, or participation in a fellowship/scholarship of training or instruction.'

#### CATEGORIES OF RECORDS IN THE SYSTEM:

Delete entry and replace with 'Name, grade, Social Security Number, address, home phone, duty phone, permanent legal address, branch of service, date of birth, marital status, number of dependents, Application for Detail as Student in a Civilian Educational Institution and Report of Training to Agency, state of legal residence, military occupational specialties, enlistment status, component, foreign service, civilian educational data, military educational data, transcripts, social fraternities, honorary fraternities, clubs, degree major, class standing and personal resumes, school contracts; student training report; photographs; enlisted qualification record; theses; statements of service and school obligation.'

#### AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Delete entry and replace with '10 U.S.C. 3013, Secretary of the Army; 10 U.S.C. 4301, Members of Army: Detail as Students, Observers and Investigators at Educational Institutions, Industrial Plants, and Hospitals; Army Regulation 621-1, Training of Military Personnel at Civilian Institutions and E.O. 9397 (SSN).'

#### PURPOSE(S):

Delete 'pursuant to 10 U.S.C. 4301'.

#### STORAGE:

Delete entry and replace with 'Paper records in file folders, microfilm and electronic storage media.'

#### RETRIEVABILITY:

Add to entry 'Social Security Number, and other numerous data elements.'

#### SAFEGUARDS:

Delete entry and replace with 'Records are maintained in areas accessible only to authorized personnel and only in the performance of assigned duties. Use of automated systems require user identification and passwords granted to authorized personnel responsible for the administration and processing of individual student data.'

#### RETENTION AND DISPOSAL:

##### CHANGE TO READ:

Offices having Army-wide responsibility: Documents on the development and supervision of civilian schooling for military personnel and annual review of the Army's Civilian Education Program records maintain as permanent; all other records in this category maintain and destroy after 15 years. Training agencies: Maintain records for 15 years then destroy. United States Military Academy: Paper originals destroy after verification that information has been transferred to microfilm. Maintain microfilm as permanent. For all other activities and offices maintain records for two years then destroy.

A0621-1 TAPC

#### SYSTEM NAME:

Civilian Schooling for Military Personnel.

#### SYSTEM LOCATION:

U.S. Total Army Personnel Command, Chief, Civilian Education, 200 Stovall Street, Alexandria, VA 22332-0400. Segments exist at Army commands/ installations, organizations/activities, including overseas areas. Official mailing addresses are published as an appendix to the Army's compilation of record systems notices.

#### CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Any Active Duty Army, Army National Guard and Army Reserve member who applies for or is selected for attendance at civilian school or for training with industry, or participation in a fellowship/scholarship program of training or instruction.

#### CATEGORIES OF RECORDS IN THE SYSTEM:

File contains Department of the Army Forms 1618-R, Application for Detail as Student Officer in a Civilian Educational Institution of Training with Industry Program; 2593-R, Application for Selection for Scientific and Engineering Graduate School; and 3719-R, Information Questionnaire for Recipients of Top Five Percent Army Fellowship (ROTC and U.S.M.A.).



emissions, the average effects were not zero. If we determine the effect of Vektron<sup>®</sup> 6913 on NO<sub>x</sub> emissions, should we determine that Vektron<sup>®</sup> 6913 increases HC and CO emissions by the average amount found by the test program, or should we assume that the HC and CO effects are zero because the emission increases were not statistically significant?

#### IV. Conclusion

EPA will carefully consider all comments received. We will evaluate these comments and other information or analyses which may become available, including perhaps conducting additional analyses of our own in arriving at our conclusion as to the emission benefits of Vektron<sup>®</sup> 6913 as proposed for fuel additive use by Infineum. This conclusion will be publically available via our web site. If that conclusion indicates significant emission benefits could be derived from the use of this fuel additive, we will also prepare appropriate protocols for determining the extent of actual in-use on-highway fleet emissions benefits.

Dated: March 7, 2001.

Robert Bronner,

Acting Assistant Administrator, Office of Air and Radiation.

[FR Doc. 01-6725 Filed 3-15-01; 8:45 am]

BILLING CODE 5660-50-U

#### ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6616-3]

#### Environmental Impact Statements; Notice of Availability

*Responsible Agency:* Office of Federal Activities, General Information (202) 564-7187 or [www.epa.gov/oeca/ofa](http://www.epa.gov/oeca/ofa). Weekly receipt of Environmental Impact Statements

Filed March 05, 2001 Through March 09, 2001

Pursuant to 40 CFR 1506.9.

*EIS No. 010069, Final EIS, AFS, ID, East Slate Project, Harvesting Timber, Implementation, Idaho Panhandle National Forests, St. Joe Ranger District, Shoshone County, ID, Wait Period Ends:* April 16, 2001. Contact: Pete Ratcliffe (208) 245-8071.

*EIS No. 010070, Draft EIS, AFS, OR, South Fork Burnt River Ranger Planning Area, Development of Five New Allotment Management Plans (AMPS), Wallowa-Whitman National Forest, Unity Ranger District, Baker County, OR, Comment Period Ends:* April 30, 2001. Contact: Jean Lavell (541) 446-3351.

*EIS No. 010071, Draft EIS, AFS, CA, Fuels Reduction for Community Protection Phase 1 Project in the Six Rivers National Forest, Proposes to Reduce Fuels in High Severity Burned Stands, Lower Trinity Ranger District, Humboldt and Trinity Counties, CA, Comment Period Ends:* April 30, 2001. Contact: David Webb (707) 457-3131.

*EIS No. 010072, Draft EIS, USA, MD, Fort George G. Meade Future Development and Operations of New Administrative and Support Buildings, Anne Arundel and Howard Counties, MD, Comment Period Ends:* April 30, 2001. Contact: Jim Gebhardt (301) 677-9365.

*EIS No. 010073, Draft Supplement, FRC, PA, NJ, NY, Millennium Pipeline Project, Updated Information, Construct and Operate an Interstate Natural Gas Pipeline from United States to Canada, including PA, NY and NJ, Comment Period Ends:* April 30, 2001. Contact: Paul McKee (202) 208-2474.

*EIS No. 010074, Final Supplement, NOA, FL, Florida Keys National Sanctuary Comprehensive Management Plan, New Information concerning the Establishment of the Tortugas Marine Reserves in Seven Fishery Management Plan Amendments in the Gulf of Mexico, Wait Period Ends:* April 16, 2001. Contact: Wayne Swingle (813) 228-2815.

*EIS No. 010075, Final EIS, AFS, CO, Upper Blue Stewardship Project, Implementation of Vegetation Management, Travel Management, Designation of Dispersed Camping Sites, White River National Forest, Dillon Ranger District, Summit County, CO, Wait Period Ends:* April 16, 2001. Contact: Gwonan Poirier (970) 262-3499.

*EIS No. 010076, Draft EIS, COE, NB, Platte West Water Production Facilities, Proposed New Drinking Water Production Facilities, Metropolitan Utilities District, Omaha District, Douglas, Saunders and Sarpy Counties, NE, Comment Period Ends:* April 30, 2001. Contact: Rebecca Latka (402) 221-4602.

*EIS No. 010077, Final EIS, TVA, MS, Kemper County Combustion Turbine Plant, Construction and Operation, Addition of Electric General Peaking Capacity at Greenfield Sites, NPDES Permit, Kemper County, MS, Wait Period Ends:* April 16, 2001. Contact: Roy V. Carter (256) 388-2832.

*EIS No. 010078, Draft Supplement, SFW, NY, VT, Lake Champlain Sea Lamprey Control Long-Term Program, To Achieve Fish Population,*

Recreational Fishery and Economic Benefits Associated with Reduced Sea Lamprey Predation Implementation, Clinton, Essex and Washington Counties, NY and Addison and Chittenden Counties, VT. Comment Period Ends: April 30, 2001. Contact: David C. Nettles (802) 872-0629.

*EIS No. 010079, Final EIS, IBR, ID, Arrowrock Dam Outlet Works Rehabilitation, Construction and Operation, To Remove 10 Lower Level Ensign Valves and Replace with 10 Clamshell Gates, Boise River, City of Boise, ID, Wait Period Ends:* April 16, 2001. Contact: John Tiedeman (208) 378-5034.

*EIS No. 010080, Final EIS, FTA, NY, East Side Access Project, Improve Access to Manhattan's East Side for Commuters in the Long Island Transportation Corridor (LITC), MTA Long Island Rail Road (LIRR), Funding, Nassau, Suffolk, New York, Queens and Bronx Counties, NY, Wait Period Ends:* April 16, 2001. Contact: Anthony G. Carr (212) 868-2175.

*EIS No. 010081, Final EIS, COE, TX, NM, Programmatic--Fort Bliss Mission and Real Property Master Plan, Revised Land Use and Enhance Management of the Land, Airspace and Infrastructure, El Pasco County, TX and Dona Ana and Otero Counties, NM, Wait Period Ends:* April 16, 2001. Contact: Vicki Hamilton (915) 588-2774.

#### Amended Notices

*EIS No. 010013, Draft EIS, AFS, AK, Threemile Timber Sale, Implementation, Petersburg Ranger District, Tongass National Forest, AK, Comment Period Ends:* June 26, 2001. Contact: Everett Kissinger (907) 772-5860. Revision of FR notice published on 01/19/2001: CEQ Comment Date has been Extended from 03/12/2001 to 06/26/2001.

*EIS No. 010014, Draft EIS, AFS, AK, Gravina Island Timber Sale, Implementation, Timber Harvoat and Related Activities, Ketchikan-Misty Fiords Ranger District, Tongass National Forest, AK, Comment Period Ends:* June 26, 2001. Contact: Susan Marthaller (907) 225-2148. Revision of FR notice published on 01/19/2001: CEQ Comment Date has been extended from 03/19/2001 to 08/26/2001.

Dated: March 13, 2001.

Joseph C. Montgomery,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 01-6602 Filed 3-15-01; 8:45 am]

BILLING CODE 5680-50-P

# Public Notice

## **Public Information and Comment Session for the Draft Environmental Impact Statement (DEIS) Prepared for Proposed Future Development and Operations at Fort George G. Meade, Maryland**

**April 18, 2001  
6-9 pm  
8<sup>th</sup> Street Chapel  
8<sup>th</sup> Street and Chisholm Avenue  
Fort Meade, Maryland**

There will be a public information and comment session regarding proposed future development and operations at Fort George G. Meade. A Draft Environmental Impact Statement (DEIS) that evaluates the potential affects of the Proposed Action on the natural and human environment has been prepared. The Proposed Action is the preferred alternative of the DEIS, and includes future development and operations of Fort Meade's Real Property Master Plan expected to occur on the installation between 2001 and 2005 as part of plans to further Fort Meade's new mission as a Federal administrative center. The Proposed Action identifies eleven projects as being representative of the expected build-out during this time. Other alternatives considered by the DEIS include the No Action Alternative, defined as the normal daily operations at Fort Meade and adjacent areas as of 1999, and Alternative A, which consists of constructing 9 of the 11 projects proposed by the Proposed Action, and excluding the two projects least likely to occur.

The DEIS concluded that the cumulative impacts of all past, present and reasonably foreseeable future actions would have a significant impact on traffic and air quality in the study area. Mitigation measures are being undertaken by Fort Meade, as described in the DEIS, to address these impacts. Other resources that would be affected by the Proposed Action or Alternative A are water quality (by stormwater runoff), utility systems infrastructure, and noise. Considering the best management practices planned by Fort Meade to address these effects, no significant impacts to these resources from the Proposed Action, Alternative A or cumulative effects of other actions are expected to occur. The completion of the 11 projects under the Proposed Action will increase Fort Meade's annual economic contribution to the Region of Influence.

The purpose of this public information and comment session is to provide information on the future development and operations at Fort Meade, and to receive comments on the DEIS from individuals and organizations. The public is encouraged to attend this session between the hours of 6:00 p.m. and 9:00 p.m. to provide comments, ideas, and suggestions. All comments received at this session will be evaluated and incorporated, as appropriate, into the Final Environmental Impact Statement (FEIS), and will be considered during the final decision-making process leading up to the Record of Decision. The information session is open to the public and any interested persons are invited to attend. In addition to this public information and comment session, Fort Meade has also placed copies of the DEIS at the Fort Meade Library, Odenton Library and Provinces library for a 45 day public review period. This review period was initiated on March 16, 2001 and coincided with the Environmental Protection Agency's publication of Fort Meade's Notice of Availability in the Federal Register. All comments should be received by April 30, 2001 and should be addressed to Commander, Fort George G. Meade, ATTN: ANME-DPW (Mr. Jim Gebhardt), Environmental Management Office, Bldg. 239, Fort Meade, Maryland 20755-5115. Any questions pertaining to this public notice may be directed to Mr. Jim Gebhardt, Fort Meade Directorate of Public Works, Environmental Management Office, at (301) 677-9365.

Julius Simms  
Public Affairs Officer  
Garrison Public Affairs Office



**PUBLIC MEETING FOR THE  
PROPOSED FUTURE DEVELOPMENT AND OPERATIONS  
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) AT  
FORT GEORGE G. MEADE, MARYLAND**

**INFORMATION SHEETS  
AND  
COMMENT CARD**

**18 APRIL 2001 6:00-9:00PM  
8<sup>TH</sup> STREET CHAPEL  
8<sup>TH</sup> STREET AND CHISHOLM AVENUE  
FORT MEADE, MARYLAND**

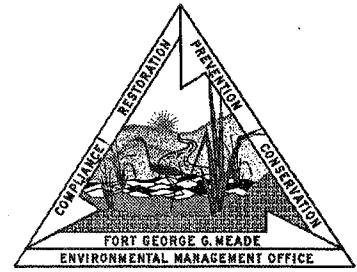


## PROPOSED ACTION

The draft Environmental Impact Statement (DEIS), defines the Proposed Action as new construction activities expected to occur on Fort George G. Meade between 2001 and 2005 as part of plans to further Fort Meade's mission as a Federal administrative center. Because it is uncertain which specific actions will actually be implemented within this time frame, the Proposed Action includes construction projects typical of those that are currently planned in the administration and support areas of the installation. The pertinent operations and maintenance activities associated with the Proposed Action were also addressed in the DEIS.

To provide the specificity needed for reasonable predictions of the environmental consequences, 11 projects were identified by the Fort Meade Master Planner for consideration within the Proposed Action as being representative of the expected build out by 2005. Fort Meade planners estimate that approximately 912 individuals will be added to the post's working population. The projects will account for 500,960 square feet (SF) of additional administrative and support facilities. Below is a brief definition of each one of the 11 projects included in the Proposed Action.

- **Military Entrance Processing Station (MEPS)** - Construct a 31,200-SF MEPS facility.
- **Personnel Barracks Replacement, Phase I** - Construct a new 110,483-SF enlisted personnel barracks and soldier community building, and demolish existing barracks.
- **Personnel Barracks Replacement Phase II** - Same as above.
- **Dining Facility** - Construct a 24,500-SF, 1,300-person dining facility. This action would include demolition of 25,000-SF of World War II (WWII) temporary structures.
- **Company Headquarters** - Construct two standard design, 8,300-SF company operation facilities. This action would replace and demolish company operations buildings.
- **Battalion Operations**-Construct a standard-design, 12,160-SF medium operations facility. Demolition of existing building is planned.
- **Bold Venture I**-Construct a 34,000-SF administrative facility with general-purpose administrative space, reception, and orientation areas.
- **Bold Venture II**-Construct an 80,000-SF administrative building for new occupants relocating to Fort Meade.
- **Bold Venture III**- Construct a 34,000-SF administrative building for new occupants relocating to Fort Meade.
- **Bold Venture IV**-Construct a 10,000-SF administrative building for new occupants relocating to Fort Meade.
- **U.S. Army 1<sup>st</sup> Recruiting Brigade (1RBDE), Army Medical Detachment 1<sup>st</sup> Brigade, and Baltimore Recruiting Battalion**- Construct a 33,309-SF administrative office building to replace offices in WWII wooden structures that will likely be demolished.



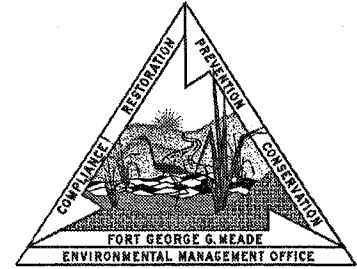
## AIR QUALITY

Fort Meade is located in Anne Arundel County, which is part of the Baltimore severe nonattainment area for ozone. This means that the cumulative air quality problem in the region exceeds safe levels of ozone, as defined in the U.S. Environmental Protection Agency's (EPA) air quality standards. Because Fort Meade is located within the severe nonattainment zone, the Proposed Action must comply with EPA's General Conformity rule (40 CFR Part 51, Subpart W). The General Conformity rule states that proposed Federal actions must demonstrate conformity with the State Implementation Plan (SIP). The SIP is devised by the State of Maryland and approved by the U.S. EPA to bring areas currently out of compliance with National Ambient Air Quality Standards (NAAQS) back into compliance. Thus, Federal action must not adversely affect the timely attainment and maintenance of NAAQS or emission reduction plans leading to attainment.

To assess the potential impacts to air quality under the Proposed Action, emissions from activities associated with the 11 Proposed Action projects were quantified. The primary sources of air emissions from these projects are (1) construction vehicle fuel combustion, (2) earth moving activities (fugitive dust), (3) boiler fuel combustion, and (4) commuter vehicle fuel combustion. Total air emissions from the Proposed Action and other actions at Fort Meade were evaluated as part of the cumulative effects assessment. These other actions would result in both construction-related and operation-related emissions (from new boilers and additional commuter traffic). This cumulative effects assessment focused on the pollutants,  $\text{NO}_x$  and VOC, that contribute to the ozone nonattainment problem in the Baltimore region.

The DEIS concluded that the cumulative impacts of all past, present and reasonably foreseeable future actions would significantly hinder the State's ability to demonstrate "reasonable further progress" toward lowering emissions of ozone precursor pollutants, as required by the Clean Air Act Amendment of 1990. However, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the action, while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger air quality issue.

Fort Meade is currently undertaking four initiatives that will help mitigate the adverse air quality impacts in the region: (1) conversion of existing oil-fired heating systems to natural gas, (2) use of vehicles powered by natural gas, (3) installation of more energy-efficient devices, and (4) fostering an extensive tree planting and reforestation program.



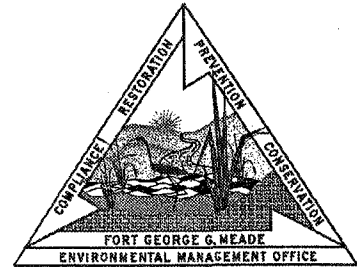
## TRAFFIC

Fort Meade is located in the western portion of Anne Arundel County and comprises approximately 9,000 acres. Three major highways provide access around the perimeter of the installation the Baltimore-Washington Parkway (MD 295), MD 175, and MD 32 (see map). The major roadways providing access through Fort Meade include Rockenbach Road (which extends from MD 175 southerly to MD 32 through Fort Meade) and Mapes Road (which traverses east/west through Fort Meade between MD 175 and MD 32). Other state roadways providing access to the Fort Meade area include Ridge Road (MD 713), Reece Road (MD 174), and Laurel-Fort Meade Road (MD 198). Direct access to Fort Meade is provided by several intersections along both MD 175 and MD 32. Traveling east along MD 175 from the Baltimore-Washington Parkway, access to Fort Meade is provided by Rockenbach Road, Reece Road, and Llewellyn Avenue. Access is provided on the southern boundary of Fort Meade by MD 32 at Emory Road (near the NSA facility) and from Mapes Road.

The Proposed Action evaluated in the DEIS includes 11 potential projects. Six of these are clustered along MD 175, near the intersection with Mapes Road and Llewellyn Avenue. The other five potential developments are located in the southwest portion of Fort Meade, south of Mapes Road in the vicinity of Zimborski Avenue and Taylor Avenue.

The traffic analysis in the DEIS focuses on cumulative effects and incorporates the following factors: (1) current traffic conditions based on 1999 traffic counts (incorporated into the No-Action Alternative), (2) additional projects approved or under construction but not included in the 1999 baseline, (3) 11 projects within the Proposed Action (or nine projects within Alternative A), (4) future development outside of Fort Meade as contained in the 2020 State Highway Administration (SHA) forecasts, and (5) future planned roadway improvements.

For the purposes of the analysis, traffic volumes were forecasted for the weekday morning and evening peak hours on an annual basis beginning in 2001 and extending through 2005. In addition, an analysis of year 2020 forecasts was conducted. Additionally, the analysis concentrated on traffic operations at intersections rather than roadway segments, since (owing to the number and the spacing of intersections within the area), the traffic along the roadway segments is controlled by the intersections. The impacts of the Proposed Action were evaluated using the Critical Lane Volume Capacity technique for the affected intersections. The impacts of the Proposed Action were evaluated based upon anticipated effects of the identified key intersections in the study area. Three roadway intersections at Fort Meade currently operate below the acceptable level of service or LOS-D (i.e., at LOS-E or LOS-F), where traffic exceeds the capacity of the roadways. These intersections are located along MD 32 and are programmed under the Maryland SHA Consolidated Improvement Program (CIP) for improvement, specifically, interchanges at Mapes Road and at MD 198 are under construction and the



intersection at Emory Road is to be closed. The MD 175 and Rockenbach Road intersection is projected to operate below LOS-D in 2005 under the No Action and to operate below LOS-D in 2004/2005 under the Proposed Action and Alternative A. The remaining on-post intersections could maintain acceptable levels of service, while accommodating the development within Fort Meade included under the Proposed Action or Alternative A. Problematic intersections along MD 175 might be able to accommodate the projected traffic volumes through 2005 with minor road improvements.

While the population in the area immediately surrounding Fort Meade is not expected to increase, growth in population and activity in the Region of Influence (Anne Arundel and Howard Counties) is expected to exceed the average annual rate in Maryland of 0.6 percent. Based on these considerations, it is expected that the existing traffic impacts at Fort Meade will increase as a result of local and regional cumulative effects. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the Proposed Action while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger traffic issue.

To address traffic impacts, Fort Meade is considering encouraging the use of alternative transportation (e.g. carpooling and flextime), although major rail or bus lines do not currently service the installation. In addition, the construction of the MD Route 198 by-pass onto Fort Meade via the former Tipton Army Airfield by the Maryland State Highway Administration is designed to limit the through traffic at Fort Meade to those who reside, work, or visit the installation for recreation or other purposes. This is expected to reduce congestion at the intersection of MD Routes 198 and 32.





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**DRAFT ENVIRONMENTAL IMPACT STATEMENT**

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**FUTURE DEVELOPMENT AND OPERATIONS  
FORT GEORGE G. MEADE, MARYLAND**



February 2001

Fort George G. Meade, Maryland  
Directorate of Public Works  
Environmental Management Office  
Fort Meade, Maryland 20755

U.S. Army Military District of Washington  
Fort Lesley J. McNair  
Washington, D.C. 20319



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## DRAFT ENVIRONMENTAL IMPACT STATEMENT

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LEAD AGENCY: Department of the Army, Military District of Washington.

TITLE OF THE PROPOSED ACTION: Future Development and Operations Fort George G. Meade, Maryland.

AFFECTED JURISDICTION: State of Maryland, Anne Arundel and Howard Counties.

PROPONENT: Fort George G. Meade, Maryland, Directorate of Public Works, Environmental Management Office, Fort Meade, Maryland 20755.

REVIEWED BY: U.S. Army Military District of Washington, Fort Lesley J. McNair, Washington, D.C. 20319.

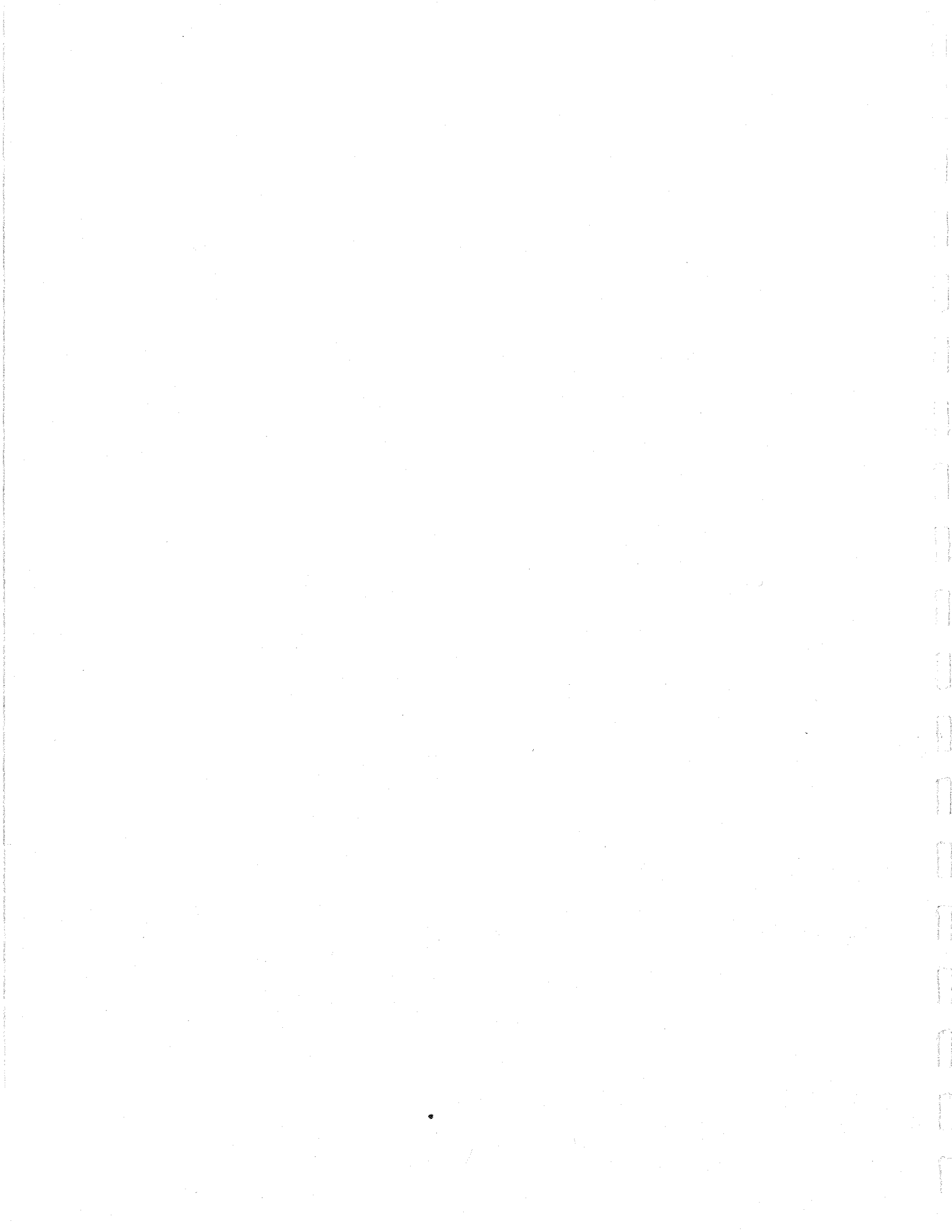
REVIEW COMMENT DEADLINE: 45 days after publication in the Federal Register.

### ABSTRACT:

An environmental assessment (EA) prepared in April 1999 determined that potentially significant adverse impacts to traffic and air quality could result from the proposed future development and operations at Fort Meade. Pursuant to NEPA, this Environmental Impact Statement (EIS) was undertaken to evaluate, in detail, the environmental and socioeconomic effects of future development and operations at the installation, specifically planned new construction and associated demolition activities. The Proposed Action includes development and operations expected to occur on the installation between 2000 and 2005 as part of plans to further Fort Meade's new mission as an administrative center. To provide the specificity needed for reasonable predictions of environmental consequences, 11 projects were identified by the Fort Meade Master Planner for consideration within the Proposed Action as being representative of the expected build out. Alternative A consists of constructing 9 of the 11 projects, excluding the two projects least likely to occur; their elimination reduces the number of additional personnel by 272, or 30 percent of the 912 additional personnel included in the Proposed Action. This EIS has identified significant impacts to air quality and traffic from the Proposed Action and Alternative A. In both instances, the contributions of Fort Meade are small relative to the regional air quality and traffic problems; it is reasonable to proceed with the action while implementing mitigation measures at Fort Meade and continuing to work in partnership with other contributing parties. No other significant impacts were identified. Fort Meade's preferred alternative is the Proposed Action.



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## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

An environmental assessment (EA) prepared in April 1999, *Future Development and Operations Environmental Assessment, Fort George G. Meade, Maryland*, determined that potentially significant adverse impacts to traffic and air quality could result from the proposed future development and operations at Fort Meade. Pursuant to NEPA, this Environmental Impact Statement (EIS) was undertaken to evaluate, in detail, the environmental and socioeconomic effects of future development and operations at the installation, specifically planned new construction and associated demolition activities. These activities are part of the installation's current master planning strategy, and follow Fort Meade's vision for the orderly operation, management, and development of real property assets, including land facilities, environmental resources, and infrastructure. The alternatives considered include the Proposed Action, the No-Action Alternative, and all other reasonable alternatives.

### **PURPOSE OF AND NEED FOR THE ACTION**

Recommendations offered by the Defense Base Closure and Realignment Commission (BRAC) realigned Fort Meade's mission and personnel in conformance with the provisions of the Defense Base Closure and Realignment Act of 1988. Additionally, the BRAC recommendations redirected and solidified Fort Meade's mission to focus on its role as a Federal administrative center. Although the National Environmental Policy Act (NEPA) neither applies to the BRAC deliberation and decision process, nor to any closure or realignment action, NEPA does apply to potential effects as the result of changes in mission (e.g., construction of new structures, new functions, changes in personnel). The purpose of the action under NEPA consideration is to construct and operate new administrative and support buildings on post as part of Fort Meade's mission.

The need for this action is to continue to meet Fort Meade's mission as a federal administrative center through its comprehensive master planning strategy. This strategy has developed as Fort Meade has evolved and is the product of technical, economic, and environmental considerations.

The action under consideration is an integral part of this master planning strategy. The Proposed Action was developed using the existing conditions at Fort Meade, identified deficiencies in administrative and support facilities, and three essential criteria for meeting these deficiencies:

- Force protection and security (protection of assigned personnel in a secure facility that provides freedom of operation and safeguards against terrorism)
- Synergy of location and efficiency of operations (location of facilities in close proximity to provide for efficient activities and to create opportunities for interactions that better support the mission)
- Economic viability (cost-effectiveness as determined by economic analysis that maximizes benefits to costs based on present and long-term values)

Generally, the Proposed Action is required to either replace deficient or decrepit tenant structures on the post or to accommodate the needs of new tenants moving to Fort Meade. The Proposed Action also includes routine and special maintenance programs. Pursuant to Army requirements (Army Regulation 415-15 1998b, Section K-36 of the Facilities Reduction Program), demolition of equivalent square footage is associated with new construction under the Proposed Action. Many of the structures that currently house administrative units and are included in the Proposed Action are deteriorating World War II wooden structures that are increasingly costly to maintain at reasonable professional office standards. The relocation of new tenants to Fort Meade is needed to accomplish the installation's mission as a federal administrative center and the construction of new buildings to accommodate them is part of Fort Meade's master planning strategy. Details on the projects included in the Proposed Action and the rationale used to consider reasonable alternatives are described in Chapter 2.

## **BACKGROUND**

Fort George G. Meade encompasses approximately 5,506 acres in Anne Arundel County, Maryland. Its location is approximately midway between Baltimore, Maryland and Washington, D.C.

In 1917, Congress authorized Fort Meade as a training cantonment during World War I. Fort Meade continued its training mission until the 8,100-acre range and training area south of MD

Route 32 was transferred to the U.S. Fish and Wildlife Service, as part of the first round of closures under the Defense Authorization Amendments and Base Closure Act of 1988.

Fort Meade's mission is to provide leadership in post operations and assume responsibility for numerous activities conducted to support the approximately 78 tenant organizations from all four services and many Federal agencies, including elements of the Defense Information School, 902nd Military Intelligence, 694th Intelligence Wing, and the National Security Agency. Fort Meade also provides for the quality of life of the service members and families, civilian work force, and retirees that make up the Fort Meade community.

### **PROPOSED ACTION**

The Proposed Action includes development and operations expected to occur on the installation between 2000 and 2005 as part of plans to further Fort Meade's new mission as an administrative center, particularly the construction and operation of new administration buildings. Necessary components of the Proposed Action include routine and special maintenance programs, and demolition of square footage equivalent to new construction (as mandated by Army regulations). For instance, one of the projects involves relocating personnel from World War II temporary wooden buildings into new administration space. Therefore, these temporary military structures would likely be demolished to meet the equivalent square footage requirement. Several other projects specifically entail demolishing existing, deficient facilities and replacing them with new, upgraded administrative or support space.

To provide the specificity needed for reasonable predictions of environmental consequences (as well as effects on applicable operations and maintenance procedures), 11 projects were identified by the Fort Meade Master Planner for consideration within the Proposed Action as being representative of the expected build out by 2005. To address the uncertainties involved in the continuing, rapid development of Fort Meade as an administrative center, four Bold Venture projects have been incorporated in the Proposed Action. These Bold Venture projects represent the installation's best projection of future development based on development trends at Fort Meade over the last 3 to 4 years. Inclusion of these projects is the most effective means of addressing likely cumulative effects at Fort Meade. The exact locations and configurations of

these projects may differ when implemented, but the expected range of variation is incorporated in the analysis of environmental consequences.

The 11 projects are described in terms of their projected (1) extent and distribution of construction footprints, (2) increase in personnel post-wide, and (3) implementation procedures for each activity. Fort Meade planners estimate that approximately 912 individuals would be added to the post's working population under the Proposed Action. The projects would account for 500,960 square feet (SF) of additional administrative and support facilities, costing more than 87 million dollars over six years. Below is a brief description of each of the 11 projects scheduled for construction as a result of this Proposed Action (in order of planned construction).

- **Military Entrance Processing Station (MEPS)** – Construct a 31,200-SF MEPS facility.
- **Personnel Barracks Replacement, Phase I** – Construct a new 110,483-SF enlisted personnel barracks, including a 15,516-SF soldier community building; demolish equivalent square footage.
- **Personnel Barracks Replacement, Phase II** – Same as above.
- **Dining Facility** – Construct a 24,500-SF, 1,300-person dining facility. This action would include demolition of equivalent square footage.
- **Company Headquarters** – Construct two standard-design, 8,300-SF company operation facilities. The action would demolish equivalent square footage.
- **Battalion Operations** – Construct a standard-design, 12,160-SF medium operations facility. This action would demolish equivalent square footage.
- **Bold Venture I** – Construct a 34,000-SF administrative facility with general purpose administrative space, reception, and orientation areas.



- **Bold Venture II** – Construct an 80,000-SF administration building for new occupants relocating to Fort Meade.
- **Bold Venture III** – Construct a 34,000-SF administration building for new occupants relocating to Fort Meade.
- **Bold Venture IV** – Construct a 10,000-SF administration building for new occupants relocating to Fort Meade.
- **U.S. Army 1<sup>st</sup> Recruiting Brigade (1RBDE), Army Medical Detachment 1<sup>st</sup> Brigade, and Baltimore Recruiting Battalion** – Construct a 33,309-SF administration office building to replace offices in World War II wooden structures that would likely be demolished.

#### **NO-ACTION ALTERNATIVE**

Analysis of the No-Action Alternative is prescribed by the regulations of the Council on Environmental Quality and serves as the benchmark against which the environmental and socioeconomic effects of the Proposed Action and other reasonable alternatives can be evaluated. In this EIS, the benchmark is the baseline of existing conditions (based on best available information) defined for this purpose as the normal daily operations at Fort Meade and adjacent areas as of 1999.

#### **ALTERNATIVE A**

Alternative A consists of constructing 9 of the 11 projects, excluding Bold Ventures III and IV. Bold Ventures III and IV are the projects least likely to occur (but still likely) of those included in the Proposed Action; their elimination reduces the number of additional personnel by 272, or 30 percent of the 912 additional personnel included in the Proposed Action. Based on the analysis done in the April 1999 EA, the addition of new personnel to the installation is the change most likely to result in adverse impacts to traffic and air quality.

## **OTHER ALTERNATIVES CONSIDERED**

The purpose of and need for the action is to construct and operate new administrative and support buildings on post as part of Fort Meade's mission as a federal administrative center, through its comprehensive master planning strategy. The full range of alternatives was considered relative to this purpose and need throughout Fort Meade's planning process, beginning prior to publication of the 1999 EA and continuing into EIS preparation. In addition, public comment on potential alternatives was solicited during the April 2000 EIS public workshop for consideration in the EIS.

To determine the reasonableness of these alternatives, each was compared to three criteria essential to the implementation of Fort Meade's master planning strategy:

- Force protection and security (protection of assigned personnel in a secure facility that provides freedom of operation and safeguards against terrorism)
- Synergy of location and efficiency of operations (location of facilities in close proximity to provide for efficient activities and to create opportunities for interactions that better support the mission)
- Economic viability (cost-effectiveness as determined by economic analysis that maximizes benefits to costs based on present and long-term values)

Alternatives for constructing administrative and support facilities on Fort Meade must meet each of these criteria to effectively remedy identified deficiencies (i.e., lack of facilities) that affect accomplishing the installation's mission as a federal administrative center. The Fort Meade master planning strategy uses these criteria to screen alternatives and plan for the orderly operation, management, and development of real property assets, including land facilities, environmental resources, and infrastructure. This master planning strategy has developed as Fort Meade has evolved and is the product of technical, economic, and environmental considerations. For example, the strategy requires that the use of existing facilities and the renovation of existing facilities be considered before new construction is undertaken.

The range of alternatives considered was grouped into the following four approaches to providing administrative and support facilities:

- Using existing facilities in their present condition,
- Renovating existing facilities,
- Leasing off-post facilities, and
- Selecting alternative project sites.

These four types of alternatives were evaluated for reasonableness using the three screening criteria (force protection, synergy of location, and economic viability).

Table ES-1. Evaluation of Alternatives for Their Ability to Meet the Purpose of and Need for the Action

Alternative	Screening Criteria for Reasonableness		
	Force Protection	Synergy of Location	Economic Viability
Proposed Action (Constructing 11 projects)	Meets force protection and security needs by keeping personnel on post in secure location.  Fort Meade land use designations incorporate the need for force protection and provide adequate sites for the proposed projects.	Meets synergy of location needs by keeping personnel next to housing, dining, training, and operations.  Fort Meade land use designations incorporate the need for synergy of location and provide adequate sites for the proposed projects.	Economically viable.  Meets need for administrative and support facilities at minimum cost.
Alternative A (Constructing 9 projects)	Meets force protection and security needs by keeping personnel on post in secure location.  Fort Meade land use designations incorporate the need for force protection and provide adequate sites for the proposed projects.	Meets synergy of location needs by keeping personnel next to housing, dining, training, and operations.  Fort Meade land use designations incorporate the need for synergy of location and provide adequate sites for the proposed projects.	Economically viable.  Meets need for administrative and support facilities at minimum cost.

Table ES-1. (Continued)

Alternative	Screening Criteria for Reasonableness		
	Force Protection	Synergy of Location	Economic Viability
Using existing facilities in their present condition	<p>Meets force protection and security needs, but no appropriate facilities are available.</p> <p>All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.</p>	<p>Meets synergy of location needs, but no appropriate facilities available.</p> <p>All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.</p>	<p>Economically viable, but no appropriate facilities available.</p> <p>All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.</p>
Renovating existing facilities	<p>Meets force protection and security needs, but no appropriate facilities are available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>	<p>Meets synergy of location needs, but no appropriate facilities are available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>	<p>Economically viable, but no facilities available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>
Leasing off-post facilities	<p>Leasing off-post does not meet force protection and security needs.</p> <p>Personnel would not be housed in secure location.</p>	<p>Leasing off-post does not meet synergy of location needs.</p> <p>Personnel would not be housed next to dining, training, and operations.</p>	<p>Locating personnel off post would not be economically viable, because higher basic allowance and quarter costs and transportation costs would be incurred.</p> <p>Locating administrative facilities off post would not be economically viable. Costs would continue to be incurred beyond the 10 years needed to recoup new construction costs for all administrative facilities.</p>
Selecting alternative project sites	<p>Meets force protection and security needs, but no alternative sites exist for the five support facilities outside or within the Fort Meade land use designations needed to ensure force protection.</p>	<p>Locating projects in different areas of the installation would not meet synergy of location needs.</p> <p>No alternative sites exist outside or within the Fort Meade land use designations that would keep personnel next to housing, dining, training, and operations, and keep administrative facilities close to major roadway access.</p>	<p>Economically viable.</p> <p>Meets need for administrative and support facilities at minimum cost.</p>

## **OTHER PLANNED ACTIONS**

The EIS identified the following on-going or planned activities in and around Fort Meade that may contribute to the cumulative impact of the Proposed Action.

- On-Post

On-post Federal projects not contained within the Proposed Action or Alternative A that may contribute to cumulative impacts include the Executive Software Systems Directorate and the Software Development Center-Washington, both part of renovations and alterations to Pershing Hall; Defense Security Services (formerly Defense Investigating Service, Investigations Control, and Automated Directorate), currently under construction; U.S. Army Reserve Center; Criminal Investigations Directorate; Family Travel Camp; and the new Remote Storage Facility for the Library of Congress.

- Regional

Major regionally approved and ongoing activities within the area surrounding Fort Meade (according to Anne Arundel County Planners) that may contribute to cumulative impacts include seven residential planned unit developments or senior housing projects, 13 commercial and industrial developments in the Odenton Small Planning Area, two commercial and industrial developments in the Jessup/Maryland City Small Planning Area, and four commercial and industrial developments in the Severn Small Planning Area.

## **REGULATORY REQUIREMENTS**

The Proposed Action would comply with all applicable regulations. Construction permits would be obtained for soil and erosion control, floodplain effects, and stormwater discharge during construction. Wetlands and cultural resources would be avoided. Best management practices of potential adverse impacts on each resource would be included in all planned construction activities.

## **ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES**

This EIS has identified significant impacts to air quality and traffic from the Proposed Action and Alternative A. No other significant impacts were identified.

Air Quality. To assess the potential impacts to air quality under the Proposed Action, emissions from activities associated with the 11 Proposed Action projects were quantified. The primary sources of air emissions from these projects are (1) construction vehicle fuel combustion, (2) earth moving activities (fugitive dust), (3) boiler fuel combustion, and (4) commuter vehicle fuel combustion. Air pollutant emissions of volatile organic compounds (VOC) and nitrogen oxide (NO<sub>x</sub>) are of particular importance because they contribute to the formation of ozone and Fort Meade is located in the Baltimore severe ozone nonattainment area.

All 11 projects associated with the Proposed Action would involve building construction activities; 6 of these 11 projects would involve demolition of existing buildings. These construction and demolition activities would generate temporary air emissions, mainly from fugitive dust-generating activities and construction/demolition vehicle exhaust. The new buildings constructed for each project would require new boilers to support day-to-day operations (i.e., heating and cooling). Unlike construction activities, boiler operation constitutes an ongoing, continuous source of air emissions. While existing boilers associated with the demolition of existing facilities would be removed and would be implemented throughout Fort Meade, neither of these activities would significantly reduce emission totals.

Five of the 11 projects associated with the Proposed Action would involve increases in area commuter traffic as a result of relocating personnel to the new facilities at Fort Meade. Commuter traffic constitutes an ongoing, continuous source of air emissions once the newly constructed facilities are occupied. Note that one project, the MEPS, involves the relocation of approximately 50 personnel from their current facility in the Baltimore metropolitan area.

Total air emissions from the Proposed Action and other actions at Fort Meade were evaluated as part of the cumulative effects assessment. These other actions would result in both construction-related and operation-related emissions (from new boilers and additional commuter traffic). This

cumulative effects assessment focused on the pollutants, NO<sub>x</sub> and VOC, that contribute to the ozone nonattainment problem in the Baltimore region.

Analysis of the effects on air quality from the combined emissions of the 11 projects constituting the Proposed Action determined that NO<sub>x</sub> emissions are slightly below the *de minimus* level, i.e., they do not exceed the threshold of 25 tons per year (tpy). Alternative A would produce approximately 25% fewer emissions than the Proposed Action. However, when combined with concurrent, on-going projects on post, both the Proposed Action and Alternative A would likely produce NO<sub>x</sub> emissions that exceed the 25 tpy threshold during each year from 2001 to 2005. Regional growth and attendant increased traffic volumes outside Fort Meade would, undoubtedly, produce additional NO<sub>x</sub> emissions.

Fort Meade concludes that the cumulative impacts of all past, present, and reasonably foreseeable future actions would significantly hinder the State's ability to demonstrate "reasonable further progress" toward lowering emissions of ozone precursor pollutants, as required by the Clean Air Act Amendments of 1990. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the action, while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger air quality issue.

Traffic. The traffic analysis in this EIS focuses on cumulative effects and incorporates the following factors: (1) current traffic conditions based on 1999 traffic counts (incorporated into the No-Action Alternative), (2) additional projects approved or under construction but not included in the 1999 baseline, (3) 11 projects within the Proposed Action (or nine projects within Alternative A), (4) future development outside of Fort Meade as contained in the 2020 State Highway Administration (SHA) forecasts, and (5) future planned roadway improvements. For the purposes of this analysis, traffic volumes were forecasted for the weekday morning and evening peak hours on an annual basis beginning in 2001 and extending through 2005. In addition, an analysis of year 2020 forecasts was conducted.

This traffic analysis focused on the morning and evening peak hour traffic conditions that represent the extreme traffic conditions for this area. Given the land use within and surrounding

the study area, traffic conditions at times other than morning and evening peak hour conditions will be less congested. Additionally, the analysis concentrated on traffic operations at intersections rather than roadway segments, since (owing to the number and the spacing of intersections within the area) the traffic along the roadway segments is controlled by the intersections. The impacts of the Proposed Action and Alternative A were evaluated using the Critical Lane Volume Capacity technique for the affected intersections. The impacts of the Proposed Action and Alternative A scenarios were evaluated based upon anticipated effects of the identified key intersections in the study area. This analysis also included the presently programmed and funded road improvements within the study area, as identified by SHA sources.

Three roadway intersections at Fort Meade currently operate below the acceptable level of service or LOS-D (i.e., at LOS-E or LOS-F), where traffic exceeds the capacity of the roadways. These intersections are located along MD 32 and are programmed under the Maryland SHA Consolidated Improvement Program (CIP) for improvement, specifically, interchanges at Mapes Road and at MD 198 are under construction and the intersection at Emory Road is to be closed. The MD 175 and Rockenbach Road intersection is projected to operate below LOS-D in 2005 under the No Action and to operate below LOS-D in 2004/2005 under the Proposed Action and Alternative A. The remaining on-post intersections could maintain acceptable levels of service, while accommodating the development within Fort Meade included under the Proposed Action or Alternative A. Problematic intersections along MD 175 might be able to accommodate the projected traffic volumes through 2005 with minor road improvements.

While the population in the area immediately surrounding Fort Meade is not expected to increase, growth in population and activity in the Region of Influence (Anne Arundel and Howard Counties) is expected to exceed the average annual rate in Maryland of 0.6 percent. Based on these considerations, we expect that the existing traffic impacts at Fort Meade will increase as a result of local and regional cumulative effects. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the Proposed Action, while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger traffic issue.



Other Resources. The only other resources that would be measurably affected by the Proposed Action or Alternative A are water quality (by stormwater runoff), water supply and wastewater infrastructure, socioeconomics, and noise. Considering the best management practices planned to address these effects, no significant impacts to these other resources, from the Proposed Action, Alternative A, or cumulative effects of other actions, are expected to occur.

In general, the potential effects on surface water quality associated with the Proposed Action or Alternative A would be limited to (1) construction activities and (2) continuing runoff from new structures and parking areas. Studies suggest that the existing stormwater management (SWM) system would be adequate to serve the new facilities included in the Proposed Action at Fort Meade. Should additional stormwater controls be deemed necessary once the details of the projects are known (e.g., total extent of impervious surfaces), Fort Meade is committed to providing adequate SWM facilities as needed.

No permanent aquatic resources or wetlands exist on the sites included in the Proposed Action. Only grassy vegetation and disturbed wildlife habitat would be affected. The only threatened and endangered species habitat of concern is the glassy darter habitat in the Little Patuxent River and no stormwater runoff from the projects would drain to this river. No Prime and Unique Farmlands nor Federal Wild and Scenic Rivers exist on Fort Meade. Best management practices (such as planting riparian buffers and implementing stormwater controls at Fort Meade) would minimize potential effects to tributaries of the Maryland "Scenic and Wild" Patuxent and Severn Rivers. Studies indicate that no archaeological or historic resources would be affected. Should a construction, repair, or energy-related upgrade have the potential to disturb cultural resources at Fort Meade, appropriate steps would be taken to identify and lessen the potential impact through continuing coordination with the Maryland State Historic Preservation Office.

Most of the new facilities considered under the Proposed Action would not store any hazardous materials (beyond those routinely used for maintenance and office supplies), nor would they produce significant amounts of hazardous waste (the minimal amounts of waste material would be disposed of according to local, county, state, or Federal guidelines). Although Fort Meade has been declared an EPA Superfund site, none of the contaminated areas are in the proximity of the project sites. For all applicable activities, Fort Meade operations and maintenance personnel

would continue to adhere to procedures as defined in the *Fort George G. Meade Management Plan for Hazardous Materials and Hazardous Waste*.

Infrastructure capacity data indicate that Fort Meade's utilities system can support the needs of increased personnel and associated activities resulting from the Proposed Action. At the same time, the natural gas, water distribution, and wastewater systems have notable deficiencies. Fort Meade's utility distribution, collection, and treatment systems are currently being analyzed as part of the Department of Defense's privatization initiative. Implementation of these utility privatization initiatives would likely involve system-wide infrastructure repairs, upgrades, or replacements. The combined increase in solid waste generation from construction and additional personnel through 2005 would only reduce landfill life by 0.05 years and therefore would have no significant impact.

The completion of the 11 projects under the Proposed Action would significantly increase Fort Meade's annual economic contribution to the economy in the Region of Influence (ROI). The net increase in economic activity in the ROI would depend on the extent to which the activities relocated to Fort Meade come from outside the ROI as opposed to from within it. The local housing market would be able to accommodate these very small increases in demand without significantly affecting either the availability or price of housing. The resulting increase in student enrollment would be minimal and well within the capacity of on-post schools. There would be no impact to services at Fort Meade, since the on-post population would remain unchanged under the Proposed Action.

For this EIS, the noise analysis focused on the impacts of construction noise and noise generated by traffic increases on sensitive receptors resulting from the Proposed Action or Alternative A. Construction activities (i.e., operation of earthmoving and other construction equipment) associated with several projects would temporarily increase noise levels. While the noise level could possibly reach 75 to 80 dBA at the construction sites, the distance to nearby receptors would attenuate these noise levels considerably. Additional, long-term noise from traffic volumes is expected to increase less than 3 dB beyond existing noise levels at all nine receptors through 2020. These higher levels of noise are essentially the same under the No-Active Alternative and are reflective of greater traffic in these areas, independent of the Proposed

Action. Therefore, no significant adverse impacts from traffic noise resulting from the Proposed Action or Alternative A are anticipated.

Neither the Proposed Action nor Alternative A are expected to result in adverse environmental or socioeconomic impacts to minority or low-income populations.

Mitigation. To mitigate the significant impacts to air quality and traffic caused by the Proposed Action and cumulative actions, Fort Meade will continue to work in partnership with other contributing parties in the region. This is appropriate given that the contributions of Fort Meade are small relative to regional air quality and traffic problems, and that solutions at that scale will be most effective.

Nonetheless, Fort Meade is currently undertaking four initiatives that will help mitigate the adverse air quality impacts in the region: (1) conversion of existing oil-fired heating systems to natural gas, (2) use of vehicles powered by natural gas, (3) installation of more energy-efficient devices, and (4) extensive tree planting and reforestation program. Each of these contributes to improved air quality by reducing the emissions of air pollutants or sequestering atmospheric carbon.

To address traffic impacts, Fort Meade is considering encouraging the use of alternative transportation (e.g., carpooling and flextime), although major rail or bus lines do not currently service the installation. In addition, the construction of the MD 198 by-pass onto Fort Meade via the former Tipton Army Airfield is designed to limit the through traffic at Fort Meade to Fort Meade residents and workers. This will reduce traffic congestion at the MD 198 and MD 32 intersection.

Irreversible and Irretrievable Commitments of Resources. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use will have on future generations. Neither the Proposed Action nor Alternative A would result in the loss of species or habitat that cannot be restored. Certain amounts of labor, materials, and energy resources would be irreversibly committed to the projects included in the Proposed Action or Alternative A. None of these commitments would be inconsistent with the maintenance of the long-term productivity of the environment.

Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
Land Use	Constructing new administration and support buildings within the proposed land use zones would be compatible with post-wide and regional development strategies. No adverse impacts to land use are anticipated.	Conditions on post would remain unchanged. Modest development would continue in the surrounding communities. No effect.	Constructing new administration and support buildings within the proposed land use zones would be compatible with post-wide and regional development strategies. No adverse impacts to land use are anticipated.
Air Quality	Fort Meade is in a severe non-attainment zone for ozone. Analysis under the general conformity rule of the Clean Air Act shows that emissions increases for NO <sub>x</sub> under the Proposed Action would be slightly less than <i>de minimis</i> levels. When added to other actions at Fort Meade and planned regional activities, these project emissions would constitute adverse cumulative impacts to regional air quality. These impacts, however, would be small relative to the larger air quality problem and would be addressed through mitigation measures at Fort Meade and efforts to work with other parties in the region.	Conditions on post would remain unchanged. Modest development in the surrounding communities would continue to increase emissions. No effect.	Fort Meade is in a severe non-attainment zone for ozone. Analysis under the general conformity rule of the Clean Air Act shows that emissions increases for NO <sub>x</sub> under Alternative A would be slightly less than <i>de minimis</i> levels. When added to other actions at Fort Meade and planned regional activities, these project emissions would constitute adverse cumulative impacts to regional air quality. These impacts, however, would be small relative to the larger air quality problem.

Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
Water Resources	<p>No surface water bodies would be affected. The Proposed Action would increase impervious surfaces at Fort Meade by 1.8 percent. SWM will be consistent with state regulations. Site-specific analysis would determine if additional SWM facilities were necessary to avoid impacts to surface water. Other best management practices, such as “rain gardens,” would be implemented where appropriate to avoid stormwater runoff impacts. Given the implementation of stormwater management plans and other mitigation measures, no significant impacts on surface water are anticipated.</p> <p>Groundwater resources are sufficient to meet potable water supply needs. Any project construction plans involving subsurface excavations would avoid high water tables. Therefore, no significant, adverse impacts to groundwater are anticipated.</p> <p>Results of on-going Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations would be reviewed prior to construction. If remediation were necessary, actions would comply with all Federal and State regulations.</p>	<p>Conditions on post would remain unchanged. Modest development in the surrounding communities suggests a watershed approach to stormwater planning. No effect.</p>	<p>No surface water bodies would be affected. Alternative A would increase impervious surfaces at Fort Meade by 1.5 percent. SWM will be consistent with state regulations. Site-specific analysis would determine if additional SWM facilities were necessary to avoid impacts to surface water. Other best management practices such as “rain gardens” would be implemented where appropriate to avoid stormwater runoff impacts. Given the implementation of stormwater management plans and other mitigation measures, no significant impacts on surface water are anticipated.</p> <p>Groundwater resources are sufficient to meet potable water supply needs. Any project construction plans involving subsurface excavations would avoid high water tables. Therefore, no significant, adverse impacts to groundwater are anticipated.</p> <p>Results of on-going Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations would be reviewed prior to construction. If remediation were necessary, actions would comply with all Federal and State regulations.</p>
Aquatic Resources and Wetlands	<p>None of the project areas contain permanent surface water features. A vegetated ditch with a seasonally wet environment near Bold Venture I may potentially offer habitat to macroinvertebrates or amphibians. Best management practices (such as establishing riparian buffers along streams) would be implemented to prevent or minimize pollutant loadings to this and other aquatic environments. No significant, adverse impacts are anticipated.</p> <p>No wetlands exist within the project areas considered under the Proposed Action and no impacts would occur.</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>None of the project areas contain permanent surface water features. A vegetated ditch with a seasonally wet environment near Bold Venture I may potentially offer habitat to macroinvertebrates or amphibians. Best management practices (such as establishing riparian buffers along streams) would be implemented to prevent or minimize pollutant loadings to this and other aquatic environments. No significant, adverse impacts are anticipated.</p> <p>No wetlands exist within the project areas considered under Alternative A and no impacts would occur.</p>
Vegetation	<p>Only grassy vegetation and scattered trees would be eliminated under the Proposed Action. Areas outside the construction footprint would be replanted. Subsequent landscaping around new structures would provide more variation in plant species and</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>Only grassy vegetation and scattered trees would be eliminated under Alternative A. Areas outside the construction footprint would be replanted. Subsequent landscaping around new structures would provide more variation in plant species and</p>

Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
	structure, a potentially positive impact.  No change to on-post landscaping and lawn maintenance regimes are expected under the Proposed Action.		structure, a potentially positive impact.  No change to on-post landscaping and lawn maintenance regimes are expected under Alternative A.
Wildlife Resources	Projects under the Proposed Action would be built in grassy, open spaces or previously built acres, both offering poor wildlife habitats. It is anticipated that the suburban wildlife present would quickly relocate to similar habitats on post. Landscape plantings using native plants around proposed new structures may improve habitat value.	Conditions on post would remain unchanged. No effect.	Projects under Alternative A would be built in grassy, open spaces or previously built acres, both offering poor wildlife habitats. It is anticipated that the suburban wildlife present would quickly relocate to similar habitats on post. Landscape plantings using native plants around proposed new structures may improve habitat value.
Threatened and Endangered Species	There are no Federally listed threatened or endangered species known to exist on Fort Meade. No project areas drain directly into the Little Patuxent River (home to the rare glassy darter). No impacts are anticipated.	Conditions on post would remain unchanged. No effect.	There are no Federally listed threatened or endangered species known to exist on Fort Meade. No project areas drain directly into the Little Patuxent River (home to the rare glassy darter). No impacts are anticipated.
Prime and Unique Farmlands	There are no prime or unique farmlands on Fort Meade in the areas of the proposed projects. No impacts are anticipated.	Conditions on post would remain unchanged. No effect.	There are no prime or unique farmlands on Fort Meade in the areas of the proposed projects. No impacts are anticipated.
Wild and Scenic Rivers	The Patuxent River and Severn River are classified as Maryland "Scenic and Wild" rivers. Best management practices, such as planting riparian buffers along tributary stream channels and implementing stormwater controls at Fort Meade, would minimize potential effects to these river systems. No rivers in Maryland are classified under the more restrictive Federal Wild and Scenic Rivers Act. No adverse impacts are anticipated.	Conditions on post would remain unchanged. No effect.	The Patuxent River and Severn River are classified as Maryland "Scenic and Wild" rivers. Best management practices, such as planting riparian buffers along tributary stream channels and implementing stormwater controls at Fort Meade, would minimize potential effects to these river systems. No rivers in Maryland are classified under the more restrictive Federal Wild and Scenic Rivers Act. No adverse impacts are anticipated.

Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
Cultural Resources	<p>The Proposed Action would not impact any significant archaeological sites and would not require further investigations. The projects would not impact the two National Register of Historic Places-eligible architectural structures on post. As newly eligible World War II wooden structures are considered in accordance with the 1986 Programmatic Memorandum of Agreement, they would be documented and demolished fulfilling Department of Defense's National Historic Preservation Act Section 106 responsibilities. No adverse impacts are anticipated.</p> <p>Maintenance and repair of historic structures would follow Cultural Resource Management Plan guidelines. No changes to these procedures would result from the Proposed Action.</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>Alternative A would not impact any significant archaeological sites and would not require further investigations. The projects would not impact the two National Register of Historic Places-eligible architectural structures on post. As newly eligible World War II wooden structures are considered in accordance with the 1986 Programmatic Memorandum of Agreement, they would be documented and demolished fulfilling Department of Defense's National Historic Preservation Act Section 106 responsibilities. No adverse impacts are anticipated.</p> <p>Maintenance and repair of historic structures would follow Cultural Resource Management Plan guidelines. No changes to these procedures would result from Alternative A.</p>
Hazardous, Toxic, and Radioactive Substances	<p>Any hazardous, toxic, and radioactive substances, or waste encountered during construction, demolition, or operations associated with the Proposed Action would be handled according to appropriate safety procedures. Fort Meade operations and maintenance personnel would follow established State and Federal regulations and protocols. No change in operations concerning hazardous waste handling or storage would occur as a result of the Proposed Action. No adverse impacts are anticipated.</p> <p>Fort Meade has recently been designated as a Superfund site. CERCLA investigations are currently underway. No known contaminated sites are located the proposed project areas. Results of the CERCLA investigations would be reviewed prior to construction.</p>	<p>Maintenance, materials handling, and waste disposal would not change on Fort Meade. No effect.</p>	<p>Any hazardous, toxic, and radioactive substances or waste encountered during construction, demolition, or operations associated with Alternative A would be handled according to appropriate safety procedures. Fort Meade operations and maintenance personnel would follow established State and Federal regulations and protocols. No change in operations concerning hazardous waste handling or storage would occur as a result of Alternative A. No adverse impacts are anticipated.</p> <p>Fort Meade has recently been designated as a Superfund site. CERCLA investigations are currently underway. No known contaminated sites are located in the proposed project areas. Results of the CERCLA investigations would be reviewed prior to construction.</p>

Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
Infrastructure	<p>Water and wastewater capacity is sufficient to support the new facilities included under the Proposed Action. General maintenance and repairs to the overall water and sewer systems would be required of Fort Meade or Anne Arundel County when the County acquires the wastewater system. Specific project-related upgrades would be considered and implemented on a case-by-case basis. As water, sewer, and energy-related service facilities would continue to function under established protocols, operation would not be affected by the Proposed Action. No significant impacts to service from water, wastewater, or energy systems are anticipated.</p> <p>Demolition and construction activities would generate total solid waste of 55,381 tons, only 0.18 percent of total landfill capacity. Therefore, no adverse effects are expected from the Proposed Action.</p> <p>Maintenance associated with all infrastructure activities would remain consistent with established Army procedures and protocols and would not be affected under the Proposed Action.</p>	<p>The demand for infrastructure and its capacity would remain the same. No effect.</p>	<p>Water and wastewater capacity is sufficient to support the new facilities included under Alternative A. General maintenance and repairs to the overall water and sewer systems would be required of Fort Meade or of Anne Arundel County when the County acquires the wastewater system. Specific project-related upgrades would be considered and implemented on a case-by-case basis. As water, sewer, and energy-related service facilities would continue to function under established protocols, operation would not be affected by the Proposed Action. No significant impacts to service from water, wastewater, or energy systems are anticipated.</p> <p>Demolition and construction activities would generate total solid waste of 52,709 tons, only 0.17 percent of total landfill capacity. Therefore, no adverse effects are expected from Alternative A.</p> <p>Maintenance associated with all infrastructure activities would remain consistent with established Army procedures and protocols and would not be affected under Alternative A.</p>
Traffic	<p>Under the Proposed Action, most key intersections would continue to operate at acceptable LOS through 2020. In addition to three MD 32 intersections currently operating below LOS-D, two MD 175 intersections would fall below LOS-D. While traffic increases from the Proposed Action are very small proportions of total traffic volumes, they would contribute to significant traffic impacts. Future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, while new interchanges are under construction to alleviate problems along MD 32.</p> <p>Fort Meade would pursue additional mitigation measures as feasible.</p>	<p>Traffic levels would not increase on Fort Meade. Three MD 32 intersections would continue to operate below acceptable LOS-D until new interchange construction is complete. Modest development in the surrounding communities would likely increase traffic congestion. Regional transportation plans are needed to address cumulative traffic problems.</p>	<p>Under Alternative A, most key intersections would continue to operate at acceptable LOS through 2020. In addition to three MD 32 intersections currently operating below LOS-D, two MD 175 intersections would fall below LOS-D. While traffic increases from Alternative A are very small proportions of total traffic volumes, they would contribute to significant traffic impacts. Future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, while new interchanges are under construction to alleviate problems along MD 32.</p>

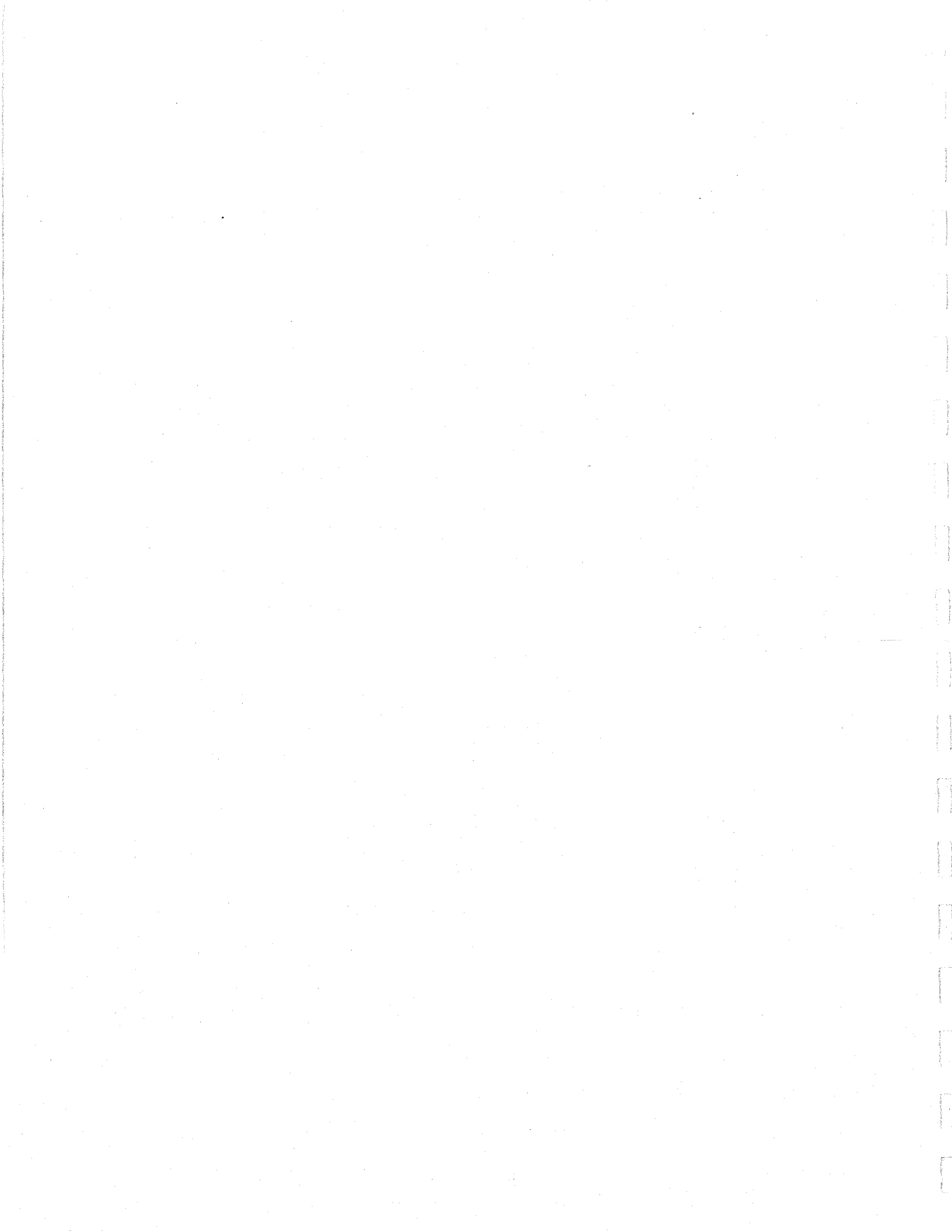


Table ES-2. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action (Constructing 11 projects)	No-Action Alternative	Alternative A (Constructing 9 projects)
Socioeconomic Conditions	<p>The Proposed Action is expected to have a positive socioeconomic impact on employment and income.</p> <p>The slight increase in surrounding populations should not have adverse impacts on schools or other social services.</p> <p>Construction noise effects would be of short duration and would be limited to new construction areas. No significant adverse impacts to noise receptors are anticipated. Traffic noise as the result of the Proposed Action is not expected to increase more than 3dB over the 5-year build-out period.</p>	<p>Conditions on post would remain unchanged. Modest development in the surrounding communities would occur. No effect.</p>	<p>Alternative A is expected to have a positive socioeconomic impact on employment and income.</p> <p>The slight increase in surrounding populations should not have adverse impacts on schools or other social services.</p> <p>Construction noise effects would be of short duration and would be limited to new construction areas. No significant adverse impacts to noise receptors are anticipated. Traffic noise as the result of the Proposed Action is not expected to increase more than 3dB over the 5-year build-out period.</p>
Environmental Justice	<p>No disproportionately high adverse effects on minority or low-income communities or on children are anticipated.</p>	<p>Conditions on post would remain unchanged. Modest development in the surrounding communities would occur. No effect.</p>	<p>No disproportionately high adverse effects on minority or low-income communities or on children are anticipated.</p>

**PREFERRED ALTERNATIVE**

Fort Meade's preferred alternative is the Proposed Action. The Proposed Action most accurately reflects the requirements faced by Fort Meade between 2000 and 2005. Based on historical development and current projections, it is highly likely that Bold Ventures III and IV will be needed during this time period. To exclude them (and choose Alternative A as the preferred alternative) would necessitate additional analysis in the future and make accurate consideration of cumulative effects more difficult. Fort Meade believes that the Proposed Action would best fulfill its mission as a Federal administrative center, given all technical, economic, and environmental factors.



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## **1.0 BACKGROUND**

### **1.1 PURPOSE OF AND NEED FOR THE ACTION**

Recommendations offered by the Defense Base Closure and Realignment Commission (BRAC) realigned Fort Meade's mission and personnel in conformance with the provisions of the Defense Base Closure and Realignment Act of 1988. Additionally, the BRAC recommendations redirected and solidified Fort Meade's mission to focus on its role as a Federal administrative center. Although the National Environmental Policy Act (NEPA) neither applies to the BRAC deliberation and decision process, nor to any closure or realignment action, NEPA does apply to potential effects as the result of changes in mission (e.g., construction of new structures, new functions, changes in personnel). The purpose of the action under NEPA consideration is to construct and operate new administrative and support buildings on post as part of Fort Meade's mission.

The need for this action is to continue to meet Fort Meade's mission as a federal administrative center through its comprehensive master planning strategy. This strategy has developed as Fort Meade has evolved and is the product of technical, economic, and environmental considerations. The action under consideration is an integral part of this master planning strategy. The Proposed Action was developed using the existing conditions at Fort Meade, identified deficiencies in administrative and support facilities, and three essential criteria for meeting these deficiencies:

- Force protection and security (protection of assigned personnel in a secure facility that provides freedom of operation and safeguards against terrorism)
- Synergy of location and efficiency of operations (location of facilities in close proximity to provide for efficient activities and to create opportunities for interactions that better support the mission)
- Economic viability (cost-effectiveness as determined by economic analysis that maximizes benefits to costs based on present and long-term values)

Generally, the Proposed Action is required to either replace deficient or decrepit tenant structures on the post or to accommodate the needs of new tenants moving to Fort Meade. The Proposed

Action also includes routine and special maintenance programs. Pursuant to Army requirements (Army Regulation 415-15 1998b, Section K-36 of the Facilities Reduction Program), demolition of equivalent square footage is associated with new construction under the Proposed Action. Many of the structures that currently house administrative units and are included in the Proposed Action are deteriorating World War II wooden structures that are increasingly costly to maintain at reasonable professional office standards. The relocation of new tenants to Fort Meade is needed to accomplish the installation's mission as a federal administrative center and the construction of new buildings to accommodate them is part of Fort Meade's master planning strategy. Details on the projects included in the Proposed Action and the rationale used to consider reasonable alternatives are described in Chapter 2.

## **1.2 LOCATION**

Fort Meade encompasses approximately 5,506 acres in Anne Arundel County, Maryland. The facility is located southeast of the Baltimore-Washington Parkway and west of Interstate 97. Figure 1-1 shows the location of Fort Meade within a regional context.

## **1.3 MISSION**

Fort Meade is dedicated to providing quality support to soldiers, their families, many Federal agencies (including the Department of Defense (DoD)), and civilian employees. Fort Meade's mission is to provide leadership in post operations and assume responsibility for numerous activities conducted to support the approximately 78 tenant organizations from all four services and many Federal agencies. Fort Meade also provides for the quality of life of the service members and families, civilian work force, and retirees that make up the Fort Meade community.

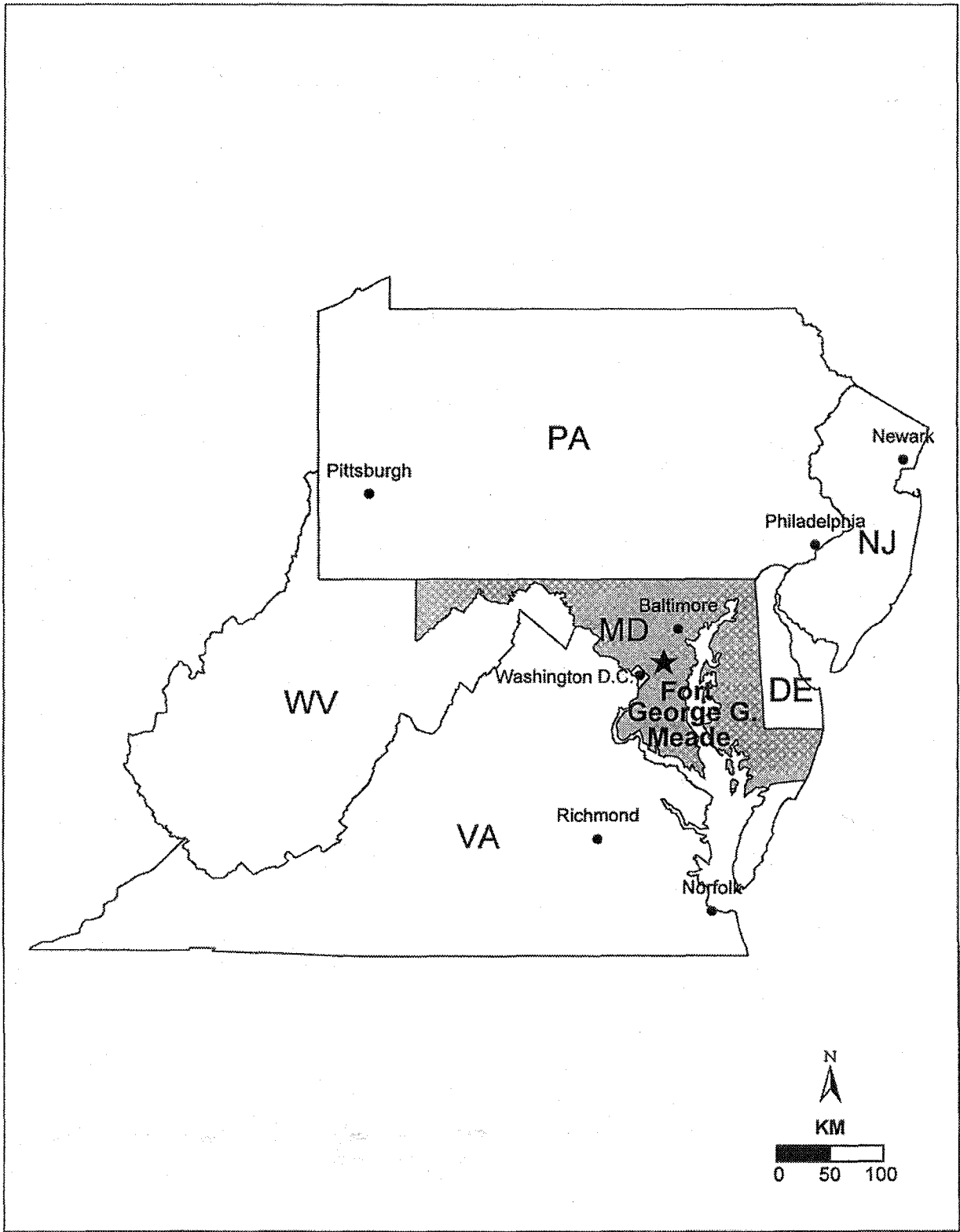


Figure 1-1. Map showing Fort Meade within a regional context.



## 1.4 TENANT ORGANIZATIONS/ACTIVITIES

Of the approximately 78 tenant organizations hosted at Fort Meade, the largest are listed below.

- National Security Agency (NSA)

The NSA was established by presidential directive on November 4, 1952. Its headquarters complex at Fort Meade is dominated by two high-rise buildings completed in 1986.

The complex includes an operations building, a technical library, and other facilities which house logistics and support activities. NSA is supported by elements of the Army, Navy, Marines, and Air Force, whose officers and enlisted personnel constitute approximately 20 percent of the agency work force. The remainder are civilians who are permanently assigned and who reside in the Baltimore-Washington area.

- The 902<sup>nd</sup> Military Intelligence Group

The 902<sup>nd</sup> Military Intelligence Group, headquartered at Fort Meade, conducts multi-discipline counterintelligence operations in support of designated DoD, national, and strategic assets. Additionally, it provides vital counterintelligence support to special operations, treaty verifications, and technology security.

- 704 Military Intelligence Brigade

The 704<sup>th</sup> Military Intelligence Brigade is a major subordinate command of the Intelligence and Security Command, Fort Belvoir, Virginia. The brigade conducts mission operations on behalf of the Army and NSA.

- U.S. Army 1<sup>st</sup> Recruiting Brigade (1RBDE)

The 1RBDE mission is to recruit young men and women for the Army, Army Reserves, Officer Candidate School, Army Nurse Corps, and Warrant Officer Flight Training.

- U.S. Army Recruiting Battalion-Baltimore (BALRBN)

The BALRBN is responsible for Army recruiting activities in Maryland, Delaware (less the northern-most county), the District of Columbia, northern and central Virginia, and three counties in West Virginia.

- U.S. Army Intelligence Materiel Directorate

The Intelligence Materiel Directorate located at Fort Meade provides worldwide quick-reaction technical and logistical support to the U.S. Army Intelligence and Security community. The Intelligence Materiel Directorate is responsible for that portion of the worldwide Army Materiel Command mission pertaining to the quick-reaction development, modification, fabrication, procurement, provisioning, maintenance, and life cycle management of specialized nonstandard intelligence and security materiel, related processes, and techniques. Technical disciplines include electronics, photo-optics and security, equipment, and special fabrication.

- Defense Courier Service (DCS)

The DCS is a joint activity established by the Secretary of Defense in 1987; it is tasked with providing secure escort and delivery of national security material that requires courier handling. The headquarters, located on Fort Meade, coordinates the activities of three regional headquarters and 21 worldwide stations. DCS services its customers with approximately 300 permanently assigned Army, Navy, Air Force, and civilian personnel. DCS provides service to customers ranging from NSA and the White House to the Department of State and Space Command.

- Naval Security Group Activity

The primary mission of the Naval Security Group Activity, Fort Meade is to provide cryptologic and related Intelligence support to fleet, joint, and national commanders, as well as administrative and personnel support to all Department of the Navy members assigned to the Fort Meade area.

- U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM)  
Direct Support Activity-North

The mission of USACHPPM Direct Support Activity-North is to provide regionally focused, direct preventive medicine support to the Army and other government agencies beyond the Health Service Support Areas' capabilities and to facilitate support from USACHPPM.

- U.S. Army Field Band

The U.S. Army Field Band is the official musical representative of the Secretary of the Army. Its community relations mission is to perform concert tours across the country and around the world, under the operational control of the Army's Chief of Public Affairs.

- Northeast Regional Defense Commissary Agency

The Northeast Regional Defense Commissary Agency is responsible for the operation of 40 commissaries throughout the northeastern United States ranging from Quantico, Virginia to an overseas commissary in Keflavik, Iceland. The mission of the Region is to provide uncompensated benefit of groceries and household items for resale to active duty military, reservists, members of the National Guard, and retirees.

- 694<sup>th</sup> Intelligence Group

The 694<sup>th</sup> Intelligence Group at Fort Meade provides operational, technical, administrative, and resource management including representational support to the commander of the Air Intelligence Agency and other government elements in the Washington, D.C. area.

- 55<sup>th</sup> Signal Company

The primary mission of the 55<sup>th</sup> Signal Company is to maintain combat and operational documentation teams that have a tactical, mobile visual information capability for worldwide documentation including television, motion picture, audio, and still photography for military operations, and activities in support of the Office of

the Secretary of Defense, Organization of Joint Chiefs of Staff, Headquarters (HQ), Department of the Army (DOA), and major Army commanders. It also supports the Army, Army Reserve, and Army National Guard.

- U.S. Army Claims Service

The Claims Service investigates, processes, and settles non-contractual claims worldwide, against, and in favor of, the U.S. Army, in accordance with statutes, regulations, and claims for which the United States has waived its sovereign immunity by statute, regulations, and claims under reciprocal international agreements and other miscellaneous claims. The Claims Service also has responsibility for managing both the Army's affirmative claims program and its centralized carrier recovery program.

- Readiness Group

Readiness Group provides branch, functional, and special training assistance to all Army Reserve and Army National Guard units throughout Maryland, Delaware, and the District of Columbia.

- Major Procurement Fraud Unit (East)

The Major Procurement Fraud Unit (East), U.S. Army Criminal Investigation Unit (East), was established at Fort Meade in April 1991. Its mission is to enhance combat readiness, personnel safety, delivery of required goods and services and to recover Army funds or property through the prevention and investigation of major procurement fraud, waste, and abuse in Army programs within its geographic area of responsibility.

- Headquarters Company, Marine Support Battalion

Headquarters Company, formerly known as Company A, is the largest element within the Marine Support Battalion and is administratively responsible for all Marines assigned to Fort Meade, including those in support of the NSA, Defense Information School (DINFOS), and Headquarters, Marine Support Battalion.

- Non-Commissioned Officers Academy Detachment

The Signal Corps Detachment Regimental Non-Commissioned Officers Academy Detachment, provides resident Basic and Advanced Course training at Fort Meade for sergeants in Career Management Fields 25 (Visual Information) and 46 (Public Affairs) under the Non-Commissioned Officers Education System.

- U.S. Army Central Personnel Security Clearance Facility

U.S. Army Central Personnel Security Clearance Facility was established in October 1977 as the sole Army agency authorized to grant, revoke, or deny personnel security clearances for the Army, including Active Component, Army Reserve, Army National Guard, and civilian employees. U.S. Army Central Personnel Security Clearance Facility determines Sensitive Compartmented Information Access eligibility for the Army and affiliated contractor personnel, and makes security suitability recommendations relative to Army soldiers and civilians under consideration for designated special assignments requiring security clearances, including the White House.

- Defense Information School (DINFOS)

The DINFOS relocated to Fort Meade in the summer of 1995 from its previous home at Fort Benjamin Harrison, Indiana. It merged with the Defense Visual Information School in October 1995. The DINFOS mission is to provide training in the discipline of public affairs, visual information, and broadcast facility maintenance for selected officers, enlisted personnel, and limited number of personnel from other Federal agencies and foreign nations. DINFOS is a DoD school under the operational control of the American Forces Information Service.

## **1.5 SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)**

This EIS identifies, documents, and evaluates the potential environmental impacts of the No-Action Alternative, Proposed Action (Preferred Alternative), and Alternative A. The existing conditions at Fort Meade (including the current activities identified in the No-Action Alternative) constitute the baseline for the analysis of effects. A team of environmental scientists, economists, ecologists, and engineers analyzed the effects associated with each alternative on the following resources and issues:

- Air Quality
- Water Quality
- Aquatic Resources and Wetlands
- Vegetation
- Wildlife Resources
- Threatened and Endangered Species
- Prime and Unique Farmlands
- Wild and Scenic Rivers
- Cultural Resources
- Hazardous, Toxic, and Radioactive Substances
- Infrastructure
- Socioeconomics
- Environmental Justice
- Cumulative Impacts

The effects of the Proposed Action on socioeconomic conditions were assessed using a simulation of the Economic Impact Forecast System (EIFS) developed by the U.S. Army Construction Engineering Research Laboratory (CERL). EIFS provides comparable results for all BRAC and similar actions.

## **1.6 ORGANIZATION OF THE EIS**

This EIS is organized into nine sections and ten appendices. Chapter 1 contains an introduction, the purpose of and need for the action, the location of the Proposed Action, and the scope and organization of the document. Chapter 2 presents the alternatives; describes the No-Action

Alternative, Proposed Action (Preferred Alternative), and Alternative A; addresses alternatives eliminated from detailed study; and introduces mitigation and compliance measures. Chapter 3 describes the affected environment. Chapter 4 analyzes the environmental consequences of the No-Action Alternative, Proposed Action, and Alternative A. Chapter 5 presents conclusions and recommendations derived from the review of environmental consequences, and provides a tabular summary of impacts by resource. Chapter 6 lists persons and agencies consulted, and the mailing distribution list. Chapter 7 provides a list of the preparers. Chapter 8 provides the distribution list. Chapter 9 provides the reader with an index to the document.

Appendices cover EIS documentation and information. Appendix A presents interagency and intergovernmental environmental coordination efforts. Appendix B lists source documents and references relevant to the preparation of the EIS. Appendix C presents public scoping meeting minutes and related materials. Appendix D contains minutes from the public meeting. Appendix E provides a list of plant and animal species found on Fort Meade. Appendix F provides information on air emissions, methodologies, and assumptions. Appendix G provides additional traffic analysis results. Appendix H presents the socioeconomic data used in the analysis. Appendix I provides background information on noise and noise measurement methods. Appendix J presents a listing of acronyms and abbreviations (and their meanings) used in the document.

## **2.0 ALTERNATIVES CONSIDERED**

An environmental assessment (EA) prepared in April 1999, *Future Development and Operations Environmental Assessment, Fort George G. Meade, Maryland*, determined that potentially significant adverse impacts to traffic and air quality could result from the proposed future development and operations at Fort Meade. Pursuant to NEPA, this EIS was undertaken to evaluate, in detail, the environmental and socioeconomic effects of future development and operations at the installation, specifically planned new construction and associated demolition activities. These activities are part of the installation's current master planning strategies, and follow Fort Meade's vision for the orderly operation, management, and development of real property assets, including land facilities, environmental resources, and infrastructure. The alternatives considered include the Proposed Action, the No-Action Alternative, and all other reasonable alternatives. The full range of alternatives was considered at various times in the NEPA process, resulting in the systematic elimination from further analysis of alternatives that do not meet the purpose of and need for the action, as determined by specific criteria (see Section 2.4 for a description of this process). The only remaining reasonable alternative for additional analysis in this EIS is the one most likely to reduce expected adverse impacts to traffic and air quality (by reducing the number of new personnel), Alternative A.

### **2.1 NO-ACTION ALTERNATIVE**

Analysis of the No-Action Alternative is prescribed by the regulations of the Council on Environmental Quality and serves as the benchmark against which the environmental and socioeconomic effects of the Proposed Action and other reasonable alternatives can be evaluated. In this EIS, the benchmark is the baseline of existing conditions (based on best available information), defined for this purpose as the normal daily operations at Fort Meade and adjacent areas as of 1999. Fort Meade baseline population figures (1999) are shown in Table 2-1. If the No-Action Alternative were selected, adequate facilities to house and support the tenant organizations planned for Fort Meade in 2005 would not be available. Relocation of certain tenants, such as MEPS, which implements BRAC mandates, could not be effectively



accomplished. Implementation of Fort Meade's mission as a Federal administrative center would be hindered.

Table 2-1. 1999 Fort Meade Population

<b>NO ACTION</b>	<b>On-Post (Daily)</b>	<b>Off-Post (On-Post Periodically)</b>	<b>Total</b>
Military Assigned	8,877	*	8,877
Dependents	6,034	1,448	7,482
Civilians/Volunteers	32,834		32,834
Retirees**		53,810	53,810
Family (Retirees)**		107,620	107,620
<b>TOTAL</b>	<b>47,745</b>	<b>162,878</b>	<b>210,623</b>
*Note: Live off-post but commute daily to military duty on-post (2083 included with "On-Post numbers.")			
**Note: Live within a 50-mile radius.			

## 2.2 PROPOSED ACTION (PREFERRED ALTERNATIVE)

The Proposed Action includes development and operations expected to occur on the installation between 2000 and 2005 as part of plans to further Fort Meade's new mission as an administrative center, particularly the construction of new administration buildings. Routine and special maintenance programs are also necessary components of the of the Proposed Action. Pursuant to Army Regulations (AR 415-15 1998b, Section K-36 of the Facilities Reduction Program), demolition of equivalent square footage is associated with new construction under the Proposed Action. For instance, one of the projects involves relocating personnel from WWII temporary wooden buildings into new administration space. These temporary military structures would likely be demolished. Several other projects would entail demolishing existing, deficient facilities and replacing them with new, upgraded administrative or support space.

To provide the specificity needed for reasonable predictions of environmental consequences, as well as effects on applicable operations and maintenance procedures, 11 projects were identified by the Fort Meade Master Planner for consideration within the Proposed Action as being representative of the expected buildout by 2005 (Galiber 1999). To address the uncertainties involved in the continuing, rapid development of Fort Meade as an administrative center, four Bold Venture projects have been incorporated in the Proposed Action. These Bold Venture

projects represent the installation's best projection of future development based on development trends at Fort Meade over the last 3 to 4 years. Inclusion of these projects is the most effective means of addressing likely cumulative effects at Fort Meade. The exact locations and configurations of these projects may differ when implemented, but the expected range of variation is incorporated in the analysis of environmental consequences.

The 11 projects are described in terms of their projected (1) extent and distribution of construction footprints, (2) increase in personnel post wide, and (3) implementation procedures for each activity. Project details are presented in Table 2-2. Fort Meade planners estimate that approximately 912 individuals would be added to the post's working population under the Proposed Action. The population increases that would be expected as the result of implementing the Proposed Action area shown in Table 2-3. The projects would account for 500,960 square feet (SF) of additional administrative and support facilities, costing more than 87 million dollars over six years. Below is a brief definition of each of the 11 projects scheduled for construction as a result of this Proposed Action (in order of planned construction).

- **Military Entrance Processing Station (MEPS)** – Construct a 31,200-SF MEPS facility.
- **Personnel Barracks Replacement, Phase I** – Construct a new 110,483-SF enlisted personnel barracks, including a 15,516-SF soldier community building; demolish equivalent square footage.
- **Personnel Barracks Replacement, Phase II** – Same as above.
- **Dining Facility** – Construct a 24,500-SF, 1,300-person dining facility. This action would include demolition of equivalent square footage.
- **Company Headquarters** – Construct two standard-design, 8,300-SF company operation facilities. The action would demolish equivalent square footage.

- **Battalion Operations** – Construct a standard-design, 12,160-SF medium operations facility. This action would demolish equivalent square footage.
- **Bold Venture I** – Construct a 34,000-SF administrative facility with general-purpose administrative space, reception, and orientation areas.
- **Bold Venture II** – Construct an 80,000-SF administration building for new occupants relocating to Fort Meade.
- **Bold Venture III** – Construct a 34,000-SF administration building for new occupants relocating to Fort Meade.
- **Bold Venture IV** – Construct a 10,000-SF administration building for new occupants relocating to Fort Meade.
- **1RBDE, Army Medical Detachment 1<sup>st</sup> Brigade, and Baltimore Recruiting Battalion** – Construct a 33,309-SF administration office building to replace offices in WWII wooden structures that would likely be demolished.

Table 2-2. Projects Used to Define the Proposed Action.

Year	Title	Scope Magnitude	Cost (\$000)	Additional Personnel	Construction Start Date†	Construction Completion Date
2000	Military Entrance Processing Station (MEPS)	31,179-SF	4,100	50	10/00	10/01
2000	Personnel Barracks Replacement, Phase I	110,483-SF*	20,600	0	10/00	5/02
2002	Personnel Barracks Replacement, Phase II	110,483-SF*	20,600	0	4/02	4/04
2002	Dining Facility	30,225-SF*	6,300	0	4/02	4/04
2002	Company Headquarters	8,316-SF*	1,400	0	4/02	4/04
2002	Battalion Operations	12,160-SF*	1,500	0	4/02	4/04
2002	Bold Venture I	34,000-SF	4,600	210	4/02	4/03
2003	Bold Venture II	80,000-SF	16,500	380	4/03	4/04
2003	Bold Venture III	34,000-SF	4,600	210	4/03	4/04
2004	Bold Venture IV	10,000-SF	1,400	62	4/04	4/05
2004	1RBDE, Army Medical Detachment 1st Brigade, and Baltimore Recruiting Battalion	40,114-SF*	6,200	0	4/04	4/05

\* Replacement facility; demolition of existing facilities and/or WWII wooden buildings likely.  
† All projects have estimated construction start/end dates; dependent upon EIS completion.

Table 2-3. 1999 Fort Meade Population Projected Under the Proposed Action

<b>PROPOSED ACTION</b>	<b>On-Post (Daily)</b>	<b>Off-Post (On-Post Periodically)</b>	<b>Total</b>
Military Assigned	8,877	*	8,877
Dependents	6,034	1,448	7,482
Civilians/Volunteers	32,834		32,834
Retirees <sup>1</sup>		53,810	53,810
Family (Retirees) <sup>1</sup>		107,620	107,620
<b>Sub-Total</b>			
Additional Personnel Under Proposed Action	912	382 <sup>2</sup>	1,294
<b>TOTAL</b>	<b>48,657</b>	<b>163,261</b>	<b>211,918</b>
*Note: Those that live off-post but commute daily to military duty on-post (2083 included with "On-Post numbers.")			
<sup>1</sup> Note: Living within a 50-mile radius.			
<sup>2</sup> Note: Dependents of potential employees only (number of potential employees included with "On-Post" counts).			

Figure 2-1 presents a timeline showing the approximate duration of construction activities for each of the 11 projects included in the Proposed Action. Figures 2-2a and 2-2b show the approximate locations of the 11 project areas at Fort Meade per information received from the Environmental Management Office (Gebhardt 1999).

### 2.3 ALTERNATIVE A

The following section (Section 2.4) describes other alternatives to the Proposed Action that were considered throughout the planning and environmental consideration process; this section describes the only practicable alternative, Alternative A. Alternative A still meets Fort Meade's immediate need to provide administrative and support facilities, but takes the more conservative approach of pursuing future development at Fort Meade on a reduced scale. Alternative A consists of constructing nine of the 11 projects, excluding Bold Ventures III and IV. The Bold Ventures III and IV projects are the least likely to occur (but still highly likely) of those included in the Proposed Action; their elimination reduces the number of additional personnel by 272, or 30 percent of the 912 additional personnel included in the Proposed Action. As compared to the Proposed Action, the nine projects under Alternative A would account for 456,960 SF of additional facilities, costing approximately 82 million dollars over six years. A breakdown of the

Task Name	2000		2001				2002				2003				2004				2005		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
<b>Military Entrance Processing Station (MEPS)</b>		█	█	█	█																
<b>Personnel Barracks Replacement, Phase I</b>		█	█	█	█	█															
<b>Personnel Barracks Replacement, Phase II</b>							█	█	█	█	█	█	█	█							
<b>Dining Facility</b>							█	█	█	█	█	█	█	█							
<b>Company Headquarters</b>							█	█	█	█	█	█	█	█							
<b>Battalion Operations</b>							█	█	█	█	█	█	█	█							
<b>Bold Venture I</b>							█	█	█	█											
<b>Bold Venture II</b>												█	█	█							
<b>Bold Venture III</b>												█	█	█							
<b>Bold Venture IV</b>																█	█	█	█		
<b>1RBDE</b>																█	█	█	█		

Figure 2-1. Construction and renovation activities planned for Fort Meade, MD through calendar year 2005

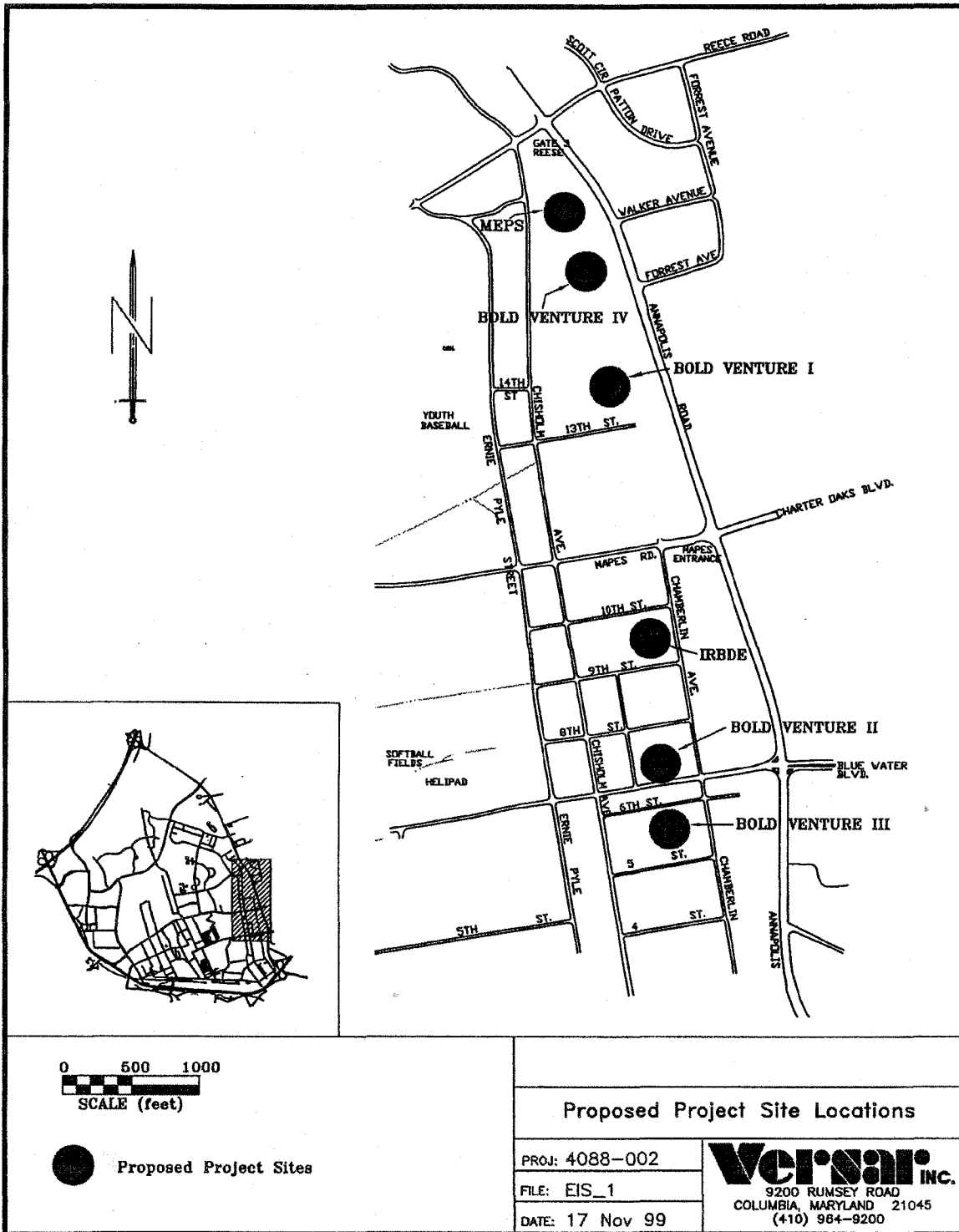


Figure 2-2a. Locations of projects considered under the Proposed Action. Map 2a shows approximate locations of MEPS, 1RBDE, and Bold Ventures I, II, III, and IV in the eastern portion of Fort Meade along MD Route 175.

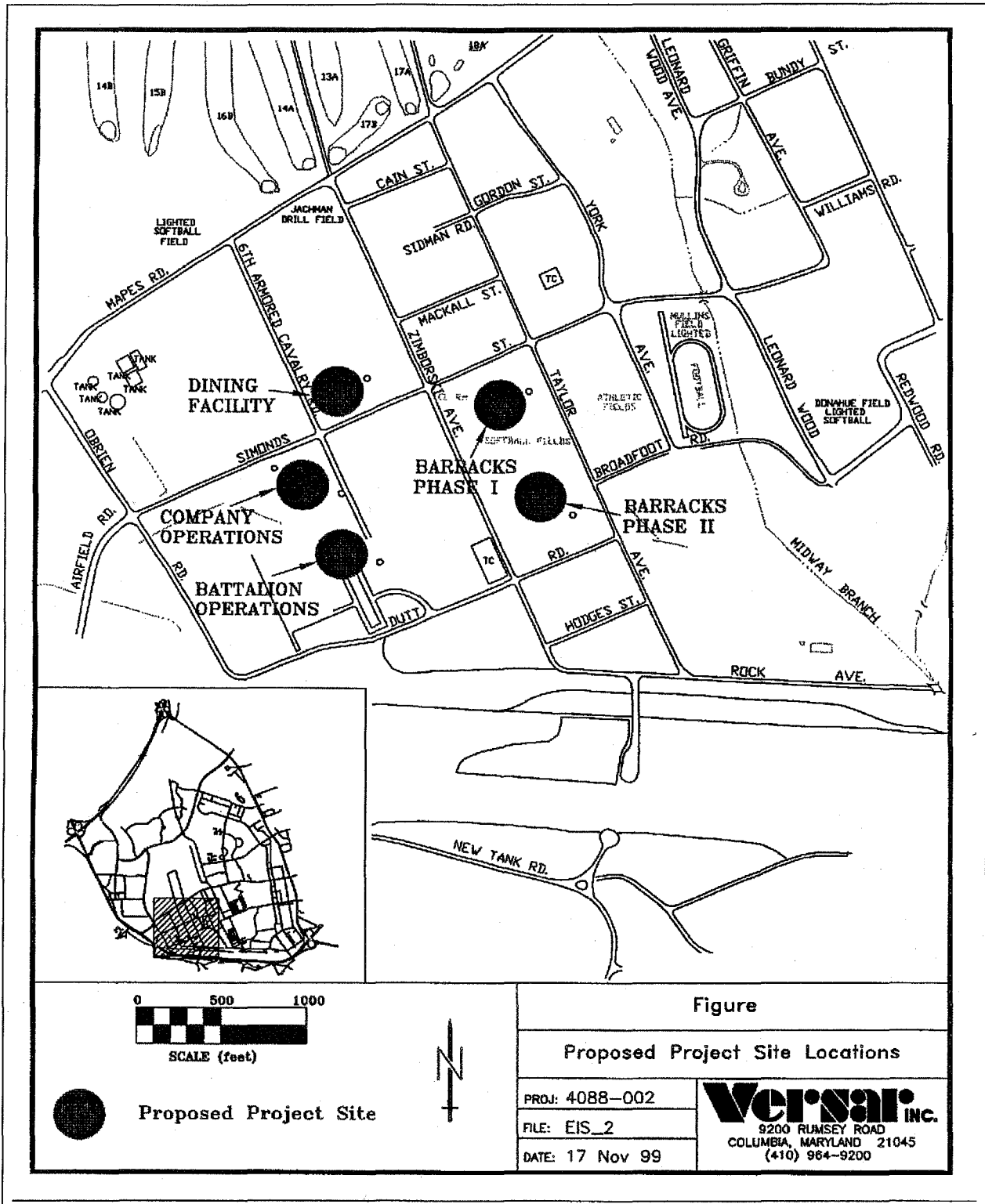


Figure 2-2b. Locations of projects considered under the Proposed Action. Map 2b shows approximate locations of Personnel Barracks (Phase I and II), Dining Facility, Battalion Operations, and Company Operations.

personnel increases expected under Alternative A is shown in Table 2-4. Based on the analysis done in the April 1999 EA, the addition of new personnel to the installation is the change most likely to result in adverse impacts to traffic and air quality. Traffic and air quality are the two resources identified as most likely to be significantly impacted by future development and operations at Fort Meade. Creating an alternative by reducing the number of personnel added to the post provides decisionmakers with the most useful alternative, because it affords them an effective means to balance mission needs and potential impacts on traffic and air quality.

Table 2-4. 1999 Fort Meade Population Projected Under Alternative A

<b>ALTERNATIVE A</b>	<b>On-Post (Daily)</b>	<b>Off-Post (On-Post Periodically)</b>	<b>Total</b>
Military Assigned	8,877	*	8,877
Dependents	6,034	1,448	7,482
Civilians/Volunteers	32,834		32,834
Retirees <sup>1</sup>		53,810	53,810
Family (Retirees) <sup>1</sup>		107,620	107,620
<b>Sub-Total</b>			
Additional Under Alternative A	640	268 <sup>2</sup>	908
<b>TOTAL</b>	<b>48,385</b>	<b>163,146</b>	<b>211,531</b>
*Note: Those that live off-post but commute daily to military duty on-post (2083 included with "On-Post numbers.")			
<sup>1</sup> Note: Living within a 50-mile radius.			
<sup>2</sup> Note: Dependents of potential employees only (employees included with "On-Post" numbers).			

## 2.4 OTHER ALTERNATIVES CONSIDERED

The purpose of and need for the action is to construct and operate new administrative and support buildings on post as part of Fort Meade's mission as a federal administrative center, through its comprehensive master planning strategy. The full range of alternatives was considered relative to this purpose and need throughout Fort Meade's planning process, beginning prior to publication of the 1999 EA and continuing into EIS preparation. In addition, public comment on potential alternatives was solicited during the April 2000 EIS public workshop for consideration in the EIS.



To determine the reasonableness of these alternatives, each was compared to three criteria essential to the implementation of Fort Meade's master planning strategy:

- Force protection and security (protection of assigned personnel in a secure facility that provides freedom of operation and safeguards against terrorism)
- Synergy of location and efficiency of operations (location of facilities in close proximity to provide for efficient activities and to create opportunities for interactions that better support the mission)
- Economic viability (cost-effectiveness as determined by economic analysis that maximizes benefits to costs based on present and long-term values)

Alternatives for constructing administrative and support facilities on Fort Meade must meet each of these criteria to effectively remedy identified deficiencies (i.e., lack of facilities) that affect accomplishing the installation's mission as a federal administrative center. The Fort Meade master planning strategy uses these criteria to screen alternatives and plan for the orderly operation, management, and development of real property assets, including land facilities, environmental resources, and infrastructure. This master planning strategy has developed as Fort Meade has evolved and is the product of technical, economic, and environmental considerations. For example, the strategy requires that the use of existing facilities and the renovation of existing facilities be considered before new construction is undertaken.

The range of alternatives considered was grouped into the following four approaches to providing administrative and support facilities:

- Using existing facilities in their present condition,
- Renovating existing facilities,
- Leasing off-post facilities, and
- Selecting alternative project sites.

These four types of alternatives were evaluated for reasonableness using the three screening criteria (force protection, synergy of location, and economic viability) as described in the sections below. A summary of the results is provided in Table 2-5.

Table 2-5. Evaluation of Alternatives for Their Ability to Meet the Purpose of and Need for the Action

Alternative	Screening Criteria for Reasonableness		
	Force Protection	Synergy of Location	Economic Viability
Proposed Action (Constructing 11 Projects)	Meets force protection and security needs by keeping personnel on post in secure location.  Fort Meade land use designations incorporate the need for force protection and provide adequate sites for the proposed projects.	Meets synergy of location needs by keeping personnel next to housing, dining, training, and operations.  Fort Meade land use designations incorporate the need for synergy of location and provide adequate sites for the proposed projects.	Economically viable.  Meets need for administrative and support facilities at minimum cost.
Alternative A (Constructing 9 Projects)	Meets force protection and security needs by keeping personnel on post in secure location.  Fort Meade land use designations incorporate the need for force protection and provide adequate sites for the proposed projects.	Meets synergy of location needs by keeping personnel next to housing, dining, training, and operations.  Fort Meade land use designations incorporate the need for synergy of location and provide adequate sites for the proposed projects.	Economically viable.  Meets need for administrative and support facilities at minimum cost.
Using existing facilities in their present condition	Meets force protection and security needs, but no appropriate facilities are available.  All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.	Meets synergy of location needs, but no appropriate facilities available.  All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.	Economically viable, but no appropriate facilities available.  All existing structures adequate for the action are optimally utilized. Other existing structures are WWII wooden buildings that do not meet modern office or safety standards.

Table 2-5. (Continued)

Alternative	Screening Criteria for Reasonableness		
	Force Protection	Synergy of Location	Economic Viability
Renovating existing facilities	<p>Meets force protection and security needs, but no appropriate facilities are available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>	<p>Meets synergy of location needs, but no appropriate facilities are available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>	<p>Economically viable, but no facilities available for renovation.</p> <p>Pershing Hall, Snowden Hall, and Meade Hall are scheduled for full occupancy. Existing WWII wooden structures cannot be renovated to meet modern office or safety standards.</p>
Leasing off-post facilities	<p>Leasing off-post does not meet force protection and security needs.</p> <p>Personnel would not be housed in secure location.</p>	<p>Leasing off-post does not meet synergy of location needs.</p> <p>Personnel would not be housed next to dining, training, and operations.</p>	<p>Locating personnel off post would not be economically viable, because higher basic allowance and quarter costs and transportation costs would be incurred.</p> <p>Locating administrative facilities off post would not be economically viable. Costs would continue to be incurred beyond the 10 years needed to recoup new construction for all administrative facilities.</p>
Selecting alternative project sites	<p>Meets force protection and security needs, but no alternative sites exist for the five support facilities outside or within the Fort Meade land use designations needed to ensure force protection.</p>	<p>Locating projects in different areas of the installation would not meet synergy of location needs.</p> <p>No alternative sites exist outside or within the Fort Meade land use designations that would keep personnel next to housing, dining, training, and operations, and keep administrative facilities close to major roadway access.</p>	<p>Economically viable.</p> <p>Meets need for administrative and support facilities at minimum cost.</p>

#### 2.4.1 Using Existing Facilities in Their Present Condition

As prescribed by the Fort Meade master planning strategy, the use of existing facilities (in their present condition) must be considered before new construction is undertaken. Currently, there are no existing facilities available for occupation to meet the purpose of and need for the action.

All facilities presently in condition to support the needs for development at Fort Meade are expected to continue to be occupied in the foreseeable future to support the installation's mission.

The only unoccupied, existing facilities on Fort Meade are WWII wooden structures that are not appropriate to meet the needs of the tenants. Specifically, these WWII wooden structures are functionally obsolete and scheduled for demolition. Many of the wooden structures are not up to modern safety and health standards, containing lead-based paint and asbestos. Most are not energy efficient, have substandard electrical wiring, and are generally considered fire hazards. As a result, the use of these WWII wooden structures is not feasible and is not addressed in detail in the EIS.

Using the screening criteria for reasonableness, Fort Meade concluded that there are no appropriate existing facilities that could be used in their present condition to house any of the proposed new administrative and support activities, and their accompanying personnel.

#### **2.4.2 Renovating Existing Facilities**

As prescribed by the Fort Meade master planning strategy, the renovation of existing facilities (not currently in suitable condition) must also be considered before new construction is undertaken. Currently, there are no existing facilities available for renovation to meet the purpose of and need for the action. All facilities suitable for renovation to support the needs for development at Fort Meade are expected to continue to be occupied in the foreseeable future to support the installation's mission.

As part of this analysis, Fort Meade identified three suitable permanent buildings on post with 8,316 SF or more (the minimum square footage requirement for the projects considered), as possible renovation sites for new tenants: Pershing Hall, Snowden Hall, and Meade Hall. Each is scheduled for full occupation to meet the needs of Fort Meade's mission. Pershing Hall is already being renovated for full occupancy by elements of the Information Systems Software Center, namely the Executive Software Systems Directorate (ESSD) and the Software Development Center-Washington (SDC-W) that were moved from Fairfax, VA. The two remaining candidate

structures, Snowden Hall and Meade Hall, are also currently occupied at full capacity (Ginter 1999b). Snowden Hall has a total of 51,712 SF (including three floors and basement) and houses the Defense Commissary Agency and the Judge Advocate General. Meade Hall has approximately 74,590 SF. All available space in Meade Hall is occupied by several tenant organizations (including the DoD Field Research Office), some having just recently relocated to this building (Ginter 1999a).

The only other facilities on Fort Meade available for renovation are WWII wooden structures that are functionally obsolete and scheduled for demolition. Many of the wooden structures are not up to modern safety and health standards, containing lead-based paint and asbestos. Most are not energy efficient, have substandard electrical wiring, and are generally considered fire hazards. Fort Meade has determined that renovating old WWII structures is not economically viable; the cost of new construction would be less than that of renovation. In addition, Fort Meade requires that equivalent square footage of such structures be demolished with each new construction project (Army Regulation 415-15, 1998b, Section K-36 of the Facilities Reduction Program). As a result, renovating existing facilities to support the proposed projects is not feasible and will not be analyzed further in this EIS.

### **2.4.3 Leasing Off-Post Facilities**

Using the screening criteria for reasonableness, Fort Meade concluded that there are no existing facilities that could be renovated to house any of the proposed new administrative and support activities, and their accompanying personnel.

Once it has been determined that neither the use of existing facilities nor the renovation of existing facilities are reasonable alternatives for meeting the purpose of and need for the action, the master planning strategy provides for considering the leasing of off-post facilities. The reasonableness of leasing off-post facilities to meet the purpose of and need for the action depends on all three screening criteria: force protection, synergy of location, and economic viability.

Locating the two Personnel Barracks Replacement projects, Phase I and Phase II, on Fort Meade is required for force protection and security reasons. The boundaries of Fort Meade provide the only reasonable protection from terrorism and disruption of operations for assigned personnel. Construction of the barracks on Fort Meade also meets the need for synergy of location and efficiency of operations by co-locating personnel housing with dining, training, and operations activities. Off-post leasing would not meet this criterion. Specifically, the travel distance from an off-post location would inhibit mission efficiency and reduce the dynamic synergy that the on-post-training experience affords new recruits. Construction of barracks in a separate location would also entail substantial transportation costs.

Construction of the Dining Facility, Company Headquarters, and Battalion Operations on Fort Meade would likewise meet the force protection and synergy of location criteria. Considering the integrated role of the Company Headquarters, Battalion Headquarters, and Dining Hall in day-to-day military activities, relegating these structures to off-post locations would inhibit access and hinder operations at these vital service and activity centers. Co-locating these facilities with the Personnel Barracks and other necessary Army activities is the only way to meet the purpose of and need for the action. Locating the MEPS and 1RBDE on Fort Meade would also accomplish benefits in operations efficiency and personnel movement.

Fort Meade evaluated the economic viability of leasing the MEPS, 1RBDE, and Bold Ventures I through IV off post. Three different economic situations were evaluated: (1) the MEPS provides an example of a current facility lease, (2) units of 1RBDE are currently located in WWII temporary wooden structures facing imminent systems failure and are being considered for emergency off-post leasing, and (3) the Bold Ventures I through IV are administrative facilities similar to the MEPS that do not yet have identified tenants. Fort Meade analysis of the economic costs and benefits of each of these situations indicates that off-post leasing is not cost effective.

The MEPS is presently located at a leased facility in Baltimore, MD, where the General Services Administration charges Fort Meade \$756,000 per year for this space. This cost escalates annually approximately three percent. Economic analysis by Fort Meade planners (MEPS 1391 project report, February 4, 1999) indicates the net present value of the off-post lease exceeds new

construction by \$10.8 million (i.e., off-post leasing is approximately twice as costly as new construction on Fort Meade). The costs and benefits of both options were analyzed over a 27-year period and annual costs were discounted at a 6.1 percent rate. The least cost sensitivity analysis showed no change in ranking the options; a change in the discount rate of plus or minus 25 percent likewise did not change the ranking. The new construction option for the MEPS would have a \$4.5 million initial investment, a savings-to-investment ratio of 3.97, and a discounted payback period of 6.1 years. Therefore, Fort Meade estimates that the costs of constructing a new MEPS facility on post could be recouped in 5 to 7 years, making this the preferred option.

Units of 1RBDE are currently located in WWII temporary wooden structures. According to Fort Meade Directorate of Public Works (DPW) master planners in a memorandum dated 7 May 1998, imminent systems failure in currently occupied buildings, such as 1RBDE, has forced consideration of emergency off-post leasing arrangements for these units. Cost per SF would be approximately \$20 for 27,000 SF of net office space. An additional 5,800 SF of warehouse space (plus utilities and janitorial contracts) would elevate costs to twelve times what is now paid in installation facilities-related reimburseables. It is projected that off-post leasing would cost six times as much as constructing and maintaining a new building over the life of the structure. This estimated jump in expenses from more than \$50,000 to \$700,000 would precipitate a funding crisis for the supporting military agencies. Fort Meade concluded that new construction on post would better meet the need to accommodate the units of the 1RBDE.

The remaining projects, Bold Ventures I, II, III, and IV, do not yet have identified tenants and, therefore, do not have formal cost-benefit economic analyses. Cost analyses based on the MEPS example, indicate that off-post leasing for new administrative facilities is more costly than new construction on Fort Meade. Bold Ventures I and III are essentially the same size and cost of construction as the MEPS and, therefore, would have similar initial investments (\$4.6 million), savings-to-investment ratios (4.0), and discounted payback periods (6 years). New construction on Fort Meade would be the preferred economic option for these projects. Bold Venture II is 2.5 times larger than the MEPS, while Bold Venture IV is 0.31 times as large. Bold Venture IV has the same size to cost-of-construction ratio and would likely have the same economic benefits

over off-post leasing, making new construction on Fort Meade the preferred option. Bold Venture III is more expensive per SF, but new construction would still realize substantial economic benefits over off-post leasing (likely recouping construction costs in 10 years).

As demonstrated above, off-post leasing of the Personnel Barracks Replacement projects, Phase I and Phase II, Dining Facility, Company Headquarters, and Battalion Operations is not a reasonable alternative based on failing to meet the screening criteria for force protection and synergy of location. While benefits to these criteria would be provided by on-post construction of the MEPS and 1RBDE, these projects also fail to meet the economic viability criterion. Similarly, the Bold Ventures I through IV fail to meet the economic viability criterion, being substantially more costly using off-post leasing. For these reasons, Fort Meade concluded that off-post leasing of any of the projects considered does not meet the purpose of and need for the action.

#### **2.4.4 Selecting Alternative Project Sites**

The alternatives analyses described above concluded that only construction on Fort Meade meets the screening criteria of force protection, synergy of location, and economic viability for each proposed project. The remaining approach to meeting the purpose of and need for the action is selecting alternative project sites within installation boundaries. The Fort Meade master planning strategy uses the designation of land use zones to accomplish the orderly operation, management, and development of real property assets, including land facilities, environmental resources, and infrastructure. These land use zones have evolved as Fort Meade has changed and represent the product of technical, economic, and environmental considerations.

Historically, Fort Meade developed housing, recreational, administrative, and industrial facilities throughout the installation. As the post mission changed (principally from troop cantonment to administrative support), additional development was more carefully planned and designations restricting areas to certain land uses (e.g., industrial rather than residential) were made to eliminate incompatible activities. Today, Fort Meade defines 11 land use categories that allow for specific types of development (Figure 2-3). Fort Meade's land use plan is designed to assist installation personnel with siting new facilities. It incorporates established land use planning and



zoning principles that address environmental as well as economic and operations concerns. The arrangement of these land use zones formed the basis for considering alternative sites to meet the purpose of and need for the action.

The 11 projects included in the Proposed Action include six administrative facilities (MEPS, 1RBDE, and Bold Ventures I, II, III, and IV) and five support facilities (Personnel Barracks Phase I and II, Dining Facility, Company Headquarters, and Battalion Operations). Three sub-criteria were used to screen the siting of these projects to meet the purpose of and need for the action: (1) location in appropriate land use zone, (2) access to administrative facilities via major roadways, and (3) co-location of barracks and support facilities. A discussion of applying these screening sub-criteria is presented below first for the administrative facilities and then for the support facilities.

Under the installation land use plan, eight areas on Fort Meade are designated for administrative/academic training. Six of the projects that require new construction would be considered administrative. According to current land use maps, Areas 1B, 1E, 1F, and 1H contain existing buildings and do not have sufficient space available for new administrative structures.

Alternative sites open for new construction are limited to areas 1C, 1D, and 1G. Following a separate NEPA analysis (USACE 1997), Area 1C was designated as the site for construction of the new U.S. Army Reserve Center (USARC). Area 1D is wooded with no existing structures, but is being examined as a possible site for expansion of the adjacent U.S. Army Reserve Equipment Concentration Site (ECS) facility (Ginter 1999a). As a result, only 1G is currently a viable area for new administrative construction projects under the Proposed Action.

Area 1G is located along MD 175. This major roadway has several intersections with Fort Meade roads and would provide easy access for personnel commuting to Fort Meade. It is expected that most of the personnel employed at the MEPS, 1RBDE, and Bold Ventures I through IV would be living off post. Locating the six administrative facilities in Area 1G would eliminate unnecessary through traffic on the installation and prevent additional traffic congestion.

As shown on Figure 2-3, Area 1G is divided into three sub-areas:

- Northern Administrative Area,
- Central Administrative Area,
- Southern Administrative Area.

A development plan has been prepared that designates the size and number of structures that can be constructed in each sub-area. For example, structures planned for in the Northern Administrative Area are intended to be no more than 60,000 gross SF. The Central Administrative Area is reserved for administrative/classroom facilities that contain between 60,000 to 90,000 gross SF. The Southern Administration Area is reserved for administration or academic buildings that would blend with the industrial buildings to the south. Structures in this area should be larger than 90,000 gross SF. These development constraints can only be met by the arrangement of the six projects within Area 1G as designated in the Proposed Action. The specific location of each project within their sub-areas can vary without affecting the mission benefits or the assessment of potential environmental impacts.

The five projects planned as support facilities would involve demolition and reconstruction of existing structures. Battalion Operations, Company Headquarters, and the new Dining Facility would be demolished and reconstructed in locations within the Troop Housing area . The construction of the new personnel barracks under the Proposed Action is also constrained to this specific area in the current land use plan. Although the proposed location is currently an open, grassed recreational site containing two ball fields, the new land use plan for Fort Meade (Galiber 2000) designates this area as "Troop Housing," as such it would be available to accommodate the planned barracks structures (Figure 2-3). No other area designated for this purpose on post has open space available to accommodate the phased demolition and construction needs of the extensive 110,000-SF-barrack structures.

Co-location of these five support facilities would provide for synergy of location and efficiency of operations. Locating any one of the projects elsewhere on Fort Meade (either within a Troop

Housing area or in another land use designation) would inhibit mission efficiency by separating personnel housing, dining, training, or operations activities.

Based on the three screening sub-criteria (especially the current arrangement of land use areas), the construction sites selected under the Proposed Action are the only suitable locations for these projects (see Figures 2-2a, 2b, and 2-3). Land use areas other than administrative and troop housing are not appropriate for the proposed projects. The open areas designated on Figure 2-3 are also incompatible. The linear open area along Rockenbach Road is a force protection set back, while the open area south of MD 32 is separated from the main installation and located in a floodplain.

There is some flexibility of site placement for the administrative projects within the designated 1G zone. As discussed earlier, variation in the location and construction of projects is incorporated in the definition of the Proposed Action and would not measurably change the environmental consequences. These general site locations were evaluated in the 1999 EA (Fort Meade 1999a) and no significant impacts to environmental or socioeconomic were found. The issues driving the need for this EIS revolve around cumulative impacts to traffic and air quality, not the specific location of projects within sub-areas.

Based on this analysis, Fort Meade concluded that the proposed arrangement of project sites is the only reasonable alternative to meet the purpose of and need for the action.

#### **2.4.5 Summary of Analyses of Other Alternatives**

As described above, no other reasonable alternatives were identified using the three screening criteria (force protection, synergy of location, and economic viability) under the four approaches of (1) using existing facilities in their present condition, (2) renovating existing facilities, (3) leasing off-post facilities, and (4) selecting alternative project sites. The summary results of applying these screening criteria for reasonableness are shown in Table 2-5.

Beginning in 1995, the analysis of these alternative approaches has figured in the installation planning, project development, and environmental considerations conducted by Fort Meade. Specific analyses to address each approach were conducted at various stages of the planning

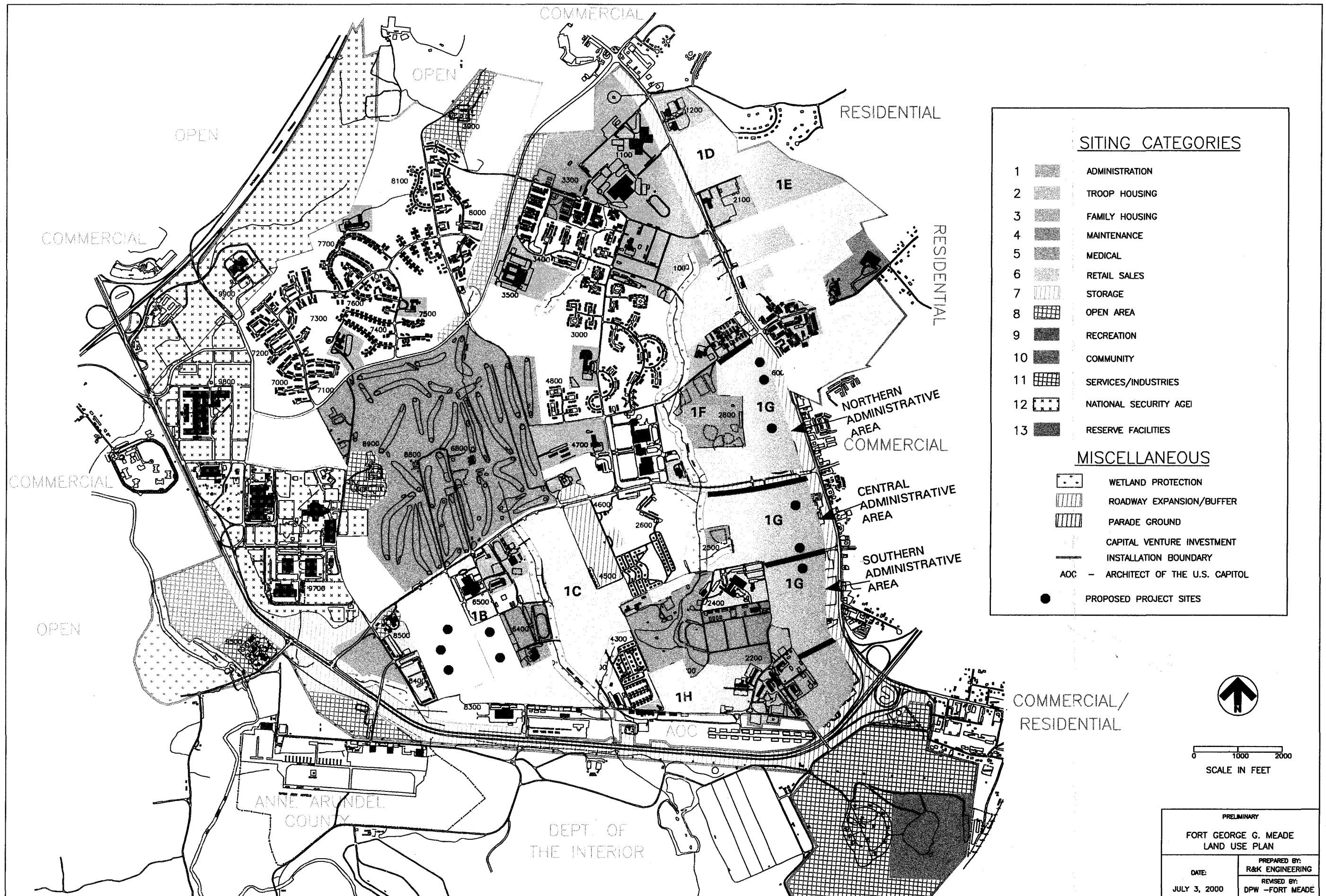


Figure 2-3. Fort Meade Land Use Plan showing postwide arrangement of designated areas by land use categories. Black dots indicate approximate locations of projects considered under the Proposed Action. Map adapted from USACE (1997).

process. To ensure that no other reasonable alternatives were overlooked, suggestions for additional alternatives were solicited in the EIS public workshop. No additional alternatives were identified. Based on these analyses over the last five years, Fort Meade decided to eliminate these approaches from further detailed study in the EIS and to focus additional analysis on the Proposed Action, No-Action Alternative, and Alternative A.

## **2.5 COMPLIANCE AND MITIGATION**

The Proposed Action will comply with all applicable regulations. Construction permits will be obtained for soil and erosion control, floodplain effects, and stormwater discharge during construction. Wetlands and cultural resources will be avoided. Mitigation and best management practices of potential adverse effects on each resource is discussed in more detail in the Environmental Consequences analysis contained in Section 4.

## **2.6 OTHER PLANNED ACTIVITIES**

The following section describes other on-going or planned activities in and around Fort Meade that may contribute to the cumulative impact of the Proposed Action.

### **2.6.1 On-Post**

On-post Federal projects not contained within the Proposed Action or Alternative Action but may contribute to cumulative impacts are described below and summarized in Table 2-6. These projects have been or are in the process of being evaluated in separate NEPA analyses by Fort Meade or their respective Federal agencies.

- ESSD and SDC-W – centrally located offices housed within Pershing Hall. Renovations and alterations to Pershing Hall have been completed.
- Defense Security Services (DSS) – formerly Defense Investigating Service, Investigations Control and Automated Directorate. Located in the northern administrative area, currently under construction. This facility is scheduled for completion by December 2000.

- New Remote Storage Facility for the Library of Congress – located on non-DoD property contiguous to the southern “industrial” area of Fort Meade. The facility will comprise administrative offices, a loading dock, and warehouse units (as needed). Completion is planned by May 2001.
- Criminal Investigations Directorate (CIDC)– an administrative facility; construction began in July 2000.
- Family Travel Camp – this recreational area will include overnight cabins, RV camp sites, tent sites, equipment rental, and parking areas. Project is scheduled to be completed by September 2001.
- USARC – located along Route 175, includes a 2-story training building, 1-story maintenance shop, and a storage warehouse. Construction to is scheduled to begin during the spring of 2003.

Table 2-6. Additional On-going Federal Projects Considered Under the Fort Meade Future Development and Operations EIS to Assess Cumulative Impacts.

Year	Title	NEPA	Scope Magnitude	Cost (\$000)	Additional Personnel	Construction Start Date	Construction Completion Date
1998	ESSD & SDC-W	Yes <sup>1</sup>	88,425 SF	9,700	290	11/98	5/00
1999	DSS	Yes <sup>1</sup>	75,654 SF	11,800	382	4/99	12/00
1999	Remote Storage Facility for the Library of Congress	Yes <sup>1</sup>	24,00 SF	5,000	6	11/99	5/01
2000	CIDC	Yes <sup>2</sup>	6,363 SF	1,300	0	7/00	4/01
2000	Family Travel Camp	Yes <sup>2</sup>	9,480 SF	7,176	0	01/01	9/01
2003	USARC	Yes <sup>2</sup>	53,433	17,842	0	4/03	10/04

<sup>1</sup> Completed.  
<sup>2</sup> In draft.

### 2.6.2 Regional

The following sections list regionally planned activities within the area surrounding Fort Meade according to Anne Arundel County Planners (Sanner 1998, 1999; Miller 1999; and Pfluger 1999) and an Anne Arundel County Planner/Demographer (Speer 1999). The commercial and

industrial developments listed in section 2.6.2.2 are major approved and ongoing (i.e., “Active”) projects.

### **2.6.2.1 Residential**

- Seven Oaks (“Active” planned unit development)
- Piney Orchard (“Active” planned unit development)
- Russett (planned unit development)
- Chapel Grove (planned unit development)
- Dorchester Housing Development (planned unit development)
- Senior Citizen Housing Development (planned senior housing project)
- Village at Waugh Chapel (planned unit development by County Planning Area)

### **2.6.2.2 Commercial and Industrial**

- **Odenton Small Planning Area**

Mayfield Industrial Park (various projects planned)

Mayfield Industrial Park Section 2 (3 lots/units planned)

Arundel Crossing East/West (warehouse facility, various projects planned)

Arundel Crossing East (9 lots/units planned)

Academy Crossing (has an “Active” status)

Piney Orchard (various commercial projects planned)

Nevarmar Corporation (has an “Active” status)

Exxon Corporation (1 lot/unit planned)

Nellis Corporation (2 lot/units planned)

Amerada Hess Corporation (has an “Active” status)

Ascherl Property (1 lot/unit planned)

Williams Property/Storage U.S.A. (has an “Active” status)

Odenton Self Storage (has an “Active” status)

- **Jessup/Maryland City Small Planning Area**

The National Business Park (various projects planned)

Corridor Marketplace (5 lots/units planned)

- **Severn Small Planning Area (Commercial/Industrial Activity)**

Dorchester (786 lots/units planned [some residential])

Quarterfield Business Park (11 lots/units planned)

Metro at Quarterfield (has an "Active" status)

Arundel Mills (mall complex, 10 lots/units planned).

## **2.7 FOCUS OF THE ENVIRONMENTAL ANALYSIS**

Analysis conducted for the 1999 EA (Fort Meade 1999a) indicated that the potential effects of the Proposed Action would likely be greatest on air quality and infrastructure (specifically traffic). For both traffic and air quality, the potential cumulative effects (in combination with other on-post and regional activities) are likely even greater. Some minor (but likely insignificant) impacts were predicted to occur in the resource areas of water quality, noise, and socioeconomics. Given these results, the focus of the analysis in this EIS is on refining and quantifying potential impacts associated with increases in personnel resulting from the Proposed Action, especially in combination with other activities affecting traffic and air quality in and around Fort Meade. Potential impacts to other resources are addressed to the extent needed to ensure that no significant impacts would occur.

## **2.8 PREFERRED ALTERNATIVE**

Fort Meade's preferred alternative is the Proposed Action. Fort Meade believes that the Proposed Action would best fulfill Fort Meade's mission as a Federal administrative center, given all technical, economic, and environmental factors.



## **3.0 AFFECTED ENVIRONMENT**

### **3.1 PROJECT AREA DESCRIPTION**

#### **3.1.1 Installation History**

Fort Meade, originally named Camp Meade for Major General George Gordan Meade, was authorized by Congress in 1917 as a training cantonment during World War I (WWI). During WWI more than 100,000 troops passed through Camp Meade. A second cantonment area was added to the site in 1918. In 1928, Camp Meade was made a permanent installation and given the name Fort Leonard Wood, which was changed back a year later, after much protest from Pennsylvania residents, to Fort George G. Meade. About 2,200 troops were assigned to Fort Meade during the 1930s (Goodwin et al. 1994).

By 1940, the installation had 251 permanent brick buildings and 218 wooden temporary buildings. In the same year, however, Fort Meade began an extensive build-out of facilities in response to the New Selective Service and Training Act of 1940. Originally 9,349 acres in size, the installation was expanded to 13,691 acres to accommodate the additional training activities. As a result of the build-out, Fort Meade became the fourth largest community in Maryland.

Fort Meade continued its training mission until 1988 when, under BRAC I, the 8,100-acre range and training area south of MD Route 32 was transferred to the Department of the Interior for the creation of the Patuxent National Research Refuge (PNRR). Another 366 acres comprising Tipton Airfield was transferred to Anne Arundel County Government in 1999. Reduced to approximately 5,500 acres, the remaining installation acreage is being developed for military and tenant uses. Currently, there are approximately 78 tenant organizations at Fort Meade, including elements of the DINFOS, 902<sup>nd</sup> Military Intelligence Group, 694<sup>th</sup> Intelligence Wing, Naval Security Group Activity, and the NSA, Fort Meade's largest tenant (Galiber 2000).

### **3.1.2 Land Use**

#### **3.1.2.1 Geographic Setting and Location**

Fort Meade is situated in Anne Arundel County, almost equi-distant from Baltimore, Maryland, and Washington, D.C. The Anne Arundel County Seat is approximately 14 miles southeast of the installation in Annapolis, Maryland. The southeastern part of Howard County extends to within 2 miles of Fort Meade. Figure 3-1 depicts Fort Meade within this regional context.

Fort Meade is bounded by the Baltimore-Washington Parkway to the northwest, as well as the AMTRAK line, MD Route 175, and MD Route 32 to the south. The Little Patuxent River runs along a part of the southwest corner of the facility. Two of its tributaries, Midway Branch and Franklin Branch, flow south through the installation. Fort Meade is located in the Chesapeake Bay watershed.

Fort Meade is surrounded to the north, west, and east by residential areas of low-medium density (2 to 5 dwellings per acre), medium density (5 to 10 dwellings per acre), and high density (10 or more dwellings per acre); commercial centers; and a mix of industrial uses. Areas along transportation corridors such as MD Routes 198, 32, and 175 are moderately developed. Much of this development is associated with the Fort Meade installation (Anne Arundel County 1997).

The undeveloped area south of Fort Meade, previously used for military training and transferred to the USFWS, is currently used as a wildlife refuge and is zoned by Anne Arundel County as governmental/institutional (Anne Arundel County 1997).

#### **3.1.2.2 Existing On-Post Land Use**

Figure 3-2 depicts the various existing land use areas on post. The map shows Fort Meade's unique development pattern, the result of its varying mission and uneven growth early in the installation's history. The installation's land use map identifies 14 use categories on Fort Meade, each defined by the type of activities or facilities occurring within Fort Meade's borders.

Administration, open space, recreation, and housing are the most common land uses on the installation.

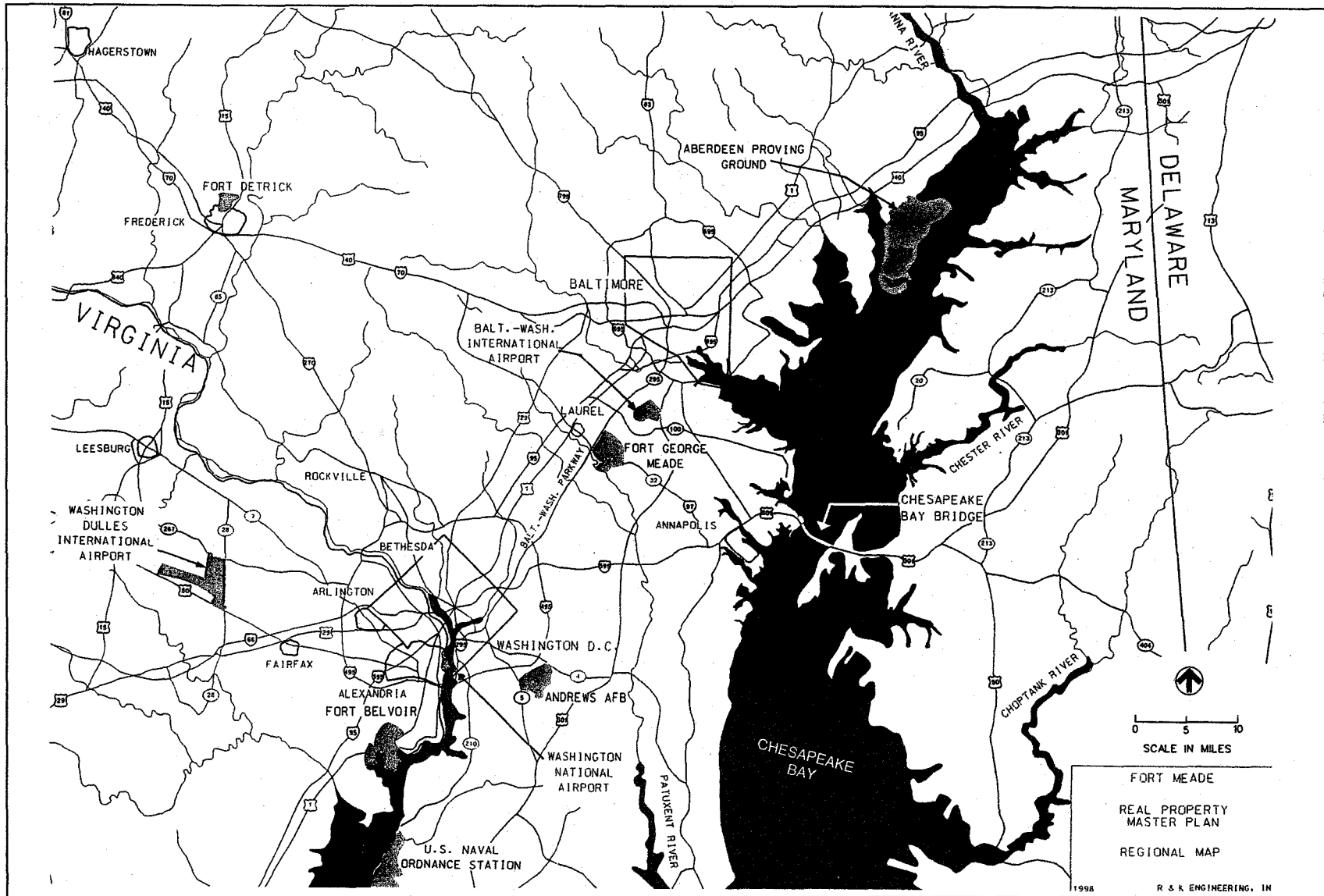
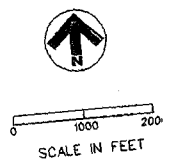


Figure 3-1. Map showing Fort Meade within a regional context



PRELIMINARY FORT MEADE LAND USE MAP	
DATE: 1998	PREPARED BY: R&K ENG

Figure 3-2. Fort Meade map showing proposed project sites relative to existing land use (Source: Fort Meade Real Property Master Plan Long Range Component August 1998)

As shown on the map, administration land use is currently distributed throughout the installation. Post Headquarters and the Intelligence Security Command are examples of some of the facilities, contained within the current administrative land use areas on post.

Administrative areas are generally considered compatible with adjacent areas. The most intensively developed administrative land use area is located in the southeast cantonment area just west of MD Route 175. The area contains administrative facilities for many tenant organizations and is the designated site for five of the administrative construction projects considered under this EIS.

Troop housing land use consists of areas including barracks for unaccompanied enlisted and office personnel, family housing, and miscellaneous housing for support activities.

Maintenance land use areas shown on the maps indicate vehicle maintenance only. Maintenance compounds are not located near housing areas. Service (utilities) land use areas are scattered throughout and include the water treatment plant for the post, water well area, water storage tanks, and the central heating plant.

Open space contains primarily grasses with few or no trees. Some of the spaces are formal, such as the parade field, but most are informal, such as the area around Burba Lake. Much of the open space shown on the map includes areas that have not yet been developed or were previously developed areas with structures that have since been razed.

Industrial functions are scattered throughout the installation. Over time, the many industrial functions have been consolidated along the Rock Avenue corridor (Fort Meade 1998a).

A special use area along the western border houses NSA. Although NSA operates independently of the Fort Meade headquarter command, the post provides infrastructure and other support to this special use area.

Of the 11 projects considered under the Proposed Action, eight would be newly constructed on what is currently considered open space, recreational, or existing administration areas. The

remaining three, the Dining Facility, Company Headquarters, and Battalion Operations, would be constructed in troop support areas (see Figure 3-2).

### **3.1.2.3 Future On-Post Land Use Plan**

With the creation of a future on-post land use plan, Fort Meade planners have consolidated many of these areas into related use areas and have provided a more cohesive pattern for future development. As previously discussed in Section 2.4.1, the Fort Meade Land Use Plan Map (Galiber 2000) shown in Figure 2-3 is designed to assist installation planners with siting new facilities. The Plan Map allows for specific development in various areas of the post, identifying 13 siting categories and 3 restrictive land use types. The siting categories are:

- (1) Administrative and academic training,
- (2) Troop housing,
- (3) Family housing,
- (4) Maintenance,
- (5) Medical,
- (6) Retail sales,
- (7) Supply and storage,
- (8) Open space,
- (9) Recreation,
- (10) Community facilities,
- (11) Services/Industries,
- (12) National Security Agency (NSA) lands, and
- (13) Reserve facilities.

Within the Planned use map, administration and academic training, family housing, community facilities, and outdoor recreation are the four most widely distributed and common land uses on the post. According to this future land use plan, all proposed project sites fall within appropriate land use designations.

### **3.1.2.4 Regional Land Use and Zoning**

#### Anne Arundel County

Anne Arundel County is located in a central position among (1) the metropolitan growth corridors of Baltimore and Washington, (2) Annapolis, (3) the suburban fringe and rural areas of the Eastern Shore, and (4) southern Maryland. This area is diverse in both its natural environment and land development patterns.

Anne Arundel County, though influenced by its central location, has its own character and has developed its own economy. The county contains 447 linear miles of tidal shoreline. Major tributaries of the Chesapeake Bay penetrate 8 to 10 miles inland. "In 1990 nearly two-thirds of the population lived within two miles of tidal waters. This water orientation reinforces the traditional image of Anne Arundel County as a boating mecca with commercial and recreational fishing, maritime industries, and water sports" (Anne Arundel County 1997). Annapolis, located in eastern Anne Arundel County, was established in 1649, and has been the capital of Maryland since 1694. The U.S. Naval Academy is located in Annapolis.

According to a 1995 inventory of land use in Anne Arundel County, 50 percent of the County's land area is developed. Non-residential development (including commercial, government, institutional use, and roadways) accounts for 17 percent of the developed land.

Land classified as non-developed (including natural open space, vacant, and agricultural land) makes up the remaining area in the northern part of the county around Baltimore Washington International (BWI) Airport, Marley Neck, and Odenton. Commercial activities are concentrated along MD Route 2 and MD Route 3 in the Glen Burnie, Annapolis, and Parole areas, with some occurring in Odenton, Severna Park, Crofton, and Maryland City.

Agriculture is still a major component of the economic base in Anne Arundel County, occupying an estimated 43,320 acres, or 16 percent of Anne Arundel County land. Farming operations range from crop farms and livestock to timber production and horse breeding. Predominant crops are tobacco, corn, soybeans, hay, and flowering plants. The overall total acres in crop

production has declined steadily since 1959, decreasing more than 47 percent by 1992 from 81,700 to 43,300 acres (Anne Arundel County 1997).

According to Anne Arundel County Planners (Sanner 1998, 1999, Miller 1999, and Pfluger 1999) and an Anne Arundel County Planner/Demographer (Speer 1999), major approved and ongoing (i.e., "Active") residential subdivision activity in designated "Small Planning Areas" in the vicinity of Fort Meade include the following:

**Odenton Small Planning Area (Residential Subdivision Activity) -**

- Seven Oaks (current) located north of Route 32, south of Reece Road (Route 174) and east of Route 175 between Mapes Road (which becomes Charter Oaks Boulevard off post) and Llewellyn Avenue (which becomes Bluewater Boulevard off post) is a 550-acre mixed density, planned unit development (PUD). The Seven Oaks development currently consists of at least 4,767 dwelling units comprised of 390 single family units, 877 single family attached units, and 3,500 multi-family/apartment units. The Seven Oaks community shopping center on Bluewater Boulevard has over 130,000 square feet of retail space, and a large supermarket.
- Piney Orchard (current) located southeast of the intersection of Routes 32 and 175, is a PUD with at least 3,966 dwelling units and a small shopping center with a Food Lion supermarket. The development currently consists of 60 single family units, 767 single family attached townhouse units, and 3,139 multi-family/apartment units.
- Chapel Grove (planned) located within the Piney Orchard development area is a PUD with 430 units planned: 270 single family homes and 160 townhouses. If approved, construction would begin within the next year.

**Jessup/Maryland City Small Planning Area (Residential Subdivision Activity) -**

- Russett (current) located west of the Baltimore-Washington Parkway (I-295) and north of Laurel-Fort Meade Road (Route 198) is a PUD with at least 3,500



dwelling units. This development consists of 700 single family units, 1,525 single family attached units, and 1,275 multi-family/apartment units.

**Severn Small Planning Area (Residential Subdivision Activity) -**

- Dorchester Housing Development (planned) located east of the Baltimore-Washington Parkway (I-295), south of Route 100, and north of Clark Road is a PUD of 784 units (June 19, 1999) consisting of single family units and single family attached townhouse units. Final plans have been submitted for review.

Areas near Fort Meade meeting the eligibility requirements of the State of Maryland's Neighborhood Business Development Program are proposed for revitalization by Anne Arundel County. The commercial redevelopment areas include these seven areas as well as other areas that should be targeted for State and County revitalization efforts. Some of these development efforts will most likely occur over the next 6 years, concurrent with Fort Meade's planned "build out."

The Commercial Redevelopment Areas near Fort Meade include: Odenton Growth Management Area, Parole Growth Management Area, Brooklyn Park Corridor, Mayo Road Corridor, Deale/Churchton Business Corridor, Shadyside Business Area, Veteran's Highway Business Area, Wayson's Corner Business Area, Severna Park Business Area, Riviera Beach Business Area, and Mountain Road Business Area.

According to Anne Arundel County Planners (Sanner 1998, 1999, Miller 1999, and Pfluger 1999) and an Anne Arundel County Planner/Demographer (Speer 1999), major approved and ongoing (i.e., "Active") Commercial and Industrial developments in the vicinity of Fort Meade include the following:

**Odenton Small Planning Area (Commercial/Industrial Activity) –**

- Mayfield Industrial Park has various projects planned.
- Mayfield Industrial Park Section 2 has 3 lots/units planned.
- Arundel Crossing East/West has various projects planned.

- Arundel Crossing East has 9 lots/units planned.
- Academy Crossing has an “Active” status.
- Piney Orchard has various projects planned.
- The Village at Waugh Chapel has 358 lots/units (some residential) planned.
- Nevamar Corporation has an “Active” status.
- Exxon Corporation has 1 lot/unit planned.
- Nellis Corporation has 2 lot/units planned.
- Amerada Hess Corporation has an “Active” status.
- Ascherl Property has 1 lot/unit planned.
- Williams Property/Storage U.S.A. has an “Active” status.
- Odenton Self Storage has an “Active” status.

**Jessup/Maryland City Small Planning Area (Commercial/Industrial Activity) –**

- The National Business Park has various projects planned.
- Corridor Marketplace has 5 lots/units planned.

**Severn Small Planning Area (Commercial/Industrial Activity) –**

- Dorchester has 786 lots/units planned (some residential).
- Quarterfield Business Park has 11 lots/units planned.
- Metro at Quarterfield has an “Active” status.
- Arundel Mills has 10 lots/units planned.

Of particular interest, within the context of the EIS, is the planned development in the Odenton area. Odenton Town Center and the surrounding Odenton Growth Management Area (GMA) extends southeast of Fort Meade and includes the North Odenton Business Corridor along MD Route 175, from MD Route 32 to Reece Road. The Odenton Town Center and GMA are designated for commercial revitalization, mixed use, and higher density planned development (Anne Arundel County 1995). *The 1994 Odenton Town Center Plan* includes Fort Meade’s

Transitional Zone (along Route 175) as an employment growth area within the Odenton GMA. Directly north of the installation, at MD Route 175 and the Baltimore-Washington Parkway, is a zone designated for future development as office and retail with high-density residential under the new "community mixed-use" category (Anne Arundel County 1995).

A prime example of the type of commercial development planned for this area is the Arundel Mills Mall, located two miles west of the Baltimore/Washington International Airport (BWI), and approximately two miles north of Fort Meade. The Mills Corporation has already begun construction of this massive complex. The Arundel Mills Mall is planned as a 1.3 million SF retail and entertainment facility on 130 acres. When completed, the mall will provide employment for approximately 3,000 people with approximately 3,000 additional jobs becoming available as a result of new commercial development around the mall.

Between 1990 and 2010 Odenton has been, and is projected to remain, the nucleus of Anne Arundel County's most rapidly growing residential area (Anne Arundel County 1995). Over the next 25 years, 55,000 new households are projected for Anne Arundel County.

#### Howard County

Howard County is located along the northwestern border of Anne Arundel County and extends to within two miles of Fort Meade. Similar to Anne Arundel County, Howard County is nestled between the large metropolitan growth areas of Baltimore and Washington, D.C. This location has fostered the development of large residential communities. Foremost among these is Columbia, Maryland. One of the most successful planned communities in the United States, Columbia has, within 20 years, changed the eastern part of Howard County from a major agricultural area to a residential and commercial center.

Columbia, Maryland, an unincorporated, planned community in the New Town (NT) Zoning District, was created in 1965 with an initial area of 13,690 acres. Since 1965, an additional 446 acres have been added, bringing the total to 14,136 acres. Columbia accommodates a variety of land uses, including: approximately 295,000 dwellings, 4,000 acres of land committed to parkland and open space, and 18.3 million square feet of office, light industrial, and research and development space. Shopping Centers, schools, libraries, medical, and recreational facilities are

also included (Howard County 1999b). One of the most successful planned communities in the United States, Columbia has changed the eastern part of Howard County from a major agricultural area to a residential and commercial center. The western areas of Howard County remain largely rural and agricultural, although residential development is continuing in these areas.

The total land area for Howard County is 160,640 acres. As of July 1, 1997 approximately 112,277 acres (69.89 percent) were recorded as "Developed/Committed" in the Department of Planning and Zoning (DPZ) Database. The Developed/Committed land use category included: Rural, Low, Medium, and High Density; Mixed Use; New Town; Planned Golf Course Community; and "Other Zones" (non-residential zonings). Committed land may not be developed. This category includes the land in preservation programs, parkland, and open space.

Unbuilt residential lots comprise 6,205 acres (3.86 percent) of Howard County's total land area. In the process of being developed are 4,721 acres (2.94 percent). Only 37,437 acres (23.3 percent) acres remain undeveloped. The majority of undeveloped land, 25,354 acres, is zoned for Rural Density (RR-DEO and RC-DEO). There are 3,774 acres in the Low Density residential zoning category (R-20, R-ED) and 2,303 acres in the Mixed Use category (Howard County 1999).

Howard County is committed to preserving farmland and promoting the County's agricultural industry. State and County farmland preservation programs have permanently preserved 17,549 acres (approximately 44 percent of Howard County's farmland) through Agricultural Land Preservation easements.

Although 28 percent of the County's land is not yet developed, the pattern of development is essentially set. The remaining 48,600 acres of undeveloped land, as currently zoned, will potentially yield 22,000 additional units. This residential capacity could change with modifications in land use policies in some areas, but most future residential development will occur as "infill" that conforms to the existing adjacent land use.

Howard County may continue to receive significant residential growth from surrounding jurisdictions, such as Fort Meade. The portion of the county that is most affected by changes at

Fort Meade is the southeast. This area, sandwiched between Interstate 95 and the Anne Arundel County border, is zoned for industrial development, in order to offer area employment opportunities (1990 General Plan Land Use Map). According to Howard County planning personnel, however, the County will seek to attract commercial rather than industrial enterprises to this area (Dowd 1998).

### **3.1.3 Geology**

Fort Meade is in the Atlantic Coastal Plain Physiographic Province. It is underlain by a wedge-shaped mass of unconsolidated sediments that thickens to the southeast. The unconsolidated sediments overlie crystalline rock of Precambrian to early Cambrian age. The crystalline bedrock underlying Fort Meade consists of gabbro, diorite, and other igneous and metamorphic rocks. The surface of these rocks dips to the southeast and acts as a lower confining layer for the Potomac Group. The premise that the crystalline basement rock acts as a confining layer is based on the low conductivity of similar crystalline rocks in the Maryland Piedmont (USACE 1997).

The series of thick, unconsolidated sediments underlying Anne Arundel County are subdivided (from oldest to youngest) into the Potomac Group, Magothy Formation, and Patuxent River terraces and associated alluvium. The Potomac Group contains five geological units, three of which underlie Fort Meade: the Arundel Clay, the Patuxent Aquifer, and the Lower Patapsco Aquifer. The Arundel Clay is a unit with low vertical hydraulic conductivity and is the confining layer between the Patuxent and Lower Patapsco aquifers. It is visible in northern Anne Arundel County and consists of red, brown, and gray clay with some ironstone nodules and plant remains (USACE 1997).

Above the Lower Patapsco Aquifer is an unnamed confining layer composed of tough variegated clay that separates it from the Upper Patapsco Aquifer. Alluvium underlies all of the rivers, streams, and marshes of Fort Meade and consists of interbedded sand, silt, and clay with small gravel inclusions (USACE 1997).

### 3.1.4 Soils

The *Fort George G. Meade Soil Survey* (USDA 1995) identifies 39 distinct soil mapping units on Fort Meade. Most of the soil is part of the Evesboro complex. Evesboro soil is a very deep, excessively-drained, sandy loam soil on uplands. None of the soils on Fort Meade are used for agricultural purposes and there are no farmsteads contiguous with installation areas.

Modified soil areas mapped within Fort Meade include loamy and clayey land, urban land, cut and fill areas, and gravel and borrow pit operations. Loamy and clayey land consists of mantles of various kinds of soil that overlie clay deposits, but which are unrelated to the underlying subsoil. Urban land comprises those areas in the vicinity of pavement and buildings. Cut and fill land consists of severely disturbed areas of miscellaneous soil types that have been altered by earth-moving equipment. Gravel and borrow pit areas define land where soil material has been removed for construction, landfill, or mining operations. Such areas have been altered so severely that their association with a soil series is impossible to determine (USDA 1995).

Figure 3-3 shows the location of the proposed project sites and distribution of soil types at Fort Meade. Table 3-1 identifies the soil units found at the new construction sites and characterizes them by slope, prime agricultural soils designation, highly erodible lands (K-factor), and construction limitations. Although some site grading may be necessary, none of the soils or slopes found in the project areas under consideration preclude construction.

The K-factor refers to the susceptibility of the soil to water erosion. A high K-factor indicates greater susceptibility. Highly erodible soil is defined in the Anne Arundel County Code as:

- Soil with a slope of more than 15 percent, or
- Soil with a K value of more than 0.35 and with a slope of more than 5 percent.

Development limitations on Fort Meade are defined primarily by slope and areas of wetness caused by seasonal high water. Soil having 'severe' limitations to construction is generally unfavorable for constructing commercial buildings. Soil having 'moderate' building limitations exhibits few constraints, whereas soil having 'slight' building limitations has little or no

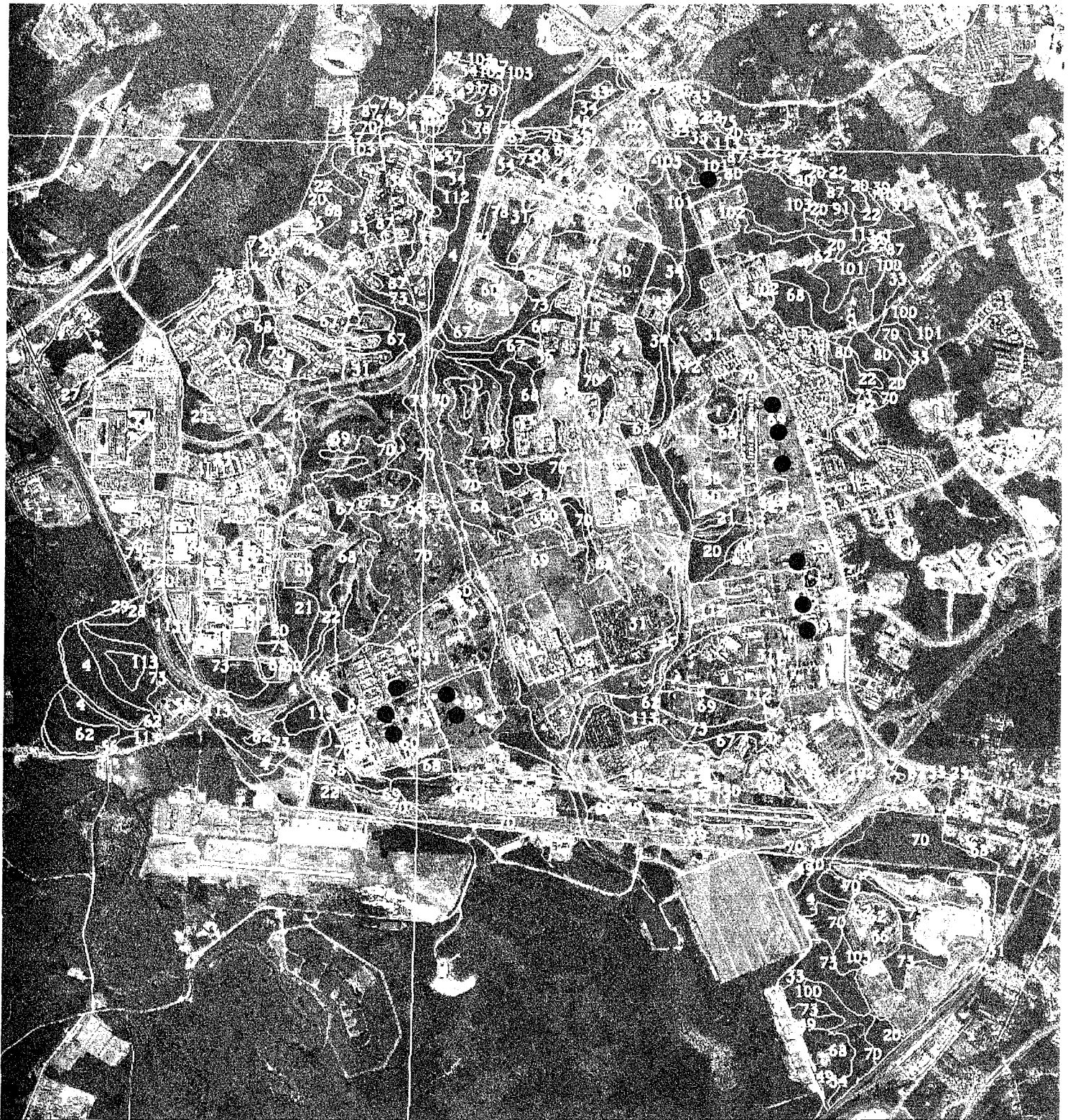


Figure 3-3. Soil survey map of Fort Meade showing distribution of various soil types relative to proposed project sites (black dots). See Table 3-1 for map symbol key to relevant soil types.

development constraints (USDA 1995). In all cases, sites should be evaluated individually to determine the extent of development limitations specific to that location.

Table 3-1. Soil Types and Their Characteristics Found at the Proposed Project Sites

Site	Soil Predominant Type	Map Symbol	Range of Slope	Erodibility (K factor)	Construction Limitation	Prime Farm-land
MEPS	Evesboro-Urban	69	0 to 5%	0.20	Slight or variable (urban)	N
Personnel Barracks, Phase I & II	Evesboro-Urban	69	0 to 5%	0.20	Moderate (slope)	N
Dining Facility	Evesboro-Urban	31	5 to 15%	0.20	Moderate (slope)	N
Company Headquarters	Evesboro-Urban	31	5 to 15%	0.20	Moderate (slope)	N
Battalion Operations	Evesboro-Urban	31	5 to 15%	0.20	Moderate (slope)	N
IRBDE	Evesboro-Urban	31	5 to 15%	0.20	Moderate (slope)	N
Bold Venture I	Evesboro-Urban	69	5 to 15%	0.20	Moderate (slope)	N
Bold Venture II	Evesboro-Loamy sand	70	0 to 5%	0.20	Slight	N
Bold Venture III	Urban Land	60	5 to 15%	0.20	Moderate (slope)	N
Bold Venture IV	Evesboro-Urban	69	0 to 5%	0.20	Moderate (slope)	N

### 3.1.5 Topography and Drainage

The topography of Fort Meade can be best characterized as almost level to gently rolling. The installation has approximately 210 feet of topographic relief. The highest point reaches 307 feet mean sea level (msl) and occurs at the 1<sup>st</sup> Army Radio Station Tower in the northern-most central part of the installation. The lowest elevation, approximately 97 feet msl, occurs in the southwestern corner of Fort Meade, along the Little Patuxent River (USACE 1997). Average elevation on the post is typically between 140-180 feet msl (Fort Meade 1998a).

Most of the installation slopes gradually to the south and southwest. Slopes exceeding ten percent are rare and occur primarily in pockets in the north-central and central parts of the installation and along stream corridors. These steep slopes usually occur in natural wooded areas, and are ideally suited as vegetated buffer zones for more developed areas. The southern half of Fort Meade contains gradual slopes, generally less than six percent (USACE 1997). The majority of the land at Fort Meade is suitable for building. The approximate range of slopes at the new construction sites are listed in Table 3-1.



### **3.1.6 Climate**

Fort Meade is located in the continental climate zone of the eastern United States, where general atmospheric flow is from west to east. This climate regime is characterized by summers that are long, warm, and often humid as a result of persisting maritime tropical air; however, frequent air mass exchanges result from the influence of either maritime tropical air or continental polar air. Temperate weather prevails in the spring and autumn.

The annual mean temperature at Fort Meade is 61° Fahrenheit (F), with an average daily maximum of 72 °F and minimum of 45 °F. Annual temperature extremes range from -6 °F to 100 °F (U.S. Army Toxic and Hazardous Materials Agency, USATHAMA 1989). Precipitation averages 41 inches annually, including 22 inches of snow. Rainfall occurs throughout the year, but the greatest amounts occur in the summer (peaking in August) as a result of strong thunderstorms. The region has moderate to high humidity levels throughout the year. Prevailing winds are generally from the west throughout the year, except in September, when prevailing winds are from the south. The windiest period is late winter and early spring. The annual average wind speed is 9.3 mph (Gale Research Company 1985).

## **3.2 AIR QUALITY**

Fort Meade is located in Anne Arundel County, which is part of the Maryland Department of the Environment (MDE) Air Quality Control Area III, the Metropolitan Baltimore Intrastate Air Quality Control Region. This region comprises Anne Arundel, Baltimore, Carroll, Harford, and Howard counties, and Baltimore City.

The State of Maryland had adopted ambient air quality standards and emission regulations for the following pollutants:

- Particulate matter with diameter of 10 microns or less (PM-10),
- Carbon monoxide (CO),
- Sulfur dioxide (SO<sub>2</sub>),
- Nitrogen dioxide (NO<sub>2</sub>),
- Lead (Pb),

- Ozone (O<sub>3</sub>), and
- Fluorides.

MDE has developed plans, which have been submitted to the EPA, for attaining standards in those areas where ambient air quality monitoring indicates nonattainment of specific standards (e.g., ozone).

Existing ambient air quality monitoring data can be used to describe the air quality in the Fort Meade area. The air quality data reported from the monitoring stations at, and closest to, Fort Meade indicate that the air quality meets National and Maryland Ambient Air Quality Standards for all monitored pollutants except ozone. As part of the Baltimore Area Air Quality Control Region, Anne Arundel County is designated as a severe nonattainment area for ozone (40 CFR 81.321). Ozone concentration data for the Baltimore metropolitan region were reviewed to determine the frequency of exceedances of the 1-hr ozone standard over the past three years. For 1997, 1998, and 1999, the ozone standard was exceeded on 12, 6, and 11 days, respectively (MARAMA 1999). At the MDE's Fort Meade air quality monitoring station in particular, the ozone standard was exceeded on 8, 1, and 2 days, respectively, over the 3-year period.

Emissions of criteria air pollutants for registered sources at Fort Meade are summarized in Table 3-2. Criteria pollutants are those pollutants for which an ambient air quality standard has been established. Ozone is not directly emitted from sources, such as those listed in Table 3-2 and, therefore, is not included. Ozone is formed indirectly from other air pollutants, particularly nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs), that are "cooked" by sunlight under stagnant, hot weather conditions.

Table 3-2. Summary of Annual Criteria Pollutant Emissions by Source (tons per year)<sup>(a)</sup>

Source	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM-10	TSP <sup>(b)</sup>
Boilers	0.46	20.9	4.8	9.1	1.7	2.1
Fuel Storage and Transfer	1.7	0.0	0.0	0.0	0.0	
Paint Booths	0.79	0.0	0.0	0.0	0.04	0.04
Incinerators	0.003	0.03	0.03	0.02	0.03	0.04
<b>TOTAL</b>	<b>2.95</b>	<b>20.93</b>	<b>4.83</b>	<b>9.12</b>	<b>1.77</b>	<b>2.18</b>

<sup>(a)</sup> 1998 Emissions Certification Report for Fort Meade, Maryland, March 1999b.  
<sup>(b)</sup> TSP – Total Suspended Particulate.

Under Federally mandated energy reduction efforts, Fort Meade operations and maintenance objectives include the implementation of energy conservation measures that are designed not only to reduce energy consumption but also to reduce pollutant emissions to the ambient air. Significant reductions in emissions are anticipated as the result of these measures, but the actual amount of emissions decrease projected for Fort Meade has not yet been determined. Energy conservation measures are discussed further in section 3.12.1.3.

### **3.3 WATER RESOURCES**

#### **3.3.1 Surface Water**

##### **3.3.1.1 Water Quality**

###### Watershed Management

Within the Fort Meade boundaries are approximately 7.2 miles of perennial stream channel as well as other intermittent stream channels. In August 1997, the U.S. Army Corps of Engineers, (USACE), Baltimore District developed a comprehensive watershed management plan for the protection, environmental restoration, and stewardship of watersheds encompassed by Fort Meade (USACE and ERM 1997). The plan provides specific recommendations for both short-term and long-term strategies and serves as a functional guide for future watershed management on post.

###### Little Patuxent River Protection

The MDE designates the segments of the Little Patuxent River and its tributaries that are upstream from a point 1 mile south of the Route 198 bridge as Use I-P Waters. This protected area is located within Department of Interior property near the Patuxent Environmental Science Center that borders Fort Meade to the south (Fort Meade 1998a). Use I-P Waters are protected for water contact recreation, aquatic life, and public water supply. Use I-P Waters may be used for the following activities:

- Water contact sports,
- Play and leisure-time activities where individuals may come into contact with the surface water,
- Fishing,

- The growth and propagation of fish (other than trout), other aquatic life, and wildlife,
- Agricultural water supply,
- Industrial water supply, and
- Public water supply.

Less than a half mile from Fort Meade's eastern boundary, lie tributaries of the Severn River which are designated as a Use IV Recreational Trout Waters. These waters have the potential for, or are currently:

- Capable of holding or supporting adult trout for put-and-take fishing, or
- Managed as a special fishery by periodic stocking and seasonal catching.

### **3.3.1.2 Hydrology**

The majority of Fort Meade lies within the 160 square-mile Little Patuxent River Drainage Basin. Near the installation, the river averages 30 feet wide and 2 feet deep. Most of the installation is drained by two tributaries: Midway Branch and Franklin Branch. Surface flow on the installation is primarily south-southwest (Fort Meade 1998a).

Midway Branch drains the center of the installation and flows southeasterly, then southerly to a confluence with Franklin Branch, where it is renamed Rogue Harbor Branch. Its watershed comprises approximately 1,860 acres, located almost entirely within the installation (USACE 1997). Rogue Harbor Branch empties into Allen Lake, a 19.7-acre man-made lake used for stormwater management, flood control, and limited recreational purposes. South of Allen Lake, the tributary drains directly into the Little Patuxent River.

Franklin Branch originates in the northeastern portion of Fort Meade, just south of MacArthur Road, and flows south into Burba Lake. Burba Lake is a 7.9-acre man-made recreational lake on the southeast side of the installation. The watershed of Franklin Branch covers approximately 1,130 acres and is contained primarily within Fort Meade (USACE 1997). South of Burba Lake, the stream flows a short distance southeast to its confluence with Midway Branch. Figure 3-4a overlays the watershed boundaries on a recent aerial photograph of Fort Meade. Figure 3-4b highlights streams that flow through Fort Meade and surrounding areas.



Figure 3-4a. Map shows watershed boundaries (blue) overlain on a recent aerial photograph of the Fort Meade area. Black dots indicate approximate project locations.

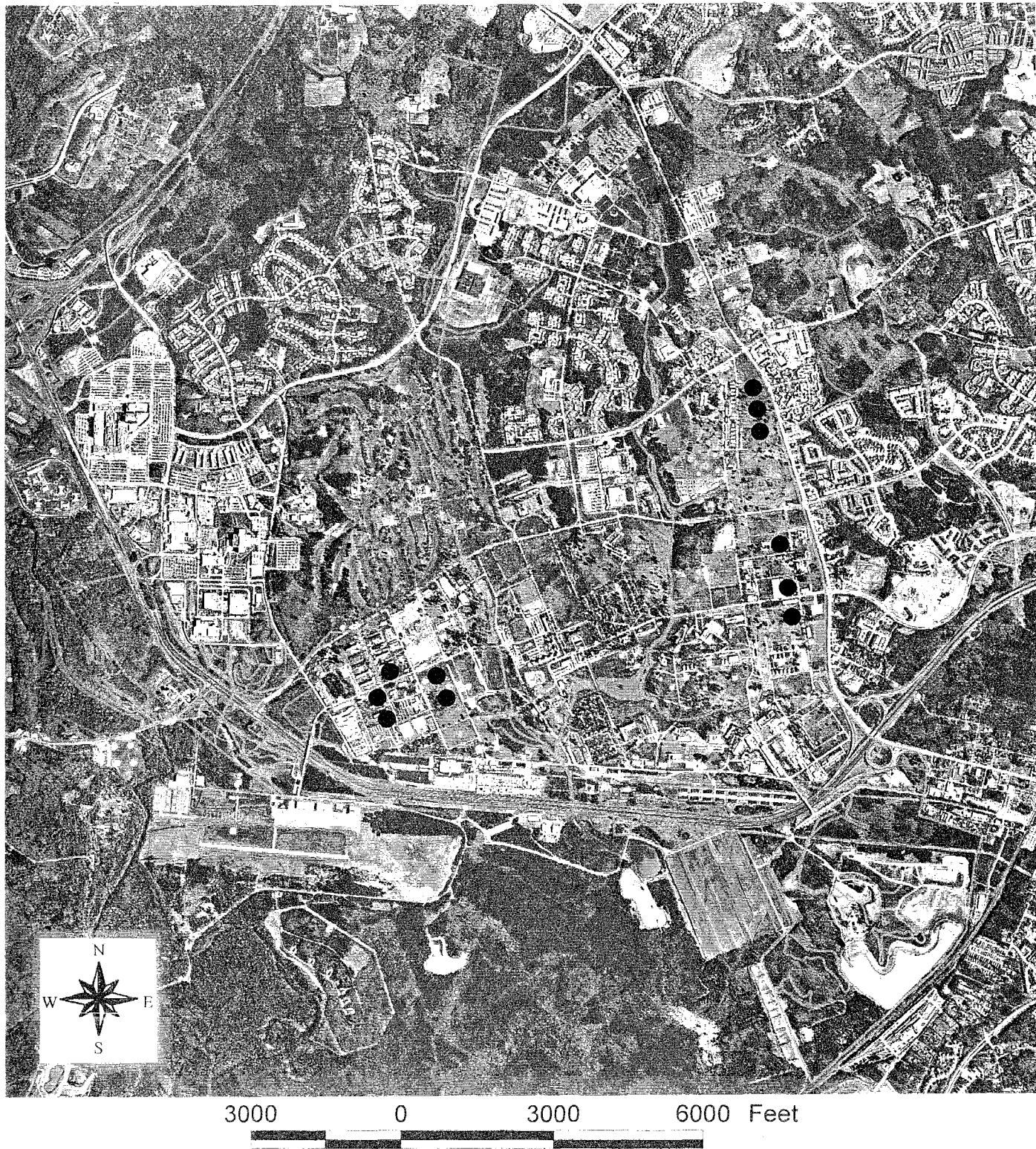


Figure 3-4b. Map highlights streams that flow through Fort Meade and surrounding areas. Approximate location of proposed project sites are indicated by black dots.

There are a large number of drainage swales, ditches, and natural streams and brooks traversing Fort Meade. Some of them flow into Burba Lake, others drain into Rogue Harbor Branch, which feeds Soldier's Lake south of the installation stables. Table 3-3 lists the new construction sites, drainage pathways, and the presence or absence of on-site surface water drainage features.

Table 3-3. New Proposed Construction Site Drainage Features

Master Plan Projects	Watershed and Drainage Pathway	There is a Surface Water Feature on the Site?
MEPS	Drains to the west to an unnamed tributary of Franklin Branch, a tributary of the Little Patuxent River	No
Personnel Barracks Replacement, Phase I and II	Drains to the southeast in the Midway Branch flowing into Soldier Lake.	No
Dining Facility	Drains to north and west.	No
Company Headquarters	Drains to the southwest.	No
Battalion Operations	Drains to the southwest.	No
Bold Venture I	Drains to the west to an unnamed tributary of Franklin Branch, a tributary of the Little Patuxent River	Yes  Surface water drainage on site into small seasonally wet ditch draining to the west.
Bold Venture II	Drains to the west into unnamed tributary of the Franklin Branch, a tributary of the Little Patuxent River.	No
Bold Venture III	Drains to the west into unnamed tributary of the Franklin Branch, a tributary of the Little Patuxent River.	No
Bold Venture IV	Drains to the west to an unnamed tributary of Franklin Branch, a tributary of the Little Patuxent River	Yes  Surface water drainage on site into small seasonally wet ditch draining to the west.
1RBDE	Drains to the west to an unnamed tributary of Franklin Branch, a tributary of the Little Patuxent River.	No

### 3.3.1.3 Stormwater Management

The Environment Article Title 4, Subtitle 2, Annotated Code of Maryland states that "...the management of stormwater runoff is necessary to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding, all of which have adverse impacts on the water and land resources of Maryland." Code of Maryland Regulations (COMAR) 260901-260902 also requires that all jurisdictions within the state implement a stormwater management (SWM) program to control the quality and quantity of stormwater runoff from new development. Fort

Meade SWM adheres to these principles and has based its management plans and procedures on State and County guidelines. Fort Meade currently operates under National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit 92-GP-0001 for industrial discharges and Permit 92-GP-0005 for maintenance and repair discharges.

Since new mission and realignment activities recently implemented at Fort Meade have increased development on post, Fort Meade planners follow the installation's Comprehensive Watershed Management Plan developed by the USACE which addresses stormwater runoff issues within a larger context. Emphasis has been put on devising more effective SWM techniques. All planned and newly constructed Fort Meade SWM structures are based on designs following the MDE's guidance, recently published in the 1998 *Maryland Stormwater Design Manual* (MDE 1998a; Harmeyer 1998).

Within the last two years, five new SWM ponds have been (or are in the process of being) constructed to provide a total of nineteen ponds throughout Fort Meade. Figure 3-5 shows the locations of the SWM ponds on base. One pond was constructed in conjunction with the new EPA Environmental Laboratory built in the North Administrative area. Stormwater controls for new construction projects are considered individually. On-post SWM features are incorporated as necessary to comply with State and County regulations.

Currently, on-post stormwater runoff is routed directly to surface water streams or to existing SWM ponds through a combination of pipe and inlet systems and open ditches. Built-up areas generally are equipped with pipe and inlet systems. Because these areas typically contain small, isolated systems, conveyance pipes usually do not exceed 30 inches (Fort Meade 1998a).

For the most part, stormwater runoff from Fort Meade is conveyed into three different drainage areas on the installation:

- West Area is generally west of O'Brien Road (including NSA), the 8500 and 8600 Areas, and Tipton Army Airfield, which eventually discharges into the Little Patuxent River.



# Stormwater Management Ponds



Figure 3-5. Aerial map showing location of the nineteen stormwater ponds (yellow dots) at Fort Meade. Approximate location of proposed project sites are indicated by black dots.

- Central Area is east of O'Brien Road and west of MacArthur Road, which drains into the Midway Branch.
- East Area is east of MacArthur Road to MD Route 175, which includes Burba Lake and drains into the Franklin Branch.

Fort Meade has addressed its SWM issues for several years. Installation analysts have recommended that the storm water drainage system, although generally considered adequate to meet existing demands, be expanded with new SWM ponds to control localized drainage problems. Construction of these facilities, including 19 retention ponds to reduce concentrated flow in main branch channels, is essentially complete (Harmeyer 1999a). Potential expansion plans include new drainage catchments (curb, gutter, drains, inlets), possible new or enlarged storm sewers, and channel enhancement to Midway Branch and Franklin Branch.

#### **3.3.1.4 Stormwater Management System Operations and Maintenance**

Fort Meade operations and maintenance crews adhere to the guidelines established by the State for the maintenance of SWM structures and access ways. Sediment removed from SWM ponds is disposed of according to current erosion and sediment control regulations. Operations and maintenance crews follow pond and constructed wetlands maintenance recommendations as set forth in the Maryland Stormwater Design Manual (MDE 1998a; Harmeyer 1999b).

#### **3.3.2 Chesapeake Bay Initiative**

The Chesapeake Bay and its 64,000 square-mile watershed are a complex "ecosystem" of water and land, creatures and people, culture and economics. Since the first comprehensive scientific study of the Bay in the mid-1970s, the Chesapeake Bay Program partners (including almost 15 million citizens of the region) have learned a great deal about how this system works, what makes it "sick," and what needs to be done to keep it healthy.

Fort Meade is an active participant in the U.S. Army's Chesapeake Bay initiative called the Submerged Aquatic Vegetation (SAV) Installation Support Program which is committed to improving the water quality and overall watershed of the Chesapeake Bay as well as protecting, preserving, and restoring the Bay's water and habitat.

SAV is essential to the Bay's ecosystem. It serves as a valuable food source for waterfowl, provides protection from predators, and acts as a nursery and breeding ground for several species of fish and shellfish. Furthermore, the plants help to filter sediment from the water, stabilize the coastal soil, and absorb nutrients, which can be toxic to the biota in excess. For these reasons, SAV has been targeted by many as the key to restoring the Chesapeake Bay to a healthy state.

Strategic implementation priorities have been established as follows:

1. To meet nutrient reduction goals through the tributary strategies.
2. To increase stakeholder involvement in the Chesapeake Bay Program.
3. To implement habitat restoration projects for key habitat areas.
4. To support fisheries management through inter-jurisdictional cooperation and coordination.
5. To implement critical elements of the Revised Toxins Reduction strategy.
6. To reinforce Federal and State efforts to reduce atmospheric deposition to the bay.

One method of improving the SAV is through the protection of riparian forest buffers. A riparian forest buffer is an area of trees, usually accompanied by shrubs and other vegetation, that is adjacent to a body of water and managed to maintain the integrity of stream channels and shorelines. Riparian forest buffers reduce the impact of upland pollution sources by (1) trapping, filtering, and converting sediments, nutrients, and other chemicals, and (2) supplying food, cover, and thermal protection to fish and other wildlife. Fort Meade is very much involved with this program on post.

Fort Meade also is very active in the *BayScaping* program. Bayscapes are environmentally sound landscapes benefiting people, wildlife, and the Chesapeake Bay. In the bay region, water-wise landscaping, or xeriscaping, is one of the BayScapes principles (Fort Meade 1998a).

As has been discussed in Section 3.3.1.3, excess or wasted water, usually from stormwater, runs off the land carrying nutrients, sediments, and even trace of toxic products into nearby creeks and

streams. Protection of local waterways feeding into the Bay, therefore, hinges upon reduced surface water runoff. Fort Meade's SWM program actively assists in this effort.

### **3.3.3 Groundwater**

Three aquifers – the Patuxent Aquifer, the Lower Patapsco Aquifer, and the Upper Patapsco Aquifer – underlie Fort Meade. The aquifers are separated by the Arundel Clay formation. The Patuxent Aquifer, which directly overlays the crystalline basement, consists of lenticular interfingering sand, silt, and clay capable of yielding large quantities of water. The aquifer is at or near the surface near the fall line (the boundary between the Coastal Plain and Piedmont Physiographic Provinces) and dips below the surface as it moves eastward. The aquifer is between 200 and 400 feet thick beneath Fort Meade.

The Lower Patapsco Aquifer is composed of fine- to medium-grained brown sand that overlays the Arundel Clay. It is capable of yielding 0.5 to 2 million gallons per day (mgd) of water from individual wells in most localities and is a source of water for several large wells within the region.

The Upper Patapsco Aquifer consists of fine- to medium-sized brown sand. Its average thickness is 250 feet. The aquifer is under confined conditions and is one of the best water-bearing formations in Anne Arundel County.

Flow from all three aquifers is generally toward the southeast. Recharge to deep artesian wells is slow because of the low permeabilities of the confining layers.

Fort Meade withdraws potable water from the Patuxent Aquifer. In general, water from this aquifer is soft (hardness 6 to 8.4 milligrams per liter [mg/l] calcium carbonate), acidic (pH 4.9 to 5.0), high in iron (0.77 to 2.7 mg/l), low in chlorides (5 to 8.4 mg/l), and low in total dissolved solids (38 mg/l). In general, the iron levels in groundwater from the Patuxent Aquifer exceed Federal drinking water standards and require treatment at Fort Meade (USACE 1997).

## 3.4 AQUATIC RESOURCES AND WETLANDS

### 3.4.1 Aquatic Resources

The Patuxent River and its associated tributaries and small streams that flow through Fort Meade provide habitat for many aquatic organisms. A list of fish species found in the surface waters on the post is presented in Appendix E.

The area designated for the Bold Venture I project is located near a field south of the Defense Courier Service building which has a seasonally intermittent stream/ditch running along the southern border of the recreation field. These areas are discussed further in Section 3.4.2. The stream was dry when observed during the July site visit, but the system is likely to support invertebrates and other aquatic organisms adapted to intermittent or seasonal flows.

### 3.4.2 Wetlands

Section 404 of the Clean Water Act requires Federal regulation of most activities that impact wetlands. The Section 404 requirements support the goal of no net loss of wetlands. Wetlands protection and management applies to all Army facilities' engineering activities. Fort Meade lies within the Chesapeake Bay watershed, a region supporting some of the most important wetland areas in the United States.

Of the approximately 5,500 acres that comprise Fort Meade, only 160 acres have been designated as wetlands (Fort Meade 1998a). The majority of those wetlands are situated in the floodplain of the Little Patuxent River, in the southwestern section of the installation. Information concerning the potential extent and nature of wetlands on Fort Meade was obtained from site visits and nontidal wetlands maps included in the Wetlands Mapping Report for the U.S. Army, Fort Meade (1996). These maps were the result of a wetlands survey conducted in June 1996 for the USACE to identify wetlands and other waters of the U.S. for potential jurisdiction under Section 404 of the Clean Water Act. The survey was prepared primarily by stereoscopic analysis of high altitude and aerial photographs. Wetlands were identified from photographs based on vegetation, visible hydrology, and geography in accordance with *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS 1979). There were no attempts in the above-mentioned

Fort Meade Wetlands Mapping Report to define Federal, State, or local jurisdiction (Geonex 1996). These maps were used in conjunction with field reconnaissance to determine the proximity of potential wetlands to proposed construction sites in the area. Although not mapped, field observations revealed that a small stormwater conveyance ditch is located near the southern portion of the Bold Venture I parcel. The ditch, dry at the time of the site reconnaissance, contained characteristic wetlands vegetation, such as sedge, bullrush, and black willow, in some areas. The Fort Meade Environmental Management Office, in consultation with the USACE Baltimore District, determined that the ditch is not to be considered a “man-made” structure, but rather a *natural* “water course” and as such will be protected following appropriate State and Federal guidelines (Harmeyer 1999a). Riparian buffers and “no-mow” zones have been implemented along the ditch banks (Harmeyer 1999b).

### 3.5 VEGETATION

#### 3.5.1 On-Post Vegetation

Previous development at Fort Meade has been extensive and few areas currently retain their native vegetation. Fort Meade is in voluntary compliance with the Maryland Forest Conservation Act. Fort Meade has inventoried much of the forested area on post. Currently 29 percent, or approximately 1,594 acres, of Fort Meade is woodlands. Figure 3-6 shows existing forest stands as of 1997 (Harmeyer 1999b). Plans for future development on post call for most existing wooded areas to remain intact. In addition, Fort Meade guidelines recommend preserving mature trees and wooded buffers during future development. Existing planted areas will be evaluated for additional plantings and more street trees will be added where appropriate (Anne Arundel County 1995).

Tree cover within Fort Meade consists of a mixture of softwood pitch pine and Virginia pine and hardwoods consisting of sycamore, willow, sweetgum, birch, maple, and walnut. The largest wooded area on the installation is in the southwest corner and is associated with the Little Patuxent River. Smaller wooded areas are scattered throughout upland areas of the installation. They are dominated by white, red, and chestnut oak; mockernut and pignut hickory; flowering dogwood; blueberry; greenbriar; loblolly and pitch pine; and poison ivy (Fort Meade 1999a).

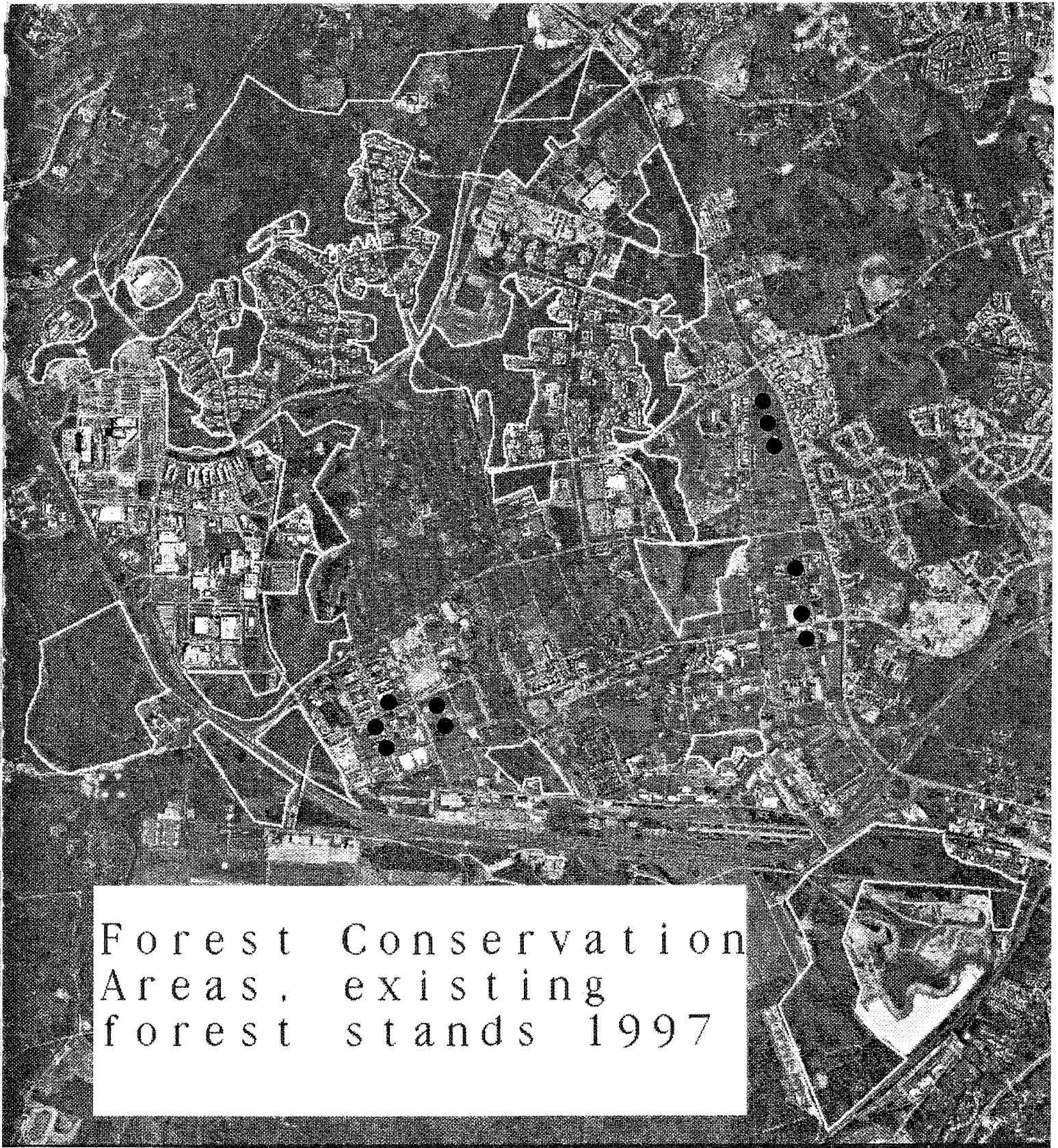


Figure 3-6. Aerial map of Fort Meade showing forest conservation areas. Yellow overlay outlines existing forest stands as of 1997. Note: Area east of MD Rt. 175 has not been delineated. Approximate location of proposed project sites are indicated by black dots.

Most of the developed parts of Fort Meade have been landscaped with turfgrasses and native or exotic trees and shrubs, including elm, maple, flowering cherry, weeping willow, flowering dogwood, and an assortment of holly cultivars. A complete species list of plants found at Fort Meade is presented in Appendix E.

Plant communities at the new construction areas were identified during field reconnaissance conducted as part of NEPA investigations in July 1997 and December 1999. For simplicity, Table 3-4 lists the noteworthy plant species identified within the two general areas proposed for construction: (1) the West Area, which encompasses the area within Mapes, Taylor, Dutt, and O'Brien Roads, and (2) the East Area, bordered by MD Route 175, Reece, Ernie Pyle, and Llewellyn Roads.

### **3.5.2 On-Post Landscaping Operations and Maintenance**

Fort Meade maintenance personnel are responsible for grounds upkeep and regular cutting of lawns and open space areas. Crews begin mowing in the northern areas of the post, proceeding south until all lawns and open space areas have been cut. This grass-cutting regime continues throughout the growing season.

Pruning and trimming of installation shrubs and trees is done as needed within seasonal constraints. Application of fertilizer, pesticides and herbicides also follows seasonal schedules (see section 3.11.6) and adheres to strict, established protocols. Fort Meade landscape crews also plant new vegetation material for visual improvement projects on post. Fort Meade tenant organizations generally contract their scheduled landscaping needs to outside firms (Moore 1998).



Table 3-4. Noteworthy Plants (species) Found Within the General Areas Proposed for Construction

Plant Species	Common Name	West Area	East Area
<b>TREES</b>			
<i>Acer rubrum</i>	red maple		•
<i>Acer saccharinum</i>	silver maple	•	•
<i>Juniperus virginiana</i>	eastern white cedar	•	•
<i>Liquidambar styraciflua</i>	sweet gum		•
<i>Morus alba</i>	white mulberry	•	•
<i>Picea abies</i>	Norway spruce	•	•
<i>Pinus strobus</i>	white pine	•	•
<i>Pinus taeda</i>	loblolly pine	•	
<i>Pinus virginiana</i>	Virginia pine	•	•
<i>Prunus serotina</i>	black cherry	•	•
<i>Quercus phellos</i>	willow oak		•
<i>Quercus falcata</i>	southern red oak	•	•
<i>Quercus palustris</i>	pin oak	•	•
<i>Robinia pseudocacia</i>	black locust	•	•
<i>Sassafras albidum</i>	sassafras		•
<i>Salix nigra</i>	black willow		•
<b>HERBS</b>			
<i>Carex spp.</i>	Sedge		•
<i>Lespedeza spp.</i>	Bushclover	•	•
<i>Scirpus validus</i>	sedge	•	•
<b>VINES</b>			
<i>Lonicera japonica</i>	Japanese honeysuckle		•
<i>Parthenocissus quinquefolia</i>	Virginia creeper		•
<b>MOSS</b>			
<i>Lycopodium flabelliforma</i>	club moss		•
<i>Lycopodium tristachyum</i>	ground cedar		•
Large areas of turf and grassed meadow		•	•

### 3.6 WILDLIFE RESOURCES

Because most of the installation has been developed and few large continuous tracts of forests remain, it can be assumed that the wildlife species found at Fort Meade are typical of those found in most urban-suburban areas. White-tailed deer have been observed frequently on post, especially along the Little Patuxent River. Other mammals that may be found on Fort Meade

include the grey squirrel, raccoon, opossum, eastern chipmunk, field mouse, vole, mole, and fox (USACE 1997).

Birds common on the sites are those that have adapted to an urban-suburban existence, such as the American robin, catbird, mockingbird, Carolina chickadee, Carolina wren, house wren, downy woodpecker, common flicker, European starling, house sparrow, rock dove, mourning dove, and song sparrow. Other species, including warblers and raptors, may be found on the installation during migrations. It is unlikely that large numbers of these birds are breeding on the installation, because available habitat is limited (USACE 1997). A complete listing of avian species observed or heard at Fort Meade is presented in Appendix E.

Because the greenways and open space parks scattered throughout the installation are maintained as grassy areas and golf courses, their value as wildlife habitat is limited. Areas with greater habitat value are scattered around the installation, with large forested parcels (some with 100 acres or more in northern and western sections) on-post and more extending off-post to create significantly large clusters of woodland habitat. The conservation of such large contiguous forest that supports forest interior dwelling species (FIDS) is strongly encouraged by the Maryland Department of Natural Resources (DNR).<sup>1</sup> Habitat protection for FIDS is mandated in Maryland through regulations authorized by the Chesapeake Bay Critical Area Law (Natural Resources Article 8-1808, COMAR). As part of its role as a stakeholder in the Chesapeake Bay Initiative, Fort Meade intends to maintain these large forested areas on-post for wildlife habitat following the mandates of the Maryland Forest Conservation Act in a voluntary manner, (Harmeyer 2000).

### **3.7 THREATENED AND ENDANGERED SPECIES**

Surveys were conducted at Fort Meade in 1993 and 1994 for the purpose of developing an initial list and locations of threatened and endangered species that may occur on or near the installation (Eco-Science Professionals 1994). The distinct vegetative communities on the installation were

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<sup>1</sup> Guidelines submitted in correspondence to D. Uhrin, 99th Regional Support Command, DoD from M. Slattery, Director, Wildlife and Heritage Division of Maryland DNR, April 16, 1998.

also surveyed to determine their suitability for Maryland Natural Heritage listing and to provide baseline data on natural heritage resources. Figure 3-7 shows the locations and potential habitats identified for threatened and endangered species at Fort Meade.

As a result of this effort, a total of 15 plants and 11 animals are state-listed as threatened or endangered species and are documented on the installation (Fort Meade 1998a). Summary lists presenting state listing of rare, threatened, and endangered species in the vicinity of Fort Meade are provided in Table 3-5.

The U.S. Fish and Wildlife Service (USFWS) is responsible for the listing of endangered and threatened species under the Endangered Species Act of 1973, as amended. Federally listed species are afforded legal protection under the Act; therefore, sites supporting these species need to be identified. The USFWS also maintains a list of "candidate" endangered and threatened species where the current knowledge of threats to the species and its vulnerability are insufficient for listing. Table 3-6 presents the State rank and Federal status of rare, threatened, and endangered animal species found at Fort Meade.

Table 3-5. State List of Rare, Threatened, and Endangered Plant Species Identified at Fort Meade Between 1993 and August 1994

Scientific Name	Common Name	Maryland Natural Heritage Program Rank
<i>Aronia prunifolia</i>	Purple chokeberry	Watchlist
<i>Carex atlantica</i>	Eastern sedge	Watchlist
<i>Carex leavenworthii</i>	Leavenworth's sedge	Endangered Extirpated
<i>Carex seorsa</i>	Weak stellate sedge	Watchlist
<i>Carex straminea</i>	Straw sedge	Watchlist
<i>Carex tomsa</i>	Shaved sedge	Highly Rare
<i>Castanea pumila</i>	Chinquapin	Watchlist
<i>Cyperus erythrorhizos</i>	Red-rooted cyperus	Watchlist
<i>Cyperus grayi</i>	Asa Gray's cyperus	Watchlist
<i>Helianthemum propinquum</i>	Pine-barren frostweed	Watchlist
<i>Juncus polycephalus?</i>	Many-headed rush	Status Uncertain
<i>Lespedeza stuevei</i>	Downy bushclover	Endangered
<i>Panicum leucothrix</i>	Roughish panicgrass	Status Uncertain
<i>Rhododendron atlanticum</i>	Dwarf azalea	Watchlist
<i>Senecio smallii (sic)</i>	Smallii ragwort	Watchlist



Figure 3-7. Habitat protection areas and location of rare, threatened, and endangered species at Fort Meade relative to proposed project areas (adapted from source map in Eco-Science Professionals 1994). Project areas are shown as small black dots; rare species sites as white dots; and habitat protection areas as red/black "checkered" areas.

Table 3-6. State and Federal List of Rare, Threatened, and Endangered Animal Species Identified at Fort Meade Between 1993 and August 1994\*

Scientific Name	Common Name	Maryland Natural Heritage Program Rank	U.S. Status
<i>Chlorotettix sp.</i>	A cicadellid leafhopper	Status Uncertain	-
<i>Etheostoma vitreum</i>	Glassy Darter	Extremely Rare	-
<i>Gallinula chloropus</i>	Common moorhen	Very rare	-
<i>Limotettix sp.</i>	Eastern sedge barrens	Extremely Rare	-
<i>Lophodytes cucullatus</i>	Hooded merganser	Extremely Rare	-
<i>Percina notogramma</i>	Stripeback darter	Historically Known	-
<i>Pituophis melanoleucus</i>	Northern pine snake	Historically Known	Candidate I/D**
<i>Porzana carolina</i>	Sora	Extremely Very Rare	-
<i>Reithrodontomys humulis</i>	Eastern harvest mouse	Historically Known	-
<i>Sorex longirostris</i>	Southeastern shrew	Very Rare	-
<i>Sperchopsis tessellatus</i>	A hydrophilid beetle	Very Rare	-

\* Information adapted from Fort Meade 1998a.  
 \*\* I/D = Evidence of vulnerability, but insufficient data.

As a result of the rare species surveys at Fort Meade, five areas were identified as having statewide significance. The five areas include:

- Rock Avenue Shrub Swamp,
- Range Road Obstacle Course,
- Range Road Corridor,
- NSA Antenna Site, and
- Little Patuxent River.

In accordance with the requirements of the Endangered Species Act, agency coordination was initiated with the USFWS; Wildlife and Heritage Division of the Maryland DNR; and Maryland DNR Division of Environmental Review. Correspondence from the USFWS and Maryland's Wildlife and Heritage Division indicated that no Federally listed or proposed endangered or threatened species were known to occur on any of the project sites (Pennington 1999, Slattery 1998, Appendix A). Correspondence with the Maryland DNR Division of Environmental Review reports the potential of a State-endangered fish, the glassy darter (*Etheostoma vitreum*), within the Little Patuxent River (Bieber 1998, Appendix A).

### 3.8 PRIME AND UNIQUE FARMLANDS

**Prime farmland** is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. The land must also be available for these uses (cropland, pasture land, forestland, or other land, but not water on urban built-up land). Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods (NRCS 2000).

**Unique farmland** is land other than prime farmland that is used for production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or yields of specific crops (NRCS 2000).

Scattered pockets of land that contain soils indicative of prime farmland do exist within Fort Meade boundaries, but no agricultural activities are currently pursued in these areas. Soils found on specific project sites have been outlined in Section 3.1.4 (See Table 3-1). None of the project sites contain areas that qualify as prime or unique farmlands.

Anne Arundel County also administers an Agricultural and Woodland Preservation Program that provides for the establishment of agricultural and woodland districts and the purchase of easements. Designation of a district requires that the property be maintained in agricultural or woodland use for at least 10 years. The purchase of an easement preserves the property in perpetuity and keeps it from being developed. The program goal is to preserve 20,000 acres of farm and forest through the purchase of easements (Anne Arundel County 1997). None of the project sites qualify for protection by the County under this program.

### 3.9 WILD AND SCENIC RIVERS

The Maryland Scenic and Wild Rivers Act established State policy to protect the water quality of designated scenic rivers and fulfill vital conservation purposes by wise use of resources within the scenic and wild rivers system. The Patuxent and Severn Rivers have been designated as Maryland Scenic Rivers.

In the Odenton Town Plan, the Patuxent River Policy Plan of 1984 outlines the policy direction for local and state agencies that carry out programs and make regulatory decisions for the Patuxent River Watershed (Anne Arundel County 1995). Policy direction is provided through 10 recommendations:

- A Primary Management Area will be established to identify and manage land from which pollution is most likely to be transported into the river (1/4 mile along mainstem, 1/8 mile along tributaries).
- Programs for providing best management practices and vegetative buffers immediately adjacent to the river and its tributaries will be developed.
- The State, in conjunction with local governments, will survey the watershed and identify major nonpoint source pollution sites.
- The State will develop a cost-sharing program to aid local governments in correcting and managing stormwater pollution from existing developed areas.
- Future development will be accommodated in ways to minimize impact on water quality and maximize existing protection opportunities.
- Additional recreation and open space land will be acquired.
- Existing forest cover will be retained and important sensitive areas will be reforested to protect water quality.
- Prime and productive agricultural land will be preserved.
- Sand and gravel activities will be managed to allow extraction of the resource without damage to the river.
- The Patuxent River Commission will develop and adopt an action program to implement the strategies.

To provide for a National Wild and Scenic River System, Congress enacted the Wild and Scenic Rivers Act (P.L. 90-542, as amended) (16 USC 1271-1287) in 1968. The Act pronounced:

“It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States need to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.”

As yet, no Maryland rivers are so designated under this Federal act.

### **3.10 CULTURAL RESOURCES**

#### **3.10.1 Background**

##### **3.10.1.1 Prehistory**

Fort Meade is located in the Atlantic Coastal Plain physiographic province and in Maryland Archeological Research Unit Number 8, the Riverine Patuxent Drainage. The prehistory of the Fort Meade region extends from approximately 11,000 B.C. until European contact in the early 17th century, and is divided generally into three major periods:

- Paleo-Indian/Early Archaic Period (11,000 to 6,500 B.C.).
- Archaic Period (6,500 to 1,000 B.C.).
- Woodland Period (1,000 B.C. to A.D. 1,650).

Numerous cultural resource surveys have been conducted near Fort Meade. The resulting data suggest that upland areas near the Little Patuxent River and its tributaries were used mostly for small seasonal base camps and quarrying sites from the Middle Archaic to the Late Woodland



periods. A decline in the number of upland sites from the Woodland period suggests that later prehistoric populations tended to settle in agricultural villages on the floodplains of the lower Patuxent estuary, south of Fort Meade. Some historic tribal settlements, associated with the Powhatan and Patuxent confederacies, were mapped in that area by early European explorers (Gardner et al. 1977).

### **3.10.1.2 Civilian History**

From the early 17th century until the establishment of Camp Meade in 1917, the land around Fort Meade was mostly agricultural. Tobacco farming predominated until the late 19th century, when the area shifted to smaller family farms growing products that were marketed in nearby urban areas or canned and packed in Baltimore and Odenton. Historic maps dating to 1860, 1878, and 1919 identified 16 to 18 farmsteads that were apparently located on what is now Fort Meade.

The area also experienced some early industrial development. From the late 17th century to the mid-18th century, the Snowden family ran a complex of iron works, grist mills, and saw mills in the area. The Old Snowden Forge (or Patuxent Forge) was located on the Little Patuxent River just south of the current boundaries of Fort Meade. Another historic focus, also south of Fort Meade, was the Indian Springs Quaker Meeting House, built around 1792. This structure was partially razed and rebuilt around 1891 as the Zion African Methodist Episcopal Church.

Despite some residential development, the area remained largely agricultural through the early 20th century. In the modern period (1930 to the present), the character of the area surrounding Fort Meade changed from mostly rural to an increasingly suburban environment. Residential and industrial development in the surrounding area intensified when operations at Fort Meade were increased during WWII and when the NSA was relocated to Fort Meade in the early 1960s. Since then, the area has become part of the nearly continuously developed suburban corridor between Baltimore and Washington (Fort Meade 1999a).

### **3.10.2 National Historic Preservation Act**

The protection and preservation of cultural resources at Fort Meade are required by Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended. This

legislation, along with Department of the Army Regulation 200-4 (Cultural Resources Management), outlines the Army's custodial responsibilities with respect to cultural resources, and requires the Army to take all necessary measures to ensure that no such resources are harmed by Army-authorized undertakings.

### **3.10.3 Fort Meade Cultural Resources Management Plan**

To assist Fort Meade in the fulfillment of its Section 110 obligations, the Department of the Army developed a Cultural Resources Management Plan (CRMP) for Fort Meade (Goodwin et al. 1994).

The CRMP developed a predictive model for areas of archeological sensitivity. After the CRMP was finalized, an archeological survey of extensive areas on Fort Meade was conducted. The results and recommendations were presented in a technical appendix to the CRMP, entitled Phase I Archeological Survey of Approximately 2,210 Acres at Fort George G. Meade, Maryland.

Following finalization of the CRMP, the predictive model was critically evaluated through intensive archeological investigation of areas determined to exhibit a high potential for containing cultural resources. The model identified a total of approximately 2,210 acres (5,461 hectares) of high probability land within Fort Meade and determined that some 1,395 (3,447 hectares) of those had been subjected to various degrees and types of disturbance. A pedestrian reconnaissance study of all 1,395 disturbed acres was performed that entailed visual inspection and photo documentation of lands so designated, as well as excavation of random auger and shovel tests to determine the nature and degree of disturbances and to ascertain the need for more intensive examination. Of the total high probability portions of the installation, 100 percent of the undisturbed areas (approximately 815 acres/2,014 hectares) and some 350 acres (865 hectares) of the disturbed sections were subjected to intensive, systematic shovel testing. The results and recommendations of this archeological testing at Fort Meade is documented in a technical appendix to the CRMP; Phase I Archeological Survey of Approximately 2,210 Acres at Fort Meade, Maryland (Goodwin et al. 1995). In 1997, additional field work was conducted on

19 small parcels recommended for Phase I testing in the 1995 report. No additional sites were identified as a result of this survey.

#### **3.10.4 Archeological Resources**

Numerous archeological investigations have been conducted at Fort Meade. These surveys have identified a total of 35 archeological sites on the installation. The sites are a mix of prehistoric, historic, and mixed prehistoric/historic sites. Three of the sites have been destroyed, 4 sites are historic cemeteries, 15 sites are recommended for additional investigation/Phase II testing, and 13 sites are not eligible for listing in the National Register of Historic Places (NRHP) and no additional work is recommended for them.

#### **3.10.5 Historic Architectural Resources**

All architectural resources at Fort Meade built prior to 1953 have been surveyed and evaluated in recent years. The CRMP included a comprehensive reconnaissance-level survey of 501 historic resources (Goodwin et al. 1994). The CRMP found the Post Core Historic District eligible for the NRHP under Criterion C. The historic district includes 132 resources dating from the interwar years (1919 – 1939) and encompasses the original, formally-planned core of the installation. To date, NRHP survey forms have not been prepared for the historic district. The CRMP also recommended further investigation of 61 resources. As a result, the Fort George G. Meade Phase II Architectural Summary Report evaluated the potential significance of the 61 resources (Goodwin et al. 1996). The architectural summary report found Building 8688, a water treatment plant, eligible for the NRHP under Criterion C for its Art Moderne design. The Maryland State Historic Preservation Officer (SHPO) concurred with this determination in November 1996. Fort Meade's WWII temporary frame buildings have been addressed under the 1986 Programmatic Memorandum of Agreement between the Department of Defense, the National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation. Thus, the installation has been entirely surveyed for historic architectural resources and two resources have been determined eligible for the NRHP: the Post Core Historic District and Building 8688.

The first operational NIKE Ajax missiles were deployed at Fort Meade in May 1954. Neither the CRMP nor the Phase II Summary Report identified or evaluated buildings associated with this potentially significant Cold War event. Further research determined that buildings associated with the NIKE program are located in the vicinity of Building 1978, southeast of the intersection of 20th Street and Route 175. Future cultural resources investigations should assess the NRHP eligibility of buildings related to Fort Meade's early NIKE operations.

### **3.10.5.1 Repair and Maintenance of Historic Structures**

Fort Meade maintenance personnel are cognizant of the importance of cultural resources on post. The history of occupation and use at the facility is represented by a range of cultural resources, which include known and suspected archeological sites. The existence of cultural resources within Fort Meade boundaries confers stewardship responsibilities on the installation to consider the impacts of activities on historic properties. Primary responsibility for compliance with Federal preservation legislation and stewardship at Fort Meade falls on the Environmental Management Office (EMO) under the Directorate of Public Works (DPW). The EMO/DPW is responsible for planning new construction, repair work, and routine maintenance of historic properties.

Chapter Four of the Fort Meade CRMP provides guidance for EMO/DPW management of the post's cultural resources in the context of the installation's mission, current daily operations, and future planned undertakings. In 1998, Building Maintenance and Repair Guidelines were developed for the historic buildings in the Post Core Historic District. Guidelines were also developed to preserve landscape features in the District. Fort Meade follows these guidelines with respect to all undertakings proposed within the Historic District.

Fort Meade is required by law to consider cultural resource concerns when planning activities related to its on-going mission. As mentioned previously, the primary Federal preservation law with which Fort Meade must comply is the NHPA, specifically Sections 106 and 110. Fort Meade must also comply with the Army Regulation 200-4, which details the Army's custodial responsibilities concerning cultural resources on the installation. Because of the need for structural repairs and energy conservation measure upgrades to many historic buildings on-post,

continued coordination with the Maryland SHPO is an integral part of maintenance installation operations. All correspondence and coordination efforts with the SHPO are recorded and kept on file at the EMO/DPW.

### **3.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES**

The EMO/DPW coordinates inventories of hazardous materials and disposal of hazardous waste. Emergency response to spills of hazardous waste and materials is conducted through on-site coordinators, installation fire department, and installation hazardous material team.

#### **3.11.1 Underground Storage Tanks and Aboveground Storage Tanks**

Underground storage tanks (USTs) for heating oil are found in the vicinity of some of the planned construction activities (DiGiovanni 1999). However, according to statutory exclusions as interpreted in 40 CFR 280.12, Federal Regulations on USTs, heating oil tanks are not regulated.

##### **3.11.1.1 UST/AST Operations and Maintenance Procedures**

EPA regulation 40 CFR 280.30 (spill and overfill control) requires that owners and operators of USTs must ensure that releases resulting from spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling. EPA regulation 40 CFR 280.31 (Operation and maintenance of corrosion protection) requires that owners and operators of steel UST systems with corrosion protection must comply with requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances. Regulation 40 CFR 280.34 (Reporting and recordkeeping) requires that owners and operators of UST systems must cooperate fully with inspections, monitoring, and testing conducted by the implementing agency.

### 3.11.2 Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties. PCBs were used in hundreds of industrial and commercial applications in the past due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties. They have been used in electrical, heat transfer, and hydraulic equipment; in paints, plastics and rubber products; in pigment, dyes, and carbonless copy paper; as well as in other applications. The manufacturing of PCBs was terminated in 1977. PCBs have been shown to cause a variety of adverse health effects. Studies in humans provide supportive evidence for the potential carcinogenicity and non-carcinogenic effects of PCBs. Non-carcinogenic effects include effects on the immune system, reproductive system, nervous system, and endocrine system. (EPA, 1999c).

EPA regulation 40 CFR 761.30 requires that all 480-volt PCB transformers either have advanced primary protection, be removed, or be reclassified to non-PCB status through a retrofit process. Subsequently, the decision to replace or retrofit was clarified by Engineering Technical Letter 1110-3-412 *Transformer Application Guidance* that specifically required the replacement of transformers with PCB concentrations of more than 1,000 parts per million (ppm).

EPA regulation 40 CFR 761 Subpart B regulates the use of PCBs and PCB items, including the use of transformers and capacitors containing PCBs. Regulation 40 CFR 761.30 indicates that the use of network PCB transformers with higher secondary voltages (secondary voltages equal to or greater than 480 volts) in or near commercial buildings is prohibited. Network transformers that are removed from service in accordance with this requirement must either be reclassified to PCB-contaminated or non-PCB status, placed into storage for disposal, or disposed of.

Transformers are classified into three categories based on the PCB-concentration within the unit. The categories are PCB (more than 500 ppm), PCB-contaminated (50 to 499 ppm), and non-PCB (less than 50 ppm).

Fort Meade has removed all PCB transformers with PCB concentrations exceeding 500 ppm and all PCB-contaminated transformers (concentrations between 50 ppm and 499 ppm). Therefore, PCBs should not be an issue for any of the proposed construction sites (Puls 1999).

### 3.11.3 Radon

Radon is an invisible, odorless radioactive gas formed by the natural breakdown or decay of uranium, a naturally occurring element found in granite and certain other types of rock. Radon gas dissipates in outdoor settings and is present at concentrations considered to be harmless. However, radon gas can accumulate inside enclosed spaces and represent a health risk to occupants. In general, the risk increases as the level of radon and the length of exposure increases. There is an increased risk of developing lung cancer when exposed to elevated levels of radon. The EPA has established a guidance level of 4 picocuries per liter (pCi/L) of radon in indoor air for residences; however, there have been no standards established for commercial structures. Radon gas accumulations above 4 pCi/L are considered to represent a health risk to occupants (Internet Radon Research Center and EPA Sources of Information on Indoor Air Quality for Radon, August 1999).

In response to concern over indoor air concentrations of radon, the Army formulated the Army Radon Reduction Program (ARRP). The objectives of ARRP are to

- Identify structures owned and leased by the Army that have indoor radon levels greater than 4 pCi/L of air.
- Modify all Army-owned structures having radon levels greater than 4 pCi/L so that levels are reduced to 4 pCi/L or less.
- Provide detailed guidance concerning radon measurement procedures and risk estimates that have been published in the U.S. Army Environmental Health Agency Technical Guide No. 164.
- Issue mitigation strategies and procedures that will be addressed in separate publications furnished by the USACE.

The Army has adopted EPA's recommended remedial action level as its indoor radon standard. Levels of radon exceeding 4 pCi/L of air require mitigation efforts. Radon monitoring at Fort Meade is complete. The results from the survey have found that indoor radon concentrations are within the EPA acceptable levels and, therefore, require no further action (Coliani 1999).

### **3.11.4 Asbestos-Containing Materials**

Asbestos is a generic term used to describe a group of naturally occurring silicate minerals that have the ability to separate into small, fine fibers. Asbestos is known for its unique properties of being resistant to abrasion, inert to acid and alkaline solutions, and stable at high temperatures. As a result, asbestos was widely used in construction and industry and can be a health risk to occupants of buildings containing asbestos products. Federal regulatory agencies such as the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) have targeted friable asbestos as the primary source for release and subsequent exposure to asbestos fibers. According to the EPA, friable asbestos is asbestos-containing material (ACM) that can be crumbled, pulverized, or reduced to powder by hand pressure. When friable ACM is damaged or disturbed, such as during renovation or demolition, small, odorless fibers are released into the air and once inhaled, can penetrate the body's defenses. Risk of developing an asbestos-related disease increases with increased exposure. Exposure to these fibers has been linked to a number of health problems, including asbestosis, mesothelioma, and lung cancer (Internet Asbestos Background Information and OSHA Internet Site, August 1999).

#### **3.11.4.1 Asbestos Operations and Removal Procedures**

The National Emissions Standards for Hazardous Air Pollutants (40 CFR. 61, Subpart M) regulates the release of asbestos fibers into the air. Originally directed at the asbestos industry, the standard has been amended to include building demolition and renovations. According to 40 CFR 61.145, prior to the commencement of the demolition or renovation, the owner or operator of a demolition or renovation activity must thoroughly inspect the affected facility or part of the facility where the demolition or renovation activity will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. If ACM is found in the facility where demolition or renovation activity will occur, a series of control and notification procedures must be conducted and standard operating procedures for asbestos disposal must be followed in accordance with 40 CFR 61.150.

In addition, the OSHA regulates a worker's exposure to asbestos (29 CFR 1926.58). The Army complies with all applicable Federal, State, and local requirements for asbestos management.



All buildings scheduled for demolition have potential to contain ACMs. Asbestos surveys have been performed on all of the buildings scheduled for demolition (Gebhardt 1999). Before renovation of any structure on Fort Meade is initiated, an EPA-certified asbestos inspector inspects the affected areas and identifies all friable asbestos that potentially could be released during the Proposed Action. Teams of individuals at Fort Meade, who are trained to remove asbestos are deployed after the identification process to remove the asbestos. The material is then bagged and disposed of at an approved landfill off site.

### **3.11.5 Lead-Based Paint**

Lead is a heavy metal that, when absorbed into the body, is highly toxic to many organs and systems. In the past, lead was added to paint to increase durability; prior to 1940, paints typically contained very high amounts of lead. In the early 1950s, paint industry standards limited lead content in leaded paints to 1 percent, Federal regulations limited lead content further in 1972 and then banned lead in residential paints in 1978. Exposure to lead-contaminated dust from lead-based paint in older buildings is the primary pathway of lead poisoning, especially in young children. When lead enters the body through inhalation or ingestion, there is interference with normal cell function and a number of physiologic processes. Exposure to even small amounts of lead over a period of time can cause lead poisoning. (Internet Lead Home Page at EPA and CDC Lead Information Site, August 1999).

Lead-based paint surveys have been conducted in all family housing buildings and in various other office buildings on the installation, based on specific project requirements. Older structures at Fort Meade that are planned for demolition have the potential to contain lead-based paint. The Personnel Barracks, Phase I and Phase II, are three-story structures, approximately 40 years old, and constructed of cement block; they are to be demolished and replaced. A wooden administrative office space occupied by 1RBDE also scheduled for demolition and replacement is a WWII-era wooden structure. The construction of the Dining Facility includes demolition and lead paint removal of 25,000-SF of WWII buildings. The construction of Company Headquarters includes the demolition and replacement of two existing company operations buildings, approximately 50 years old, which will include lead-based paint removal. The construction of Battalion Operations Facility includes the demolition of an existing 9,278 sq. ft.

building, which was constructed in 1963 and renovated in 1994. Demolition of this building will include lead-based paint removal. It is reasonable to assume that any structure constructed before 1978 may contain lead-based paint. As such, it will be assumed that each of these structures contain lead-based paint and will not be sampled (Winn, August 1999).

### **3.11.5.1 Lead Paint Operations and Removal Procedures**

EPA regulation 40 CFR 745 regulates lead-based paint poisoning prevention in certain residential structures; however, lead-based paint in commercial structures is currently not regulated. Residential Property Renovation-Subpart E (40 CFR 745.80-88) contains regulations under Title IV of the Toxic Substances Control Act (TSCA) and applies to all renovations of target housing performed for compensation. Each person who performs a renovation is required to provide a lead hazard information pamphlet to the owner and occupants of such housing prior to commencing the renovation (40 CFR 745.80). Regulation 40 CFR 745.85 provides information distribution requirements for renovators of residential dwelling units and 40 CFR 745.86 provides record-keeping requirements that renovators must maintain for three years following completion of the renovation activities.

On December 18, 1998, the EPA published a proposed rule under TSCA for the management and disposal of lead-based paint debris generated by individuals or firms. States would have two years after the final rule is issued to adopt these new TSCA disposal and management standards, after which time the Federal standards would become effective in states without authorized programs. Section 402(c)(3) of TSCA directs EPA to revise regulations codified at 40 CFR 745 subpart L to ensure that individuals engaged in renovation and remodeling activities that create lead-based paint hazards are properly trained; that training programs are accredited; and that contractors engaged in such activities are certified (EPA Office of Pollution Prevention and Toxics Lead Page, August 1999). Abatement of lead-containing substances at Fort Meade will be implemented in accordance with guidance from the U.S. Army Engineering and Housing Support Center Technical Note 420-70-2 and Maryland regulations. Demolition or renovation debris exceeding safe criteria levels for lead-based paint, as defined under Resource Conservation and Recovery Act (RCRA), is treated as hazardous waste and disposed of at an approved off-site facility.

### **3.11.6 Pesticides, Herbicides, and Fertilizers**

A pesticide is any substance or mixture of substances that is intended to prevent, destroy, or mitigate any pest. This term also applies to herbicides when the substance or mixture of substances is used to destroy or inhibit plant growth. Because these substances are designed to adversely affect living organisms, they create a potential health risk to humans, animals, and the environment. In the past few years, increasing scientific and public attention has been focused on the potential adverse effects of man-made chemicals on public health. There is an increasing amount of evidence that these synthetic chemicals, also found in fertilizers, interfere with the normal endocrine system functioning in humans and other animals (EPA 1999a,b,c).

#### **3.11.6.1 Pest Management Operations and Maintenance**

The Fort Meade Installation Pest Management Plan (IPMP) provides guidance for the operation and maintenance of an effective pest management program. Both chemical and nonchemical control techniques are used. Pest management personnel (PMP) are trained and certified either by the State of Maryland or by the DoD. PMP attempt to minimize the risk of contamination to people and the environment.

The Installation Pest Management Coordinator (IPMC) monitors the pest management program under the DPW, who acts as direct supervisor of pest management activities. The IPMC maintains records of all pest management operations performed by engineering, golf course, and medical personnel; contractors; and individual residents.

Only pesticides (including insecticides, herbicides, and rodenticides) and pesticide application equipment required by the pest management program are maintained on the installation. Pesticides are ordered as needed to maintain at least a three month supply, but no more than a one year supply. Pesticides are stored for use by the DPW in their original containers in Building 294. Other locations of pesticide use and storage on post include the Golf Course, the Army and Air Force Exchange, Family Housing, and the Post Veterinarian. Pesticides are mixed either in Building 294 or on site. After proper cleaning, empty pesticide containers are disposed of in accordance with label disposal instructions (Fay 1998).

### **3.11.7 Hazardous Materials and Waste**

Procedures for handling, storage, transportation, and disposal of hazardous materials and wastes are outlined in *Department of the Army, Fort George G. Meade Management Plan for Hazardous Materials and Hazardous Waste* (DOA 1993). The plan also outlines command responsibilities, identification procedures, inspections, personnel training, and spill response and emergency procedures.

Fort Meade generates relatively small quantities of a variety of hazardous wastes. The *Hazardous Waste Minimization Assessment: Fort Meade, Maryland* (USACE 1991) identified 21 categories of waste generators on the installation. An analysis of annual waste disposal data indicated that Fort Meade generates more than 50 tons of regulated hazardous waste, annually. Major waste generators include the Directorate of Logistics which generates the most waste (14,146 pounds per year [lb/year]); followed by the Directorate of Public Works from repair and maintenance operations (2,661 lb/year); hospitals, clinics, and laboratories (2,340 lb/year); and motor pools (1,736 lb/year). Approximately 70 percent of the total waste generated consists of paint-related materials and paint thinner waste.

#### **3.11.7.1 Hazardous Materials Operations and Maintenance**

Fort Meade is beginning to implement a new tracking system for hazardous materials. All hazardous materials will be cataloged through a HAZMAT facility and checked out on an as-needed basis in small quantities. Unused portions of these quantities are to be turned in to the HAZMAT facility where trained personnel will handle all reuse, disposal, storage, and transportation of hazardous materials.

All sites that maintain stocks of hazardous materials are instructed by the DPW to submit their inventories to the EMO. The storage limit for hazardous waste is approximately a two-week supply (Gebhardt 1999). Hazardous material safety data sheets (MSDS) and appropriate Installation Spill Contingency Plan emergency response instructions are based at each site.

Personnel employed at Fort Meade who manage or handle hazardous materials or who respond to hazardous material incidents are trained in accordance with Federal, State, local, and Army

requirements. Training is the responsibility of each activity's director. Fort Meade has a trained hazardous materials response team.

### **3.11.7.2 Hazardous Waste Operations and Maintenance**

Hazardous wastes generated at Fort Meade are collected at satellite accumulation areas; after these facilities have reached capacity, the hazardous waste is transported to the Controlled Hazardous Substance Storage Facility (Building 2250). In accordance with EPA and MDE regulations, a running inventory of hazardous wastes is maintained at the storage facility. No treatment of hazardous waste is conducted on post and disposal is conducted by an outside hazardous waste contractor.

### **3.11.8 Contaminated Areas**

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly referred to as Superfund, was enacted by Congress on December 11, 1980. This act is targeted at the cleanup of areas contaminated by releases of hazardous substances into the environment. CERCLA assigns accountability for cleanup costs of contaminated areas by providing Federal authority to respond directly to the hazardous substance releases that may endanger public health or the environment. This act created a tax on the chemical and petroleum industries that formed a trust fund used for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also requires the EPA to establish and maintain a National Priorities List (NPL) of the most serious uncontrolled or abandoned hazardous waste sites requiring long-term remedial response actions. (EPA 1999a; MDE 1999)

Fort Meade was designated a NPL site on July 28, 1998. The EPA designated Fort Meade a NPL site based on the evaluation of four locations, the Defense Reutilization and Marketing Office (DRMO), Active Sanitary Landfill (ASL), Clean Fill Dump (CFD), and Post Laundry Facility (PLF), that have been identified as past storage and disposal sites for hazardous materials and wastes that contained hazardous substances.

The NPL listing includes BRAC and non-BRAC portions of Fort Meade. An estimated 8,848 acres of Fort Meade were originally targeted for closure; 8,100 acres of the BRAC property have

since been transferred to the Department of Interior's Patuxent National Research Refuge (PNRR) for use as a wildlife refuge. The Active Sanitary Landfill encompasses approximately 308 acres of the BRAC property and has been obtained by the U.S. Army. Approximately 366 acres of property is occupied by Tipton Army Airfield, which was transferred to Anne Arundel County to serve as a General Aviation Facility the fall of 1999.

Environmental cleanup of potentially contaminated sites on Fort Meade has consisted of a combination of removal actions, eliminating the threat to public health and the environment by removing hazardous substances from the site, and remedial actions the permanent cleanup of contaminated areas. Removal actions have been completed at the DRMO site and the Tipton Army Airfield parcel. Environmental investigations are currently being performed at eight sites within the BRAC property and at three non-BRAC sites (ASL, DRMO, and PLF). Remedial investigations are occurring at eleven sites and several additional removal actions and remedial actions are planned within the next few years. In addition, in order to comply with obligations under the RCRA, the U.S. Army has recently identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) on non-BRAC portions of Fort Meade (EPA CERCLA Information Site, the Superfund NPL Assessment Program (SNAP) Database, Fort George G. Meade Site; EPA Region 3).

Contaminated areas are generally located along the southern border of the installation and all are undergoing investigative or remediation activities at this time. The contaminated areas are downgradient from the sites, neither on or near the areas of proposed construction. Areas of industrial contamination are located along Route 32 and outside of the footprint of proposed construction areas. Any potential contaminated groundwater contamination would flow toward Route 32 and away from proposed construction (Gebhardt 1999).

The Troop Boiler Plant has a pump and treatment system in place and well monitoring is being performed. Well monitoring is also being performed at the DRMO drum site; further site exploration and sampling is being done to determine the extent of contamination (Gebhardt 1998).

Other contaminated sites include all inactive landfills on post located at Tipton Army Airfield and landfill cells 1, 2, and 3. Landfills 2 and 3 at Tipton Army Airfield have been closed and capped, and all other post landfills are to be closed and capped in the near future. The Fire Training Area and Post Laundry facility (Building 2250) both have well monitoring activities being conducted on site. Both the Battery Shop building (Building 2283), which has lead in the groundwater, and areas long the MD Route 32 corridor, known to have petroleum products in the groundwater, have well monitoring in place and are undergoing further investigation to recommend cleanup procedures (Gebhardt 1998).

The installation's CERCLA initiative is currently operating parallel to investigative procedures for this assessment. As part of the CERCLA process, contaminated areas are being sampled to determine the extent of contamination. Treatment systems are currently in place and monitoring is being conducted to determine further courses of action. Because investigative procedures and remediation activities for Fort Meade's CERCLA initiative continue to be performed concurrently and separate from this assessment, those processes will not be addressed in detail in this EIS.

### **3.11.9 Permits and Regulatory Authorizations**

Fort Meade operates under a number of permits from various State and Federal agencies. Table 3-7 lists the primary permits and authorizations issued to Fort Meade.

Table 3-7. Permits and Regulatory Authorizations at Fort Meade, Maryland

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Permit Name or Authorization	Permit Number	Date Issued	Date Expired	Building or Location	Issuing Authority	Authorized Activity
National Pollutant Discharge of Elimination System (NPDES) Groundwater Discharge Permit	95-DP-2634	5-2-95	5-2-00	Golf Course	MDE	Fort Meade is authorized to discharge 133,000 gallons per day of final effluent to irrigate the golf course.
NPDES Wastewater Treatment Plant Permit	96-DP-2533	10-1-96	9-30-01	Advanced Wastewater Treatment Plant (AWTP)	MDE	Fort Meade is authorized to use the outfall to the Little Patuxent River and to establish internal monitoring at Special Processing Center (No. 301), Special Processing Center (No. 401), and Advance Packaging Center (No. 501).
NPDES Stormwater Discharge Permit	92-GP-0001	12-1-97	11-30-02	Various	MDE	Allows discharge of stormwater from industrial facilities.
NPDES – General Discharge Permit	92-GP-0005	8-07-95	8-6-00	Various	MDE	Allows discharge of stormwater from maintenance and repair activities, water main flushing, etc.
General Oil Operations Permit	94-DP-0594	4-29-99	4-29-04	Various Tanks	MDE	Fort Meade is authorized to receive oil deliveries by truck to any tank on base. No. 2 fuel oil may be stored on base.
Medical Waste Incinerator Permit (KACH)	02-0322-2-0117	3-1-94	2-28-99 <sup>(a)</sup>	Kimbrough Army Hospital	Air Management Administration, Maryland Department of Health and Mental Hygiene	Incineration of infectious and potentially infectious waste is authorized. The incinerator is rated at 300 pounds per hour. The permit conditions do not require monitoring. However, ash is sampled quarterly for metals using toxicity characteristic leaching procedures.
Asbestos Removal	M21-02-021	5-22-99	5-22-00	Fort Meade	MDE	The operation of a controlled hazardous substance storage facility is authorized.
Water Appropriations and Use	AA69S021 and AA69G021	1-1-91	1-1-03	Groundwater Wells and the Little Patuxent River	Maryland DNR	Withdrawals of potable water of 2 mgd from each of six wells and 5.26 mgd from the Little Patuxent River is authorized.



Table 3-7. Permits and Regulatory Authorizations at Fort Meade, Maryland

Permit Name or Authorization	Permit Number	Date Issued	Date Expired	Building or Location	Issuing Authority	Authorized Activity
Landfill Operations	1992-WSF-0022-0	11-2-95	11-1-00	11-2-95	11-1-00	Landfill operations contingent upon certain best management practices and conditions.
Secondary Scrap Tire Collection Facility License	1993-RSC-0098	10-5-94	10-5-99 <sup>(b)</sup>	DRMO Recycling	MDE	Collect and store up to 1,500 scrap tires at each of the two sites, prior to their disposal.
Secondary Scrap Tire Collection Facility License	1993-RSC-0097	10-5-94	10-5-99 <sup>(b)</sup>	Army and Air Force Exchange Service (AAFES)	MDE	Collect and store up to 1,500 scrap tires at each of the two sites, prior to their disposal.
<sup>(a)</sup> According to Angelo Coliani, Fort Meade has paid the fee for permit renewal and is continuing to operate under the existing permit. MDE is currently reissuing it in the state permit and modifications are being made to the requirements.						
<sup>(b)</sup> According to Don Marquart, the application to renew the permit has been sent to MDE and is currently being processed.						

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## **3.12 INFRASTRUCTURE**

### **3.12.1 Utilities**

#### **3.12.1.1 Potable Water Supply**

Fort Meade obtains the majority of its the potable water on the installation from a combination of six groundwater wells and an intake in the Little Patuxent River. A small well at the Walter Reed Army Medical Center Animal Holding Farm contributes minimally to the supply. The groundwater wells were installed at Fort Meade to take advantage of the Patuxent Aquifer. The wells have static water levels ranging between 80 and 120 feet below the surface. The individual well capacities vary from 300 to 1,000 gallons per minute (gpm). Total capacity of the six wells is 5,000 gpm or 7,200,000 gallons per day (gpd) and the small well at the Animal Holding Farm has a capacity of 80 gpm (Fort Meade 1998a). Daily demands are met by using a mix of surface water and three or four groundwater wells. Under normal conditions, the Little Patuxent River supplies 75 percent of the water requirements of Fort Meade. The river water intake and low lift pumping station are located approximately 3000 feet from the installation water treatment plant. The raw water is transported via one 12-inch transit pipe and two 12-inch cast iron pipes. Approximately 7 mgd are brought into the system. The average daily flow in the Little Patuxent River is approximately 40 mgd, however, during summer drought conditions, available raw water supply from the river has been as little as 4 mgd (Fort Meade 1998a).

#### **Water Management Operations and Maintenance**

The installation operates the withdrawal of water under two Water Appropriation and Use permits from the Maryland DNR, Water Resources Administration. One permit allows an average of 2 mgd of water to be withdrawn annually from each of the installation's groundwater wells. The other permit allows an average of 5.2 mgd of water to be withdrawn annually from the Little Patuxent River. The installation uses approximately 3.3 mgd on average, which is approximately 40 percent of the plant's capacity. Peak summer demand rarely exceeds 6 mgd. Fort Meade also maintains approximately 3.5 million gallons of water for emergency use in eight storage tanks on the base (USACE 1997).

Fort Meade operates its own water treatment plant located in the southwest quadrant of the installation cantonment area near the intersection of Mapes and O'Brian roads. The water treatment plant, a multimedia filtration plant with a clearwell capacity of 2 million gallons, receives raw water from both the river and the wells. The treatment capacity of the plant is 8.2 mgd. The plant contains three clearwells with a total capacity of 2 mgd. The water is treated for turbidity, iron, and manganese. Fluoride is added to the water before it is distributed (USACE 1997).

The water supply sources (both primary and secondary), as well as the treatment, storage, and installation distribution system, have significant maintenance and repair needs. Recent studies cited in the Draft Long Range Component of the Fort Meade Real Property Master Plan (Fort Meade 1998a) have described in detail the deficiencies in the total installation water supply and distribution system. These deficiencies include (1) dam and intake concerns at the Raw Water Pumping Station, (2) non-functioning wells, (3) maintenance and repair needs at the installation water treatment plant, and (4) maintenance and repair concerns with some pumping stations and various components of the distribution mains (line segments and valves). The *Fort Meade Installation Survey Report (ISR)* of August 1999 evaluated the water system and issued a C-4 rating for quality for water source/treatment and water distribution and a C-3 rating for quality for water storage. A C-4 rating indicates, that "Facilities do not meet unit/activity needs or Army Standards. Major functional deficiencies exist. Infrastructure significantly impairs mission performance" (Fort Meade 1999c). A C-3 rating indicates "facilities meet the majority of unit/activity needs, but do not meet Army Standards. Some functional infrastructure impairs mission performance" (Fort Meade 1999c).

At the same time, the August 1999 report rated the water system C-1 for quantity (Fort Meade 1999c). This indicates that almost all (greater than 95 percent) of required facilities are on hand (Fort Meade 1999c) Fort Meade's average water treatment (consumption) for the FY 94-96 period was approximately 3 mgd. Using the Fort Meade installation population figures per the Army Stationing and Installation Plan, the average per capita Fort Meade water consumption is approximately 90.0 gallons per capita per day (gpcd). This consumption figure is consistent with normal planning figures used in the engineer planning books; "Civil Engineering Reference

Manual” (Lindeburg 1997) and “Standard Handbook of Engineering Calculation” (Hicks 1994). The existing water treatment and distribution system can support a population range of approximately 54,000 to 91,000 persons (Fort Meade 1998a).

### **3.12.1.2 Sewer and Wastewater**

Fort Meade operates its own sewage treatment system. The Advanced Wastewater Treatment Plant (AWTP), formerly Sewage Treatment Plant No. 2, was completed in August 1983. The facility is located in the southwest corner of the installation along the Little Patuxent River at the intersection of MD Route 198 and MD Route 32.

The AWTP treats approximately 2.5 mgd, but has an average daily design capacity of 4.5 mgd. The outfall from the AWTP discharges into the Little Patuxent River. Approximately 16,000 wet tons of sludge material are generated annually and disposed of by contract, as a soil amendment (USACE 1997).

Recent studies indicate that Fort Meade’s average annual level of sewage treatment for the period from 1994 to 1996 was approximately 2.6 mgd. Using the Fort Meade installation population figures per the Army Stationing and Installation Plan, the average per capita Fort Meade sewage treatment is approximately 70.3 gpcd, 78 percent of the installation average per capita water consumption (90.0 gpcd).

The *Fort Meade ISR* of August 1999 rated the sewer system as C-3 for quality for sewage treatment and disposal, and C-4 for quality for sewage collection (Fort Meade 1999c). The 1999 report rated the sewer system as a C-1 for quantity. This indicates that almost all (greater than 95 percent) of required facilities are on hand (Fort Meade 1999c).

#### Wastewater System Operations and Maintenance

The sewer and waste water utility mainlines are to be privatized at an undetermined date. County officials are aware of the system’s deficiencies and are working with Fort Meade to prioritize and address known problems (Brusinghan 1998). In particular, the water main along Mapes Road is very old and in poor repair; it is scheduled for total replacement (Correa 1998). Certain planned

projects, still to be identified, will require adjustments to the existing system. Demolition and new construction of service mains will be the primary system adjustment. However, water conservation measures to be implemented as part of installation maintenance are expected to reduce water usage and wastewater discharges overall.

### **3.12.1.3 Energy**

Energy capacity distribution on Fort Meade, including electricity, natural gas, fuel oil, and steam, are described in the following subsections.

#### Electrical Power

Baltimore Gas & Electric (BGE) provides electricity to Fort Meade and the surrounding off-post area. A 115-kilovolt (kV) transmission line brings electricity to government-owned master substations on the base. The primary source for Fort Meade (non-NSA) is a 110 kV feederline (3 phase-4 wire) redundant feeder pair from the BGE Waugh Chapel Power Station that trades along the south and east sides of the installation (along MD Route 32) on steel towers and terminates at Substation #3.

The *Fort Meade ISR* of August 1999 evaluated the electric system (electric source, electric distribution, and electric substations) and issued a C-3 rating for quality (Fort Meade 1999c). The August 1999 report rated the electric system C-1 for quantity.

All of the electrical distribution system on Fort Meade is government-owned and operated. The installation's primary distribution system is composed of both underground and overhead lines. The majority of the distribution system is overhead on wooden power poles. Portions of the distribution system were constructed in the 1940s. Recent studies have recommended that consideration should be given to placing the secondary overhead system underground (Fort Meade 1998a).

FY93 and FY94 study data revealed an August 1993 peak of 22,800 kVA. This represents 76 percent of the Substation #3 rated capacity. Recent studies suggest that Substation #3 should be

able to handle typical growth of installation activities without impacting power supply redundancy (Fort Meade 1998a).

#### Natural Gas

Fort Meade is supplied with natural gas by BGE. The natural gas distribution system at Fort Meade, including primary mains and service connections, is extensive and runs throughout the installation. The *Fort Meade ISR* of August 1999 evaluated the natural gas distribution system and issued ratings of C-4 for quality and C-1 for quantity (Fort Meade 1999c). Natural gas is supplied via high pressure (100 lbs pressure per square inch) mains, which form a loop around the installation. Upgrades to the central heating system are anticipated as part of ongoing installation operations and maintenance. New gas-fired boilers installed throughout the installation would replace old centralized oil-fired boilers. All of the proposed facilities evaluated in this document would be served by natural gas.

#### Fuel Oil

Number 2 fuel oil is used throughout the installation as fuel for individual heat plants. The oil is stored in both aboveground and underground storage tanks near the heat plants they service. Fort Meade plans to decommission and abandon two central heating plants as part of energy conservation measures implemented through 2005. Oil waste disposal and #2 fuel oil tank closures will be instituted as required by USEPA and OSHA guidelines. None of the proposed construction anticipate using fuel oil as a heating source

#### Steam

Fort Meade has two large heat plants that distribute steam to specific areas on the installation. None of the proposed construction and renovation projects will be tapping existing steam heating distribution networks.

### **3.12.2 Energy Conservation Measures**

As part of daily operations and maintenance procedures on the installation, Fort Meade intends to implement certain energy conservation measures designed to reduce Fort Meade's water and energy consumption as well as pollutant emissions to the ambient air. This effort complies with

Executive Order (E.O.) 12902, Energy Efficiency and Water Conservation at Federal Facilities and E.O. 13123, Greening The Government Through Efficient Energy. According to Federal mandates, the energy conservation measures are to be accomplished through cost-effective and energy-efficient upgrades to heating and cooling systems, individual units lighting fixtures, energy use control systems, and replacement of faucets, and toilets. The ultimate goal is to reduce federal energy consumption from 1985 levels by 30 percent by 2005, and 35 percent by 2010.

### **3.12.3 Solid Waste**

Fort Meade has its own *Integrated Solid Waste Management Plan* (ISWM) that defines procedures for disposal of solid waste on the installation, including municipal solid waste and recyclable materials. In accordance with the Federal Facility Compliance Act of 1992 (FFCA), Fort Meade's ISWM Plan complies with the Solid Waste Disposal Act (SWDA) amended to include Federal installations.

From residential, office, and industrial sources, Fort Meade generates approximately 12,096 tons per year of solid waste or 33.14 tons per day (tpd) (Marquardt 1999; Fort Meade 1998b). During 1999, approximately 20.74 tons of municipal solid waste per day from Fort Meade were disposed of through the Annapolis Junction Transfer facility. The remaining 12.40 tons per day consists of recyclable materials, much of them generated from installation daily maintenance activities. According to information provided by the Fort Meade EMO office, approximately 2,570 tons (7.04 tons per day) of recyclable large and small sized yard waste were recycled by Fort Meade through A-A Recycle and Sand, Inc. in 1999. As reported by the DRM's Command Information Summary, an estimated 1,956 tons of other types of recyclable materials (5.36 tons per day) were received into the Fort Meade Recycling Program during the year. The various types and amounts of recyclable materials received at Fort Meade's recycling center are presented in Table 3-8.

Fort Meade's solid waste is ultimately transported to the King George Landfill in King George, VA for disposal. The total capacity of the King George Landfill is 31,850,000 tons (45,500,000 cubic yards). The estimated remaining capacity of the King George Landfill, as of Spring 2000, is 28,850,000 tons (Schotsch 2000). Any solid waste that is not accepted through the Annapolis

Junction Transfer facility is disposed of at the Millersville Sanitary Landfill in Anne Arundel County; the amount is negligible (Fort Meade 1998b).

Recyclable materials such as aluminum and paper products are recycled through the Fort Meade Recycling Center. The remaining solid waste generated per day is made up of other recyclable materials such as yard waste, scrap metal (steel), used tires, and waste oil and are recycled through Fort Meade's DRMO Recycling and AAFES recycling programs (Fort Meade 1998b).

Table 3-8. Recyclable Materials Handled by the Fort Meade Recycling Program in 1999.

Recyclable Material	Tons
Cardboard	769.5
Computer/White Paper	103.5
Plastics	33.5
Newspaper	209.5
Telephone Books	10.0
Manila Folders	3.75
Wooden Pallets	14.0
Fluorescent Tubes	2.5
Pulp	600.0
Used Oil	5.0
Steel Scrap	71.5
Laser Printer Cartridges	2.5
Compact Disks	0.03
Glass	48.75
Steel Cans	11.75
Aluminum Cans	8.75
Magazines	9.0
Xmas Trees	10.0
Tires	41.5
Batteries	1.0
<b>Total:</b>	<b>1956.0</b>



### **3.12.4 Traffic**

#### **3.12.4.1 Surrounding Road System**

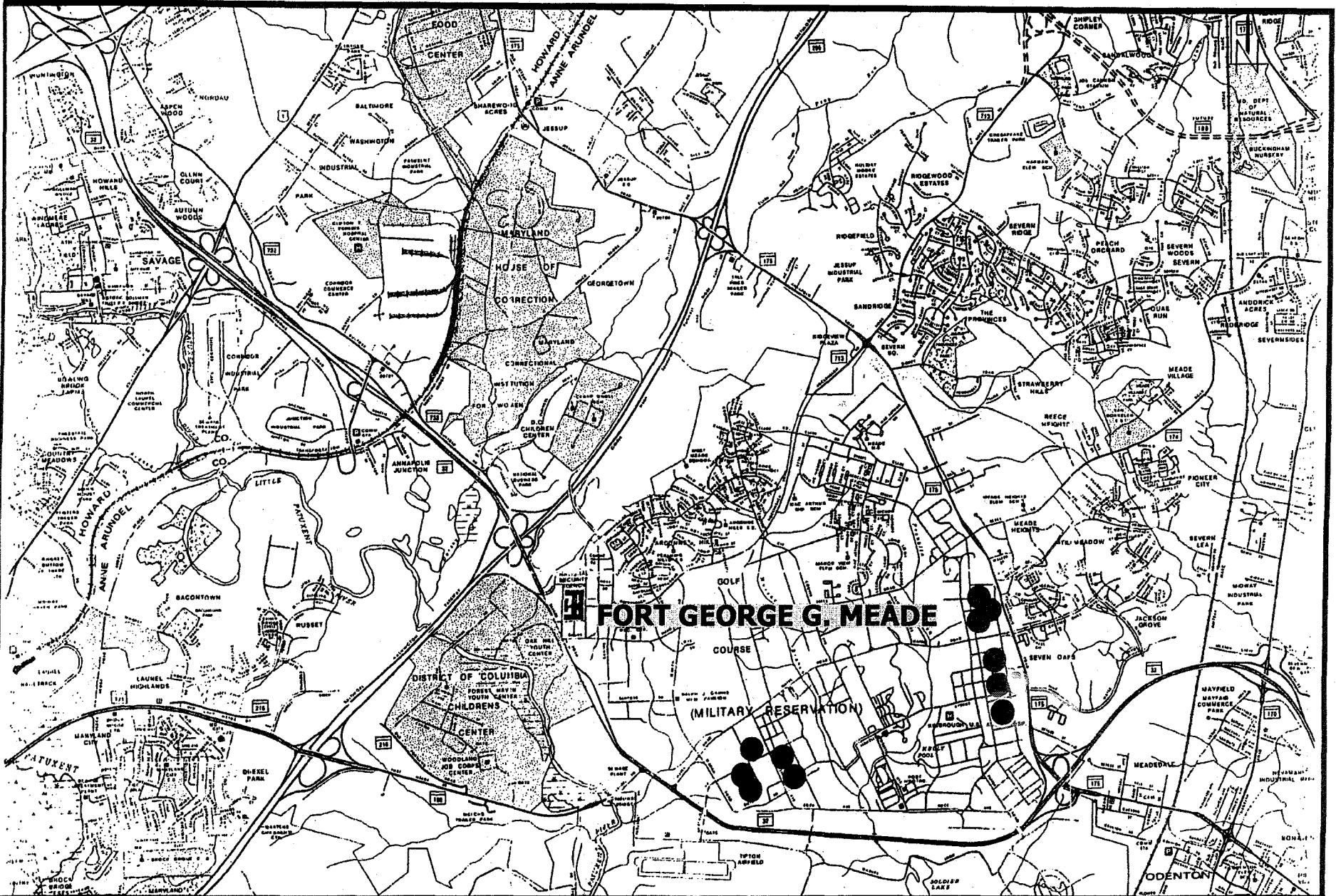
Fort Meade is located in the western portion of Anne Arundel County and comprises approximately 9,000 acres. Three major highways provide access around the perimeter of the installation as follows:

- The Baltimore-Washington Parkway (MD 295) is located just west of Fort Meade and provides north/south access between Baltimore and Washington, D.C. No heavy trucks are permitted on the Parkway south of MD 175.
- MD 175 borders the north and east boundaries of Fort Meade and provides for east/west travel between Columbia and Odenton. MD 175 provides access to other major roadways such as MD 32, the Baltimore-Washington Parkway, I-95, and US 29. MD 175 has a varying width that provides a two-lane roadway from Rockenbach Road to Reece Road, then widens to a minimum four-lane roadway from Reece Road to MD 32.
- MD 32 borders the southern portion of Fort Meade and provides for east/west travel from I-97, east of Odenton, to Howard County. In the vicinity of Fort Meade, MD 32 has a four-lane divided cross section and primarily functions as a freeway. However, at grade signalized intersections are provided along the Fort Meade boundary at Mapes Road and MD 198. Interchanges are provided along MD 32, at both MD 175 and the Baltimore-Washington Parkway.

The major roadways providing access through Fort Meade include Rockenbach Road, which extends from MD 175 southerly to MD 32 through Fort Meade, and Mapes Road, which traverses east/west through Fort Meade between MD 175 and MD 32.

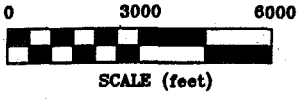
Other State roadways providing access to the Fort Meade area include Ridge Road (MD 713), Reece Road (MD 174) and Laurel-Fort Meade Road (MD 198). The first two roadways provide for north/south travel north of MD 175 while MD 198 extends from MD 32 on the south side of Fort Meade, westerly into Laurel and then Howard County.

Figure 3-8 provides a site location map showing Fort Meade and the surrounding road system.



**FORT GEORGE G. MEADE**

(MILITARY RESERVATION)



● Location of proposed developments

**FORT MEADE EIS**

Figure 3-8

Site Location Map

TTG PROJ: 1999-0521

FILE: FtMeade

DATE: 08 Dec 99

**The Versar Inc.**  
 8200 RUMSEY ROAD  
 COLUMBIA, MARYLAND 21045  
 (410) 964-9200

*The Traffic Group*

#### **3.12.4.2 Access to Fort Meade**

Direct access to Fort Meade is provided by several intersections along both MD 175 and MD 32. Traveling east along MD 175 from the Baltimore-Washington Parkway, access to Fort Meade is provided by Rockenbach Road, Reece Road, Mapes Road, and Llewellyn Avenue. Access is provided on the southern boundary of Fort Meade via MD 32 at Emory Road, near the NSA facility, and from Mapes Road.

#### **3.12.4.3 Key Intersections/Roadways**

The Proposed Action for this EIS includes eleven potential developments. Six of these are clustered along MD 175, near the intersections with Mapes Road and Llewellyn Avenue. The other five potential developments are located in the southwest portion of Fort Meade, south of Mapes Road in the vicinity of Zimborski Avenue and Taylor Avenue. Figure 3-8 shows the approximate locations of the developments included in the Proposed Action.

Given the location of the Proposed Action developments, the key intersections on installation roads (hereafter "on-post intersections") for this EIS were identified as follows:

- Mapes Road at Cooper Avenue.
- Mapes Road at Taylor Avenue

Mapes Road between MD 175 and MD 32 was identified as a key road segment for this analysis.

Key intersections at state highways, either on or off installation property (hereafter "off-post intersections") were also identified in terms of potential impacts from the proposed action. The identified key off-post intersections to be evaluated are as follows:

- MD 175 and Rockenbach Road
- MD 175 and Reece Road
- MD 175 and Mapes Road
- MD 175 and Llewellyn Avenue
- MD 32 and Mapes Road
- MD 32 and MD 198
- MD 32 and Emory Road

Key "off-post" road segments that will be affected by the Proposed Action include the following:

- MD 175, west of Rockenbach Road
- MD 175, between Rockenbach Road and Reece Road
- MD 175, between Reece Road and Mapes Road
- MD 175, east of Mapes Road
- MD 32, north of Emory Road
- MD 32, between Emory Road and MD 198
- MD 32, between MD 198 and Mapes Road
- MD 32, east of Mapes Road
- Baltimore-Washington Parkway, between MD 175 and MD 32

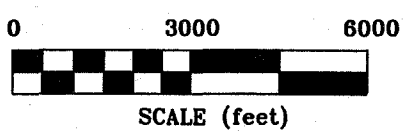
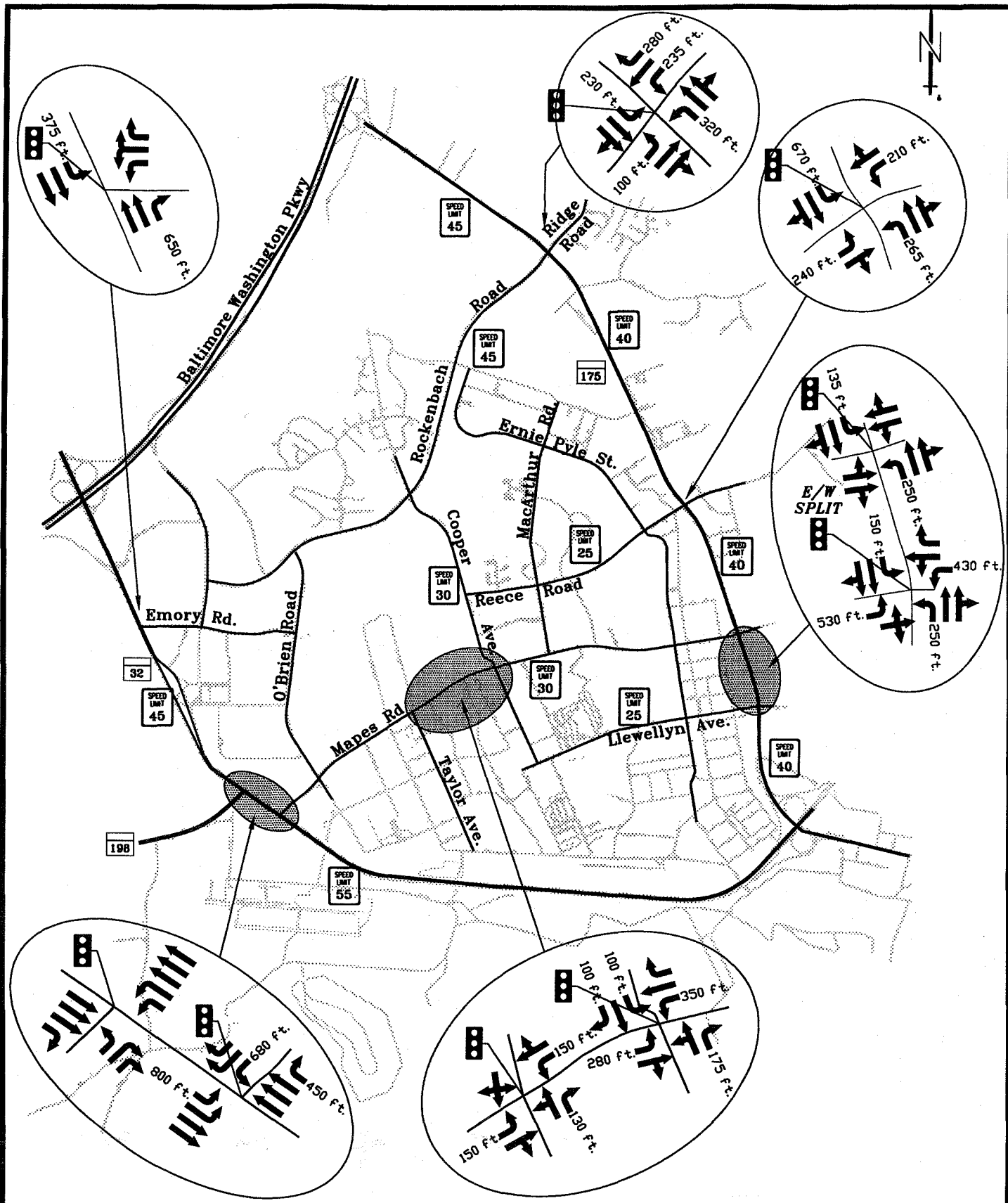
Based upon the identified key on-post and off-post intersections and roadways,

The existing lane uses and traffic controls at the key locations throughout the study area were determined (Figure 3-9). Figure 3-9 also provides the existing posted speed limits along these roadways.

#### **3.12.4.4 Existing Traffic Conditions**

In order to assess existing traffic conditions for this EIS, traffic counts were collected in 1999 on roads throughout Fort Meade and the surrounding area by personnel from the Traffic Group, Inc. The traffic data collected included Intersection Turning Movement Counts, Average Daily Traffic Volume Counts, Vehicular Classification Studies, and Travel Speed Studies. Intersection turning movement counts were conducted between the hours of 7-9 A.M on weekdays at the identified key locations. These counts were conducted by the study team between early June and November, 1999. The count locations are shown in Figure 3-10. Daily volume, classification, and speed counts were conducted between June and December, 1999, by the study team. Figures showing the locations for these studies are included later in this section.

Traffic conditions are typically evaluated using capacity and Level of Service (LOS) as a method of evaluation. The Highway Capacity Manual (HCM) Special Report 209, 3<sup>rd</sup> Edition, published by the National Resource Council in 1994, addresses capacity and LOS as its two principal

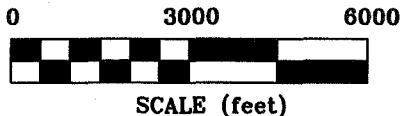
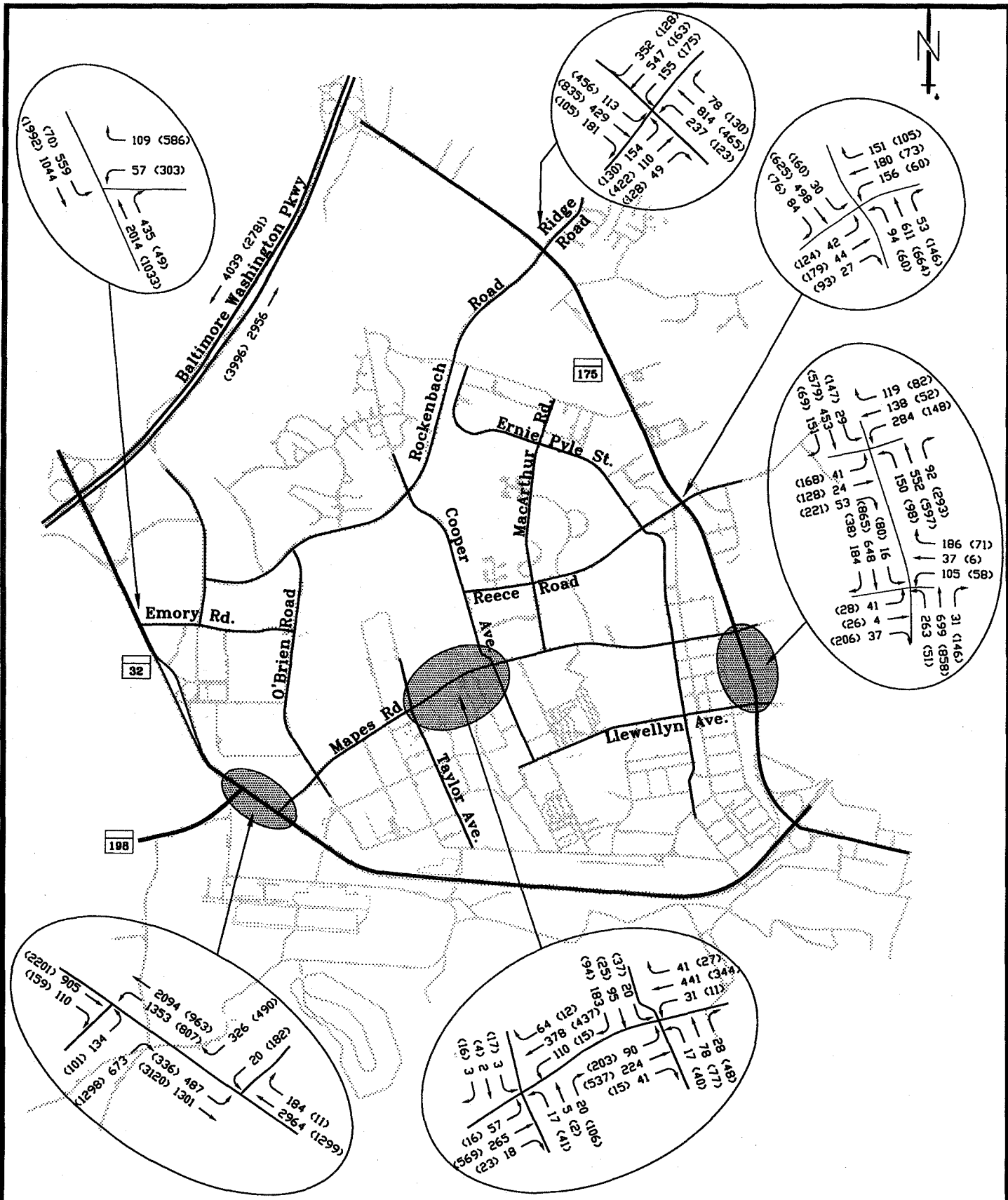


FORT MEADE EIS

Figure 3-9 Existing Lane Use

TTG PROJ: 1999-0521  
FILE: FtMeade  
DATE: 08 April 99

**The Traffic Group**  
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00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

<b>FORT MEADE EIS</b>	
Figure 3-10	Existing Peak Hour Traffic Volumes
TTG PROJ: 1999-0521	
FILE: FtMeade	
DATE: 08 April 99	
<i>The Traffic Group</i>	<b>Versar INC.</b> 9200 RUMSEY ROAD COLUMBIA, MARYLAND 21045 (410) 964-9200

concepts. The capacity of a facility is defined as “the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions. ”LOS uses qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists and passengers. The descriptions of individual “levels of service” characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. Table 3-9 presents the six levels of service and their respective descriptions, from A to F, with LOS-A representing the best operating conditions and LOS-F the worst. Each level of service represents a range of operating conditions. The volume of traffic that can be served under the stop-and-go conditions of LOS-F is generally accepted as being lower than that possible at LOS-E; consequently, service flow rate E is the value that corresponds to the maximum flow rate, or capacity, of the facility. For most analysis purposes, LOS-D is usually considered to be the lowest level of service considered acceptable to the facility users.

The Maryland State Highway Administration (SHA) as well as Anne Arundel County use LOS-D as their criteria for determining adequacy of transportation facilities. Furthermore, in more urban and suburban areas, the adequacy of transportation facilities is typically dictated by the operation of major intersections. For this purpose, Capacity Analyses are conducted for intersections using the Critical Lane Volume (CLV) methodology, which is a planning methodology accepted by many jurisdictions throughout the region. The CLV procedure develops a Critical Lane Volume on the basis of the sum of hourly volumes coinciding at an intersection, considering the various turning movements and travel lanes available. Table 3-9 details the various levels of service as well as the corresponding Critical Lane Volumes.

The CLV methodology is a planning procedure that provides valuable insight to operating conditions of critical intersections. However, the HCM also provides a detailed analysis procedure for determining LOS for intersections with traffic signals. This is an operational procedure that considers all the geometric characteristics and other factors affecting traffic operations including signal timing and phasing. The HCM procedure identifies LOS in terms of

Table 3-9. Level of Service/Critical Lane Volumes for Traffic Analysis

LOS Rating	Definition	Critical Lane Volume (CLV)	
		Min #	Max #
LOS-A	Free flowing traffic. Individual vehicles are virtually unaffected by the presence of others in the traffic stream. Freedom to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to motorist, passenger, or pedestrian is excellent.	0	1000
LOS-B	Relatively stable flow of traffic, but the presence of others in the stream of traffic begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS-A. The level of comfort and convenience is somewhat less than at LOS-A, because the presence of others begins to affect individual behavior.	1001	1150
LOS-C	Traffic is in the range of stable flow, but marks the beginning of conditions where individual drivers become significantly affected by others in the traffic stream. Speed and maneuverability are affected by the presence of other vehicles and substantial vigilance is required on the part of drivers. The general level of comfort and convenience declines noticeably at this level.	1151	1300
LOS-D	Represents high density traffic, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will often cause operational problems at this level.	1301	1450
LOS-E	Represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform rate. Freedom to maneuver within the traffic stream is extremely difficult, it is frequently accomplished by forcing other vehicles or pedestrians to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause stopping and delays.	1451	1600
LOS-F	This condition is forced flow or stop-and-go traffic creates a "break-down" situation. It exists wherever the rate of traffic flow exceeds the capacity of a section of roadway to accommodate the flow past a given point. Queues form behind such locations. Operations within the queue are characterized by stop and go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow that queues forms; LOS-F is an appropriate designation for such points.	1601	>1601

Source: Adapted from the National Resource Council's 1994 Highway Capacity Manual, Special Report 209. Transportation Research Board.



delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. For purposes of this study, the critical intersections were first evaluated using the CLV methodology, and then more detailed analyses were conducted using the HCM methodology for critical intersections with traffic signals.

To evaluate existing conditions at the identified key intersections, intersection turning movement counts were conducted at each of the intersections. These counts were conducted between the hours of 7-9 AM and 4-6 PM on a weekday to identify existing traffic volumes. Figure 3-10 identifies the resulting existing peak hour traffic volumes at the identified key on-post and off-post intersections.

Using the CLV methodologies, the resulting Critical Lane Volumes, as well as the corresponding levels of service, for the identified key intersections are shown in Figure 3-11 for the weekday morning and evening peak hours. A review of those results illustrates that the key on-post intersections are operating at optimum LOS-A conditions during both the weekday morning and evening peak hours. The off-post intersections along MD 175 are operating at acceptable minimal, LOS-D or better conditions during both the weekday morning and evening peak hours. The off-post intersections along MD 32 are operating with LOS-E and LOS-F conditions during at least one of the peak hours under existing traffic volumes.

Using the HCM methodology, all of the key intersections were identified as operating at the acceptable but minimal LOS-D or better conditions during both the weekday morning and evening peak hours. Therefore, based upon existing traffic volumes and roadway geometrics, it has been determined that most of the key on-post intersections are operating at reasonably good levels of service, with a varying range of additional capacity available to serve future traffic volumes. The key off-post intersections are operating at acceptable (however, a few are at minimal levels) levels of service, but the intersections along MD 32 are approaching capacity.

In addition to evaluating intersection capacity, this study also examines the roadway segments in the study area for operational conditions. Roadway Link Capacity Analyses were conducted in accordance with procedures detailed in the Highway Capacity Manual. Roadway Link Capacity Analyses are performed to evaluate the ability of a segment of road to accommodate existing or

## Intersection Capacity Analysis

Intersection	Critical Lane Volume		Highway Capacity Manual	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
MD 175 & Rockenbach Rd.	D / 1305	C / 1261	C / 29	C / 27
MD 175 & Reece Rd.	A / 787	A / 938	C / 23	C / 23
MD 175 & Mapes Rd.	A / 748	B / 1069	B / 19	C / 20
MD 175 & Llewellyn Ave.	A / 936	A / 899	C / 27	C / 25
Mapes Rd. & Cooper Ave.	A / 646	A / 717	B / 13	B / 10
Mapes Rd. & Taylor Ave.	A / 524	A / 715	A / 7	B / 10
MD 32 & Mapes Rd.	E / 1474	A / 887	C / 21	B / 17
MD 32 & MD 198	C / 1240	E / 1594	B / 16	D / 42
MD 32 & Emory Rd.	F / 1733	E / 1452	C / 21	C / 22

## Link Capacity Analysis

Link	AM Peak Hour	PM Peak Hour
MD 175 - west of Rockenbach Rd. <sup>1/</sup>	0.87	0.90
MD 175 - Rockenbach Road to Reece Road <sup>1/</sup>	0.590	0.70
MD 175 - Reece Road to Mapes Road <sup>2/</sup>	A / 10.5	B / 13.0
MD 175 - east of Mapes Rd. <sup>2/</sup>	B / 13.1	B / 13.3
Mapes Road - MD 175 to Cooper Avenue <sup>1/</sup>	0.33	0.34
Mapes Road - Cooper Avenue to MD 32 <sup>1/</sup>	0.44	0.53
MD 32 - north of Emory Road <sup>2/</sup>	B / 19.7	B / 19.1
MD 32 - Emory Road to MD 198 <sup>2/</sup>	C / 20.7	C / 21.9
MD 32 - MD 198 to Mapes Road <sup>2/</sup>	C / 20.4	C / 21.4
MD 32 - south of Mapes Road <sup>2/</sup>	D / 30.3	D / 30.2
Baltimore/Washington Pkwy - south of MD 175 <sup>3/</sup>	E / 38.6	E / 37.9

<sup>1/</sup> Two lane roadway - v/c is provided as MOE

<sup>2/</sup> Multi-lane roadway - LOS and pc/mi/ln is provided as MOE

<sup>3/</sup> Freeway - LOS and pc/mi/ln is provided as MOE

Figure 3-11. Results of capacity analyses

projected traffic volumes. For two-lane roads the analysis yields the Volume to Capacity (V/C) Ratio. For multi-lane highways, the analysis yields the density of the road segment which, in turn, can be equated to a Level of Service. These analyses were conducted for MD 175, MD 32, the Baltimore/Washington Parkway, and Mapes Road. Different analytical procedures were used for the Road Segment Analyses based upon two-lane, multi-lane or freeway conditions, as appropriate. The results of the Roadway Link Capacity Analyses are also displayed in Figure 3-11.

Using the two-lane link capacity procedure, roadways are considered to be operating at acceptable levels of service as long as the V/C Ratio does not exceed 0.90. Reviewing the two-lane capacity results, MD 175 west of Rockenbach Road is operating near or at capacity during both the weekday morning and evening peak hours. Between Rockenbach Road and Reece Road, MD 175 is operating at no more than 70 percent of capacity. Mapes Road through Fort Meade is operating at no more than 53 percent of capacity. Therefore, the two-lane segment of Mapes Road through Fort Meade is operating at an acceptable level of service with additional capacity to support future traffic growth. MD 175 has additional capacity remaining on the two-lane section between Reece Road and Rockenbach Road, but west of Rockenbach Road the two-lane section is operating at or near capacity.

The multi-lane section of MD 175 from Reece Road to east of Mapes Road is operating at good LOS-A or LOS-B conditions during both the weekday morning and evening peak hours.

The Roadway Link Capacity Analyses for MD 32 show that the roadway segments of MD 32 are operating at acceptable LOS-D or better conditions during both the weekday morning and evening peak hours.

The Link Capacity Analyses conducted for the Baltimore/Washington Parkway show that during both the weekday morning and evening peak hours, the Parkway is operating at capacity with LOS-E conditions during both peak periods.

Other existing traffic factors that were measured as part of this study include the Average Daily Traffic Volumes along the key road segments in and around Fort Meade. These counts were conducted by placing mechanical volume counters along the road segments and traffic data were

collected for a three-day period. Figure 3-12 shows the resulting Average Daily Traffic Volumes along the key road segments in and around Fort Meade.

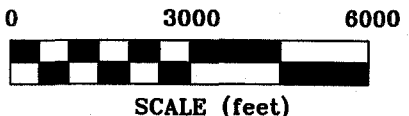
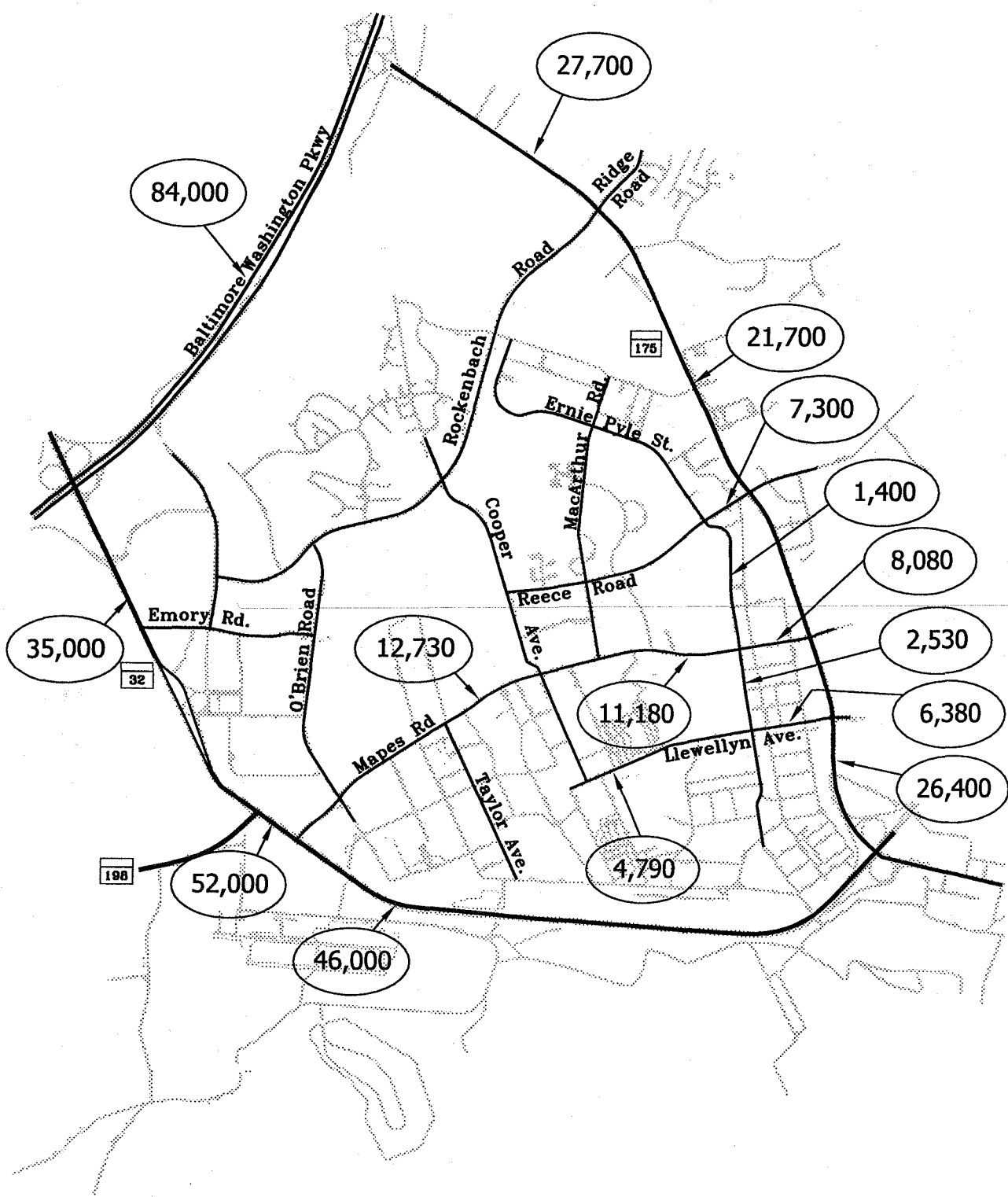
Travel speeds were also measured for existing conditions along key road segments within Fort Meade and on the surrounding road system. The average travel speeds were also collected by mechanical travel speed counters over a three-day period. The resulting existing average travel speeds for some of the roadways within Fort Meade and the surrounding roadways are identified in Figure 3-13.

A final traffic factor considered in this study was the breakdown of vehicle classifications. Classification counts were conducted in and around Fort Meade to identify the types of vehicles traversing the major roadways serving Fort Meade. Based upon the vehicle classification counts, it was identified that approximately 90 percent of the vehicles along MD 175 and MD 32 are considered "light" vehicles. Another 5 percent are "medium" vehicles and the remaining 5 percent are classified as "heavy" vehicles. For the road segments on-post, the percentage of light vehicles was identified to be approximately 95 percent with the remaining 5 percent comprised of "medium" and "heavy" vehicles. Therefore, the analyses show that the vehicular classifications on the surrounding roadways are primarily comprised of passenger cars and other light-duty vehicles. The percentage of heavy vehicles in Fort Meade and on the surrounding road system is relatively low with no more than 5 percent heavy vehicles identified along any of the road segments.

The Average Daily Traffic Volumes, vehicular speeds, and vehicle classifications will be used in the air quality and noise sections of this study.

### **3.12.5 On-Post Roadway Maintenance**

Fort Meade's DPW is responsible for roadway maintenance on the installation. DPW personnel conduct shoulder and storm drain maintenance, curb and gutter repair, sidewalk patching and construction, and road sweeping. Roadway repair is limited to filling pot holes. Paving and pavement painting are usually done by outside contractors. All roadways maintenance issues are addressed on an as needed basis.

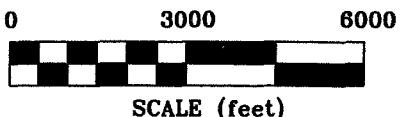
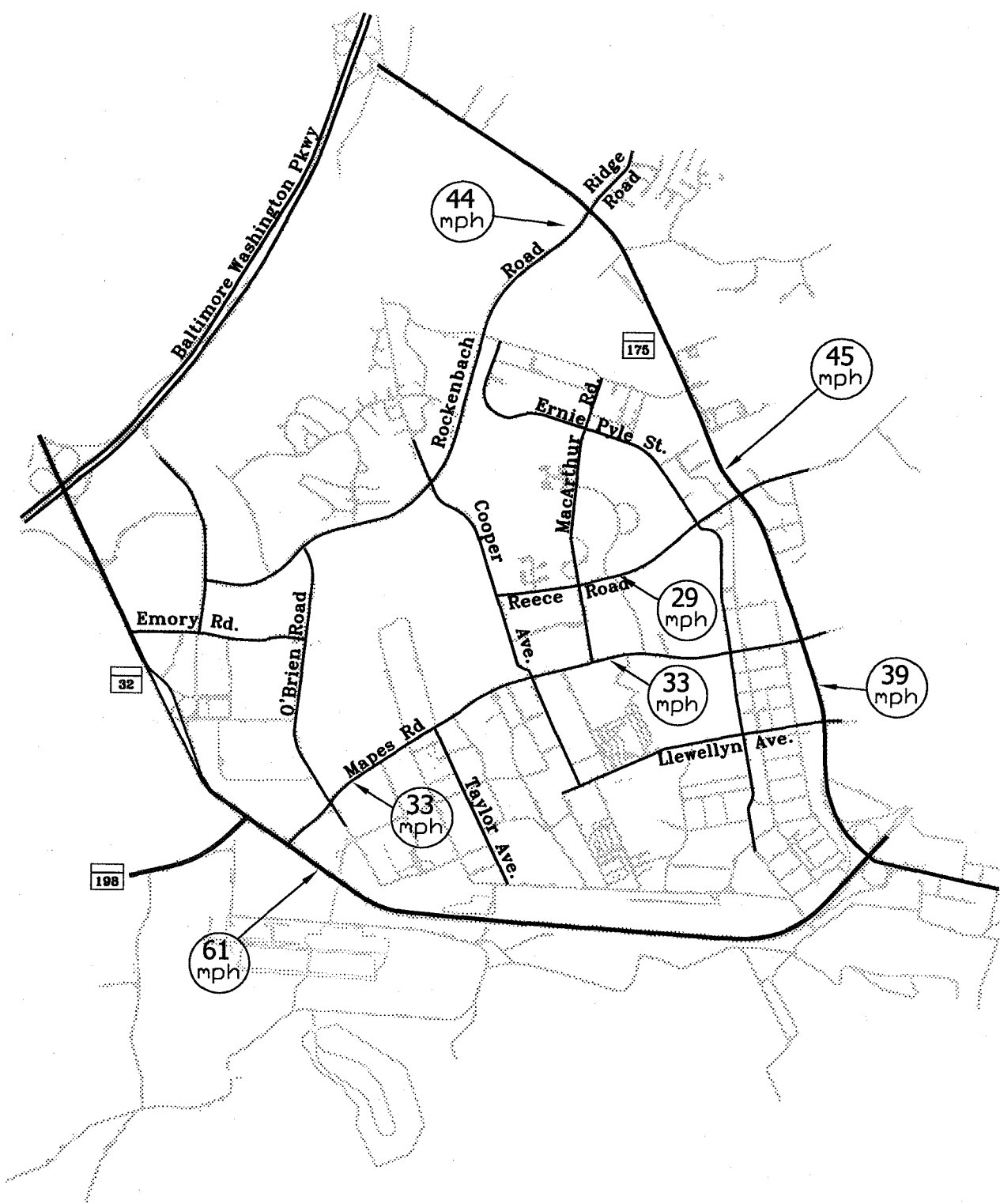


FORT MEADE EIS

Figure 3-12 Existing Average Daily Traffic (ADT) Volumes

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 FILE: FtMeade  
 DATE: 08 April 99





FORT MEADE EIS

Figure 3-13 Existing Average Travel Speeds

TTG PROJ: 1999-0521  
FILE: FtMeade  
DATE: 08 April 99

### **3.12.6 Railways**

Two Maryland Rail Commuter (MARC) railroad lines serve the Fort Meade area, providing access to Baltimore, Maryland, and Washington D.C. The western line follows the northwest border of Anne Arundel County. The closest station on this line is in Jessup, approximately 1.5 miles west of the base. The eastern line runs through Odenton, 1.5 miles east of Fort Meade.

### **3.12.7 Aviation**

Three major commercial airports, one military airfield, and four small airfields are near Fort Meade. The commercial airports are in Anne Arundel County (BWI); Alexandria, Virginia (Ronald Reagan National Airport); and Loudoun County, Virginia (Washington-Dulles International Airport). Andrews Air Force Base in Prince George's County, Maryland, provides air cargo and military transportation. Three of the small airfields are located in southern Anne Arundel County and one is located in western Prince George's County.

Tipton Army Airfield, located in the southwest section of Fort Meade, formerly served the military units stationed at Fort Meade. As recommended by BRAC 95, Tipton Army Airfield was closed in September 1995. The property was transferred to Anne Arundel County, who will operate Tipton as a general aviation airport.

### **3.12.8 Public Transportation**

Certain parts of Anne Arundel County are served by bus transit. Maryland Mass Transit Administration (MTA) buses serve the northern part of the county, including a route to Annapolis along MD Route 2. The MTA contracts with private operators to run a commuter bus service with limited schedules between Annapolis and Washington D.C. Currently, MTA offers bus service to Fort Meade via bus No. 240.

### **3.13 SOCIOECONOMIC CONDITIONS**

#### **3.13.1 Region of Influence**

Fort Meade is located in the northwestern corner of Anne Arundel County, less than two miles from the Howard County border, and slightly further from the Prince George's County border. Anne Arundel and Howard Counties are located in the Baltimore Primary Metropolitan Statistical Area (PMSA), while Prince George's County is part of the Washington D.C. PMSA. The Baltimore PMSA includes Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's Counties, and the City of Baltimore. Both PMSAs are part of the larger Washington-Baltimore Consolidated Metropolitan Statistical Area (CMSA). The CMSA consists of 33 counties in the three states.

The region of influence (ROI) describes the area potentially subject to direct demographic and economic impacts. The ROI is determined by identifying the counties that will likely: (1) provide the construction workers; 2) experience the primary expenditures for goods and services during construction and operation; and 3) serve as place of residence for employees whose jobs are transferred to Fort Meade. Based on these criteria, the ROI for the Proposed Action consists of Anne Arundel and Howard Counties. The City of Annapolis is both the state capitol of Maryland and the Anne Arundel county seat. The Howard County seat is Ellicott City.

#### **3.13.2 Demographics**

According to the 1990 Census of Population and Housing, the population of Anne Arundel County was 427,239 persons, while Howard County's population was less than half that, at 187,238 persons (Table 3-10). The Bureau of the Census has estimated the July 1, 1998 populations in Anne Arundel and Howard Counties to be 476,060 and 236,388 respectively, for a total population of 712,448 in the ROI. According to the 1990 Census, a total of 12,509 military personnel and their dependents lived at Fort Meade in family and unaccompanied housing. Fort Meade comprised all of census tract 7406 in Anne Arundel County in 1990. The largest population centers in Anne Arundel County included Glen Burnie (37,305); Annapolis (33,195);



Table 3-10. Historic Population Trends and Forecasts for Fort Meade Region

Year	Total Population			
	Anne Arundel County	Howard County	Baltimore* Region	Maryland
1970	297,539	61,911	2,070,670	3,923,897
1980	370,775	118,572	2,174,023	4,216,933
1990	427,239	187,328	2,348,219	4,780,753
1998	476,060	236,388	2,444,280	5,134,808
2000	485,800	248,950	2,466,660	5,219,130
2005	506,600	279,250	2,541,550	5,455,160
2010	516,800	297,950	2,601,150	5,651,530
2015	528,000	304,850	2,652,250	5,844,390
2020	537,100	303,450	2,692,000	6,014,540
Average Annual Growth Rates				
1970-80	2.22%	6.71%	0.49%	0.72%
1980-90	1.43%	4.68%	0.77%	1.26%
1990-98	1.36%	2.95%	0.50%	0.90%
1970-1990	1.83%	5.69%	0.63%	0.99%
1990-2000	1.29%	2.88%	0.49%	0.88%
2000-2005	0.84%	2.32%	0.60%	0.89%
2005-2010	0.40%	1.30%	0.46%	0.71%
2010-2015	0.43%	0.46%	0.39%	0.67%
2015-2020	0.34%	-0.09%	0.30%	0.58%
2000-2010	0.61%	1.81%	0.53%	0.80%
2000-2020	0.50%	0.99%	0.44%	0.71%

\* Note: The Baltimore region consists of the following counties: Anne Arundel, Baltimore, Carroll, Hartford, Howard, and the City of Baltimore.

Source: Maryland Office of Planning, 1998. Demographic and Socioeconomic Outlooks for Anne Arundel and Howard Counties and the Baltimore Region. Annapolis, MD.

U.S. Bureau of Census, 1998. Current Population Reports. Washington, D.C.

Severna Park (25,879); and Arnold (20,261). In 1990 the largest population centers in Howard County included Columbia (75,833), Ellicott City (41,396), and Elkridge (12,976).

In October 1999, the Directorate of Resource Management (DRM) at Fort Meade determined that 8,877 military personnel were assigned to Fort Meade from all services, 6,794 of whom reside on the installation (FGGM DRM 1999). Including the 6,034 dependents of the military personnel who live on installation, there are currently 12,828 persons living on Fort Meade. Conversely, there are currently 3,339 persons living off the installation, consisting of 1,891 military personnel (FGGM DRM 1999) and their 1,448 dependents.

There are a large number of persons who work at Fort Meade (both military personnel assigned to the installation and civilians), but reside in the surrounding communities and commute to the installation each day. According to DRM, the total installation population in 1999 was 47,745 persons. The installation population includes (1) military personnel assigned to Fort Meade, (2) the dependents of the military personnel living on the installation, (3) civilians working at Fort Meade, and (4) volunteers. The installation population represents the total number of persons who are on the installation on a daily basis between Monday and Friday during normal working hours. Post population of 47,745 in October 1999, includes 8,877 military assigned, 6,034 on-post family members, and 31,367 civilian workers. The civilian workers include 2,297 DoA civilian employees and an estimated 21,875 NSA civilian employees. The remaining 7,195 civilian workers consist of non-appropriated employees, AAFES, contractors, and others. There are 1,467 volunteers who work on the installation.

Fort Meade also supports a large number of additional persons who reside off the post in the adjacent communities and who come onto the post periodically to use the recreational facilities or to shop at the Base Exchange. The 1999 off-post population totals 162,878 persons, (within 50 miles) and consists of 53,810 retirees, 107,620 family members of retirees, and 1,448 dependents of assigned military personnel living off the post. The total population supported by Fort Meade, comprised of the post and off-post populations, was 210,623 persons in October 1999 (FGGM DRM 1999).

Table 3-10 shows the historic and forecast population trends in the ROI. Anne Arundel's population grew steadily between 1970 and 1990, increasing by 44 percent, while population more than tripled in Howard County over that same period. The high population growth between 1970 and 1990 in the ROI resulted from strong economic growth and the rapid suburbanization along the Interstate 95 corridor between Baltimore and Washington D.C. The economic and population growth rates in both counties have slowed somewhat since 1990 as the amount of remaining, developable land has declined. Strong economic growth pressures, however, are still present.

The Maryland Office of Planning's population projections for the ROI are also presented in Table 3-10. The population of Anne Arundel County is projected to reach 537,100 persons by 2020. The annual population growth rate will be lower than occurred between 1970 and 1990, averaging about 0.5 percent between 2000 and 2020. The population of Howard County is projected to grow at an average annual rate of 0.99 percent through 2020, reaching a total of 303,450 persons. In contrast, the population of the State of Maryland is projected to grow at an average annual rate of just over 0.7 percent during this same period.

The Anne Arundel County Planning Department has projected population growth in census tract 7406 through the year 2020. This projection assumes that the mission of Fort Meade would remain the same as at present. Owing to demographic factors such as declining household size, this means that the number of military personnel and their dependents who are stationed at Fort Meade would likely decrease. The County projects that the population of census tract 7406 would fall from 11,900 persons in the year 2000 to about 11,500 by 2020.

Table 3-11 contains population demographic characteristics for the two counties. The average household size in the two counties in 1990 was very similar, while a slightly higher proportion of Howard County's population 16 years or older was in the labor force. Both counties had more than 70 percent of their population 16 years and older in the labor force in 1990.

Table 3-11. Population Characteristics in the Counties Surrounding Fort Meade

	Anne Arundel County	Howard County
<b>Selected Age Groups in 1990:</b>		
0 to 4 years	32,326	15,352
5 to 19 years	86,215	37,275
20 to 44 years	185,826	88,243
45 to 64 years	85,482	35,128
65+ years	<u>37,390</u>	<u>11,330</u>
Total 1990 Population	427,239	187,328
<b>Households in 1990:</b>		
Total Households	149,114	68,337
Average Household Size	2.76	2.71
<b>Labor Force in 1990:</b>		
Total Population 16+years	333,410	143,340
Number in Labor Force	245,790	113,580
Percent in Labor Force	73.7	79.2

Source: U.S. Bureau of Census; 1990 population is based on modified age, race, and sex data.

### 3.13.3 Economics

Table 3-12 presents trends in place of work employment by 1-digit SIC code for Anne Arundel and Howard Counties, and the Baltimore PMSA for the years 1970 and 1997. This table shows changes in the size and structure of the ROI's economy that have occurred over the last 27 years. Total employment in the ROI increased by 256,941 jobs over this period, including increases of 139,336 and 117,605 jobs in Anne Arundel and Howard Counties, respectively. These numerical increases translate into average annual employment growth rates of 2.7 percent and 7.0 percent. The difference between the employment and population growth rates reflects the fact that economic development has occurred in the ROI over the last 20 years as jobs were transferred from Baltimore and Washington D.C. to the suburbs (i.e., the jobs have followed the people). Both counties are located in the densely developed Interstate 95 corridor that connects

Table 3-12. Employment Trends for 1970-1997 in the Fort Meade Region of Influence

Employment by Sector	1970						1997						Annual Growth Rates		
	Anne Arundel Co.		Howard Co.		Baltimore PMSA		Anne Arundel Co.		Howard Co.		Baltimore PMSA		Anne Arundel	Howard Co.	Baltimore PMSA
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%			
Farm	927	0.7%	727	3.2%	8,196	0.8%	533	0.2%	655	0.5%	5,729	0.4%	-2.1%	-0.4%	-1.3%
Ag Services, Forestry	535	0.4%	326	1.5%	3,720	0.4%	2,839	1.1%	1,839	1.3%	12,755	0.9%	6.4%	6.6%	4.7%
Mining	70	0.1%	6	0.0%	502	0.1%	122	0.1%	122	0.1%	0	N/A	3.6%	11.8%	N/A
Construction	5,720	4.4%	2,285	10.2%	52,452	5.3%	16,375	6.1%	9,875	7.1%	83,184	5.7%	4.0%	5.6%	1.7%
Manufacturing	16,127	12.4%	4,291	19.2%	197,869	19.9%	16,211	6.0%	7,035	5.0%	105,154	7.2%	0.0%	1.8%	-2.4%
T.C.U.*	4,449	3.4%	693	3.1%	62,095	6.3%	14,735	5.5%	7,709	5.5%	67,655	4.6%	4.5%	9.3%	0.3%
Wholesale Trade	1,376	1.1%	786	3.5%	45,388	4.6%	9,758	3.6%	11,301	8.1%	67,799	4.6%	7.5%	10.4%	1.5%
Retail Trade	17,497	13.5%	2,603	11.6%	152,505	15.4%	46,287	17.2%	24,358	17.4%	235,798	16.1%	3.7%	8.6%	1.6%
F.I.R.E.**	4,488	3.5%	1,825	8.1%	64,182	6.5%	17,092	6.3%	12,974	9.3%	126,186	8.6%	5.1%	7.5%	2.5%
Services	15,725	12.1%	4,933	22.0%	183,946	18.5%	72,827	27.0%	50,114	35.8%	500,276	34.2%	5.8%	9.0%	3.8%
Government	63,103	48.5%	3,931	17.5%	221,061	22.3%	72,154	26.9%	14,029	10.0%	256,471	17.6%	0.5%	4.8%	0.6%
<b>Total Employment</b>	<b>130,017</b>	<b>100.0%</b>	<b>22,406</b>	<b>100.0%</b>	<b>991,916</b>	<b>100.0%</b>	<b>269,353</b>	<b>100.0%</b>	<b>140,011</b>	<b>100.0%</b>	<b>1,461,007</b>	<b>100.0%</b>	<b>2.7%</b>	<b>7.0%</b>	<b>1.4%</b>

Source: U.S. Department of Commerce, Bureau of Economic Analysis. 1998.

Regional Economic Information System. Washington, D.C.

\* T.C.U. = Transportation, Communications, and Utilities.

\*\* F.I.R.E. = Finance, Insurance, and Real Estate.

Note: 1997 information was taken from BEA Data, however, there appears to be an error in the calculation of mining employment.

Washington DC and Baltimore, this corridor has undergone rapid economic development during the 1980s. In contrast to the high employment growth in the ROI, employment in the larger Baltimore PMSA grew much more slowly at an annual rate of 1.4 percent over this same period. The largest employment growth rates in Anne Arundel County over the last 27 years occurred in the wholesale trade, agricultural services, and services sectors. Similarly, the largest employment growth rates in Howard County over this same period were in the mining (sand and gravel and construction aggregates), wholesale trade, and transportation/communication/utility sectors. The largest numerical increases in employment in the ROI occurred in the services, retail trade, and financial/insurance/real estate sectors with a combined increase of 176,581 jobs.

Anne Arundel's 1997 employment was concentrated in four sectors that accounted for almost 77 percent of total employment: services, government, retail, and finance/insurance/real estate. Howard County's employment is concentrated in the same four sectors, and account for 73 percent of total employment. The most significant difference between the two counties is the large amount of government employment in Anne Arundel County, with Fort Meade and the State of Maryland's administrative offices in Annapolis accounting for a majority of these jobs. Federal Government employment as compiled by the Bureau of Economic Analysis includes the military personnel assigned to Fort Meade. The private sector accounted for 73 percent of total employment in Anne Arundel County and 90 percent of total employment in Howard County in 1997.

Table 3-13 presents projections of employment growth in the ROI through 2010. The future rate of employment growth is projected to be less than occurred in the ROI between 1970 and 1997. The rate of future employment growth in Anne Arundel County (1.1 percent) is projected to be almost twice as high as the projected population growth rate (0.61 percent, Table 3-9), while these two rates would be similar in Howard County (1.7 percent vs. 1.8 percent). The fastest growing economic sectors are projected to be services, retail trade, and wholesale trade. Employment in the government sector is projected to decline slightly over this period.

The average earnings per job in Anne Arundel and Howard Counties in 1995 were \$29,041 and \$30,882 respectively, compared to \$29,981 for the Baltimore PMSA and \$29,950 for the State of

Table 3-13. Employment Projections for Fort Meade Region of Influence

Employment by Sector	1997				2010				Annual Growth Rates	
	Anne Arundel County		Howard County		Anne Arundel County		Howard County		Anne Arundel County	Howard County
	Number	%	Number	%	Number	%	Number	%		
Farm	533	0.2%	655	0.5%	500	0.2%	400	0.5%	-0.6%	-3.3%
Ag Services, Forestry	2,839	1.1%	1,839	1.3%	3,000	1.0%	2,100	1.3%	0.7%	1.3%
Mining	122	0.1%	122	0.1%	300	0.1%	100	0.1%	2.6%	-1.2%
Construction	16,375	6.1%	9,875	7.1%	19,000	6.2%	10,900	6.9%	1.1%	1.4%
Manufacturing	16211	6.0%	7,035	5.0%	15,800	5.8%	7,100	5.3%	0.3%	0.3%
T.C.U.*	14,735	5.5%	7,709	5.5%	16,400	5.4%	8,500	5.7%	1.1%	1.0%
Wholesale Trade	9,758	3.6%	11,301	8.1%	11,900	3.7%	12,600	8.0%	1.4%	1.4%
Retail Trade	46,287	17.2%	24,358	17.4%	54,600	17.5%	28,300	17.5%	1.3%	1.6%
F.I.R.E.**	17,092	6.3%	12,974	9.3%	17,600	6.1%	14,500	9.3%	0.7%	1.3%
Services	72,827	27.0%	50,114	35.8%	99,300	26.3%	65,200	34.9%	2.6%	2.6%
Government	72,154	26.9%	14,029	10.0%	68,700	27.7%	14,400	10.4%	-0.4%	0.4%
<b>Total</b>	<b>269,353</b>	<b>100.0%</b>	<b>140,011</b>	<b>100.0%</b>	<b>307,100</b>	<b>100.0%</b>	<b>164,100</b>	<b>100.0%</b>	<b>1.1%</b>	<b>1.7%</b>
<b>Employment</b>										

Source: U.S. Department of Commerce, Bureau of Economic Analysis. 1998. Regional Economic Information System

Maryland Office of Planning. March, 1998. Demographic and Socio-Economic Outlooks for Anne Arundel and Howard Counties.

\* T.C.U. = Transportation, Communications, and Utilities

\*\* F.I.R.E. = Finance, Insurance, and Real Estate.

Maryland. Expressed in current 1999 dollars, and considering only wage and earnings, the average job in the ROI currently pays \$32,679. The highest figure is in the manufacturing sector at \$50,588 per job, and the lowest is in the retail sector at \$17,462. Federal civilian jobs (the kind of jobs being transferred to Fort Meade under the Proposed Action) have average wage and salary earnings of \$38,585 per job.

The total civilian labor force in the ROI in July 1999 was 391,736 persons, measured on a place of residence basis. The labor force was 254,808 persons in Anne Arundel County and 136,928 persons in Howard County. The civilian labor force consists of residents 16 years and older who are either currently employed, regardless of where they work, or are actively seeking work. The labor force estimate for Anne Arundel County does not include the permanent military personnel assigned to Fort Meade, but does include the spouses of the Fort Meade military personnel. Consistent with the trends in place of work employment, the labor force in the ROI has also grown rapidly in recent years as more of its residents have entered the labor force to capture the jobs that have come there. The civilian labor forces in Anne Arundel and Howard Counties grew at average annual rates of 4 percent and 6.6 percent respectively between 1970 and July 1999. The number of employed persons residing in the ROI in 1999 was 381,252, including 246,958 in Anne Arundel County and 134,294 in Howard County. This total was less than the ROI's place of work employment total of 392,893 jobs, indicating that there is a small amount of net commuting into the ROI. A closer examination indicates that the commuting into the ROI occurs primarily in Anne Arundel County, where place of work employment exceeded place of residence employment in 1996 by about 18,000 jobs. The net commuting into Anne Arundel County is a result of the presence of the state capitol in Annapolis, the BWI airport in the northwestern part of the County (which has attracted considerable growth in recent years), and large employers such as Fort Meade and Northrop Grumman.

The Maryland Department of Business and Economic Development estimated that in 1994 nearly 39 percent of the residents of Anne Arundel County commuted outside the county work area, while about 63 percent did so in Howard County. Thus, while net commuting into the ROI is low, there are large daily movements of people and vehicles into and out of ROI as its residents and non-residents travel to work.



Because of strong economic development in the ROI since 1970, as well as other factors (e.g., more women entering the labor force and the increase in two-income families), a high proportion of the ROI's residents are in the labor force. The labor force participation rate, defined as the percent of the population in the labor force, has increased in the ROI since 1970 as jobs have moved to the suburbs. The labor force participation rate in Anne Arundel County rose from 43 percent in 1970 to 57 percent by 1995, while the rate in Howard County increased from 40 percent to 60 percent over the same period. By contrast, the rate for the Baltimore Region rose from 42 percent to 53 percent over the same period.

Recent unemployment rates in Anne Arundel and Howard Counties in July 1999 were 3.1 percent and 1.9 percent respectively, compared to 4.0 percent for the State of Maryland and 4.2 percent for the United States. The average annual unemployment rates during 1998 were 3.4 percent in Anne Arundel County and 2.5 percent in Howard County, well below the State of Maryland unemployment rate of 4.4 percent.

Per capita personal income in Anne Arundel County is comparable to that at the state level, and higher than in the Baltimore PMSA and national figures. Howard County's per capita personal income is significantly higher than the Baltimore, state, and national levels. This is due to high paying jobs in the two counties and in the adjacent Washington D.C. and Baltimore areas. Per capita personal incomes in 1997 were \$28,663 and \$33,127, respectively in Anne Arundel and Howard Counties, compared to \$27,770 for the Baltimore PMSA, \$27,867 for the State of Maryland, and \$25,228 for the United States. Anne Arundel and Howard Counties ranked fifth and second in the State of Maryland in 1996 based on their per capita personal incomes, with adjacent Montgomery County ranking first. Total personal income in Anne Arundel and Howard Counties grew at average annual rates of 6.3 percent and 8.5 percent respectively between 1985 and 1995. Finally, the ROI also has high median household incomes. Figures for 1998 estimated the median household incomes in Anne Arundel and Howard Counties at \$59,500 and \$69,200 respectively, compared to \$48,900 in the Baltimore PMSA and \$51,100 in the State of Maryland.

The largest private employers in Anne Arundel County in 1995 included (in descending order): Northrop Grumman (formerly the Westinghouse Electric Corporation's defense and electronic systems group) with 7,300 workers; USAir with 2,450 employees; BGE with 1,459 employees;

ARINC, a communications company with 960 employees; and International Paper with 900 employees. The largest private employers in Howard County include the Johns Hopkins Applied Physics Lab with 2,600 employees; Giant Food with 1,200 workers; Howard County Hospital with 800 workers; Allied Signal with 800 employees; and Smelkinson Sysco, a wholesale food distribution company, with 780 workers. The government sector is a major employer in Anne Arundel County, accounting for 72,154 total jobs in 1997 as shown in Table 3-12. Fort Meade provides about 41,711 jobs and the state government offices in Annapolis provide an additional 9,000 jobs.

Fort Meade generates a major, direct economic impact on the ROI annually, through the payroll of the persons employed there, and through its annual expenditures for goods and services. The total 1999 annual payroll of military and civilian persons employed at Fort Meade is estimated at approximately \$1.526 billion, equivalent to \$36,585 per job (FGGM DRM 1999). Additional annual payments totalling \$194 million are made to retirees and annuitants. With the exception of \$27 million of estimated utility purchases, amounts of annual purchases of goods and services made by Fort Meade are "not available", bringing the total annual direct economic spending generated by the installation to more than \$1.747 billion.

### **3.13.4 Housing**

#### **3.13.4.1 On-Post Housing**

Fort Meade provides family housing for active duty service members at: Argonne Hills, Meade Heights, Geraghty Village, MacArthur Manor, and Shea Court. These family housing areas contain a total of 2,862 multiple-family housing units including 424 four-bedroom units, 1,596 three-bedroom units, and 842 two-bedroom units. Fort Meade also has 185 single-family housing units on the installation. Fort Meade contains 62 unaccompanied personnel (which includes those units within the proposed action) housing units providing 32 officer-housing units, 30 senior enlisted units, and 62 housing units for visiting officer and visiting enlisted (FGGM DRM 1999).

### **3.13.4.2 Off-Post Housing**

As noted above in Section 3.13.2, there are 3,339 military personnel and their dependents assigned to Fort Meade that live off the post and have to be able to obtain housing through the private housing market. Similarly, civilian employees whose jobs are transferred to Fort Meade under the Proposed Action may want to obtain new housing in the ROI to shorten their commuting time. These employees would also have to obtain housing through the local, private market. The Family Housing Office assists active personnel in obtaining housing off post. A current market survey indicates that off-post rental housing begins around \$650 a month plus utilities.

Anne Arundel County contained 157,164 housing units in 1990 and had a vacancy rate of 3.73 percent, with 27,374 of these units in the western planning area that includes Fort Meade. The total housing stock in Anne Arundel County in 1999 was estimated to have increased to 182,470 dwelling units containing the following proportions of units: 67 percent single family; 15 percent townhouses; and 18 percent multi-family. A total of 23,348 new housing units were authorized for construction in the County between 1990 and 1996, about 82 percent of which were single-family units.

Howard County contained 72,583 housing units and had a vacancy rate of 4 percent according to the 1990 Census. Between 1990 and 1996, a total of 13,030 housing units were authorized for construction in the County, about 87 percent of which were single-family units. The Howard County Department of Planning and Zoning estimates that there was a total of 88,119 dwelling units in 1998 in the following categories: 54 percent single family detached, 20 percent single family attached, 24 percent apartments, and 2 percent mobile homes.

Data compiled by Anne Arundel County estimated that the average sales price of a house in Anne Arundel County during 1998 was \$182,276. Data compiled by the Howard County Department of Planning and Zoning indicates that the median sales price for a single-family detached unit during the first 9 months of 1998 was \$204,900. The median sales price in the zip codes 20723, 20794, 20763 which is the adjacent to Fort Meade, was under \$200,000.

### **3.13.5 Schools, Libraries, and Recreation Facilities**

#### **3.13.5.1 Schools and Libraries**

Public school enrollments are increasing in both counties. Total enrollments in Anne Arundel County grew by nearly 16 percent, from 64,339 in 1990 to 74,412 in 1998. Enrollments in Howard County grew by nearly 39 percent, from 29,863 in 1990 to 41,461 in 1999.

There are seven public schools located on Fort Meade attended primarily by children living on the installation, although some students living off the post also attend these schools. The four elementary schools on Fort Meade, all with grades kindergarten through five, have a total enrollment of 1,672 students (1998-1999 school year). These schools are: Pershing Hill Elementary School with an enrollment of 403, Manor View with 542 students; Meade Heights with 321 students; and West Meade with 406 students. The new Meade Heights Elementary School opened in September 1997. Two middle schools, grades 6 through 8, are also located on Fort Meade: MacArthur Middle with an enrollment of 729 and Meade Middle School with an enrollment of 896. The Meade Middle School is located adjacent to Meade High School and opened in September 1998. Meade Senior High School had an enrollment of 1,877 in June 1998. These schools are owned and operated by the Anne Arundel County Board of Education, on land leased from Fort Meade.

Children of military personnel housed on and off post attend these schools. The off-post students who eventually attend the two middle schools, or Meade Senior High, include those who first attend the Brock Ridge, Harman, Jessup, Maryland City, and Van Bokkelen elementary schools located off the post. Children with special educational needs attend schools off post. Adult continuing education programs are also provided through the Army Education Center located in Building 8452. Graduate Equivalency Diploma testing is also available on and off post. A basic skills program provides educational assistance in the areas of math, English, and reading for those who are not high school graduates and require refresher work. Undergraduate and graduate level programs are available on and off post.

Other educational and related facilities near Fort Meade include Glen Burnie Academy, Arthur Slade Middle School, Martin Spaulding High School, and several private day-care facilities.

Child care services are available through the Child Development Services which provides full day care and hourly care for children ages 6 weeks to 12 years old. Colleges and universities within about 15 miles of the installation, include: Anne Arundel Community College in Arnold, Howard Community College in Columbia, Bowie State College in Bowie, the University of Maryland in College Park, and the U.S. Naval Academy and Saint John's College in Annapolis.

The installation library (the Medal of Honor Library) is housed in Building 4418 on Llewellyn Avenue. The library has a collection of more than 35,000 volumes, including fiction, technical and reference books, an extensive military science collection, an investment section, a management section, and books in two foreign languages—German and Korean. Other libraries near Fort Meade include the Provinces, Odenton, and Maryland City branches of the Anne Arundel County Public Library; the Laurel-Stanley Memorial Branch of the Prince George's County; and the Savage Branch of the Howard County Public Library.

### **3.13.5.2 Recreation Facilities**

Fort Meade has a number of indoor and outdoor recreational and cultural facilities, including swimming pools, golf courses, a bowling center, and service members clubs. Recreational facilities include: the Fort Meade Museum, Burba Park, Gaffney Sports Arena, Murphy Field House, Mullins Stadium Track, indoor and outdoor swimming pools, a golf complex, tennis courts, a bowling center, a riding stable, an arts and crafts center, and an installation theater. The Fort George G. Meade U.S. Army Museum was established in 1963 as the First U.S. Army Museum. It is located on Leonard Wood Avenue, immediately off Mapes Road, which runs through the main gates of Fort Meade.

Indoor and outdoor facilities supporting active recreation are located throughout Fort Meade. Burba Park is located between Roberts and Llewellyn Avenues and Wilson Street, and contains picnic facilities, a playground, and a lake. Gaffney Sports Arena, located on Broadfoot Road, has three basketball courts, two squash courts, three racquetball courts, a sauna room, weight room, workout rooms, a 23-station Nautilus center, a 25-meter swimming pool, and separate locker room facilities for 150 men and 350 women. Murphy Field House offers indoor physical training equipment as well as intramural sports activities. Mullins Stadium Track, located on York

Avenue, is available for daily use from dawn to dusk, year-round. The three outdoor swimming pools on Fort Meade are open from Memorial Day to Labor Day. The Fort Meade Golf Complex consists of two 18-hole golf courses: Applewood and Floyd L. Parks. The complex contains a clubhouse with lounge, pro-shop, and snack bar in addition to storage and locker rooms, and club and cart rental. Finally, 17 tennis courts are located throughout the installation.

The Fort Meade bowling center is a renovated house containing 36-lanes located on MacArthur Road near the Commissary. The riding stable facility includes 56 boarding stalls, 55 paddocks, five turnout arenas, two lounges, and two lighted riding arenas. The arts and crafts center is located in Building 6530B, on Gordon Street and York Avenue. Here, community members can enjoy ceramics, custom framing, photography, engraving, auto mechanics, and wood shop. The post movie theater is located at Llewellyn and Roberts Avenues.

Anne Arundel County offers a variety of private and public recreational facilities. In 1982, approximately 7,518 acres were devoted to parks and recreational facilities in the county. This area includes state and county parks, community and school recreation areas, and private facilities. The Anne Arundel County Department of Recreation and Parks manages or owns 92 recreational facilities that encompass 4,198 acres. These facilities include athletic fields, hiking and biking trails, picnic areas, beaches, and historic sites.

### **3.13.6 Public Health and Safety**

Potential threats to public health and safety from current operations at Fort Meade are related to the storage, use, and disposal of hazardous materials at various facilities (see Section 3.11). No known munitions storage or training activities, which could pose a threat to public safety, are presently conducted at Fort Meade. Because Fort Meade is an open installation, with security maintained mainly by fencing and restricted access areas, visitors, civilian workforce personnel, and nearby residents potentially could be exposed to hazardous materials from an accidental release.

The installation has prepared an *Installation Spill Contingency Plan (ISCP)* (USACE 1995a) *Spill Prevention Control Countermeasures Plan (SPCC)* (USACE 1995b), in accordance with state and Federal law and Army regulations. The ISCP is updated at least every 3 years, or when

significant changes are made in the SPCC. The SPCC plan is updated every 3 years, or when there is a significant change in operations that could increase the likelihood or impact of a spill (USACE 1995b). The installation has also prepared a *Management Plan for Hazardous Materials and Hazardous Waste* (DOA 1993). Personnel employed at Fort Meade who manage or handle hazardous materials or wastes are trained in accordance with Federal, state, local, and Army requirements. Each facility has an appointed emergency management coordinator, who is responsible for coordinating an emergency response until relieved by hazardous materials spill response personnel.

While no installation-wide evacuation plan exists, the ISCP provides emergency response instructions for spills and uncontrolled releases of hazardous materials at each of the facilities that store hazardous materials. The instructions include notification, probable spill routes, control measures, exposure limits and danger levels for each material, and evacuation guidelines. Some of the evacuation instructions could also apply to residents located adjacent to the installation. Material Safety Data Sheets, which include information about health hazards and first-aid measures, are maintained along with the appropriate ISCP sections in each facility.

#### **3.13.6.1 Police Services**

Currently, 56 full-time military police officers provide police protection at Fort Meade. They have stations on the installation in the following four buildings: numbers 6618, 8609, 8477, and 8542. County and state police provide service to the areas surrounding Fort Meade. The nearest county police station is on the east side of the installation on Annapolis Road, near the Odenton Shopping Center. Eighty-eight officers are assigned to the station and they respond to approximately one-third of the calls for assistance in the Severn-Odenton area. The Military Police at Fort Meade do not have formal agreements for assistance with either the county or the Maryland State Police and they have limited contact with those police jurisdictions.

#### **3.13.6.2 Fire and Emergency Services**

Two fire stations are located on Fort Meade and have a combined staff of 42 people. The main station, located at 4230 Rock Avenue, houses two engine companies for a total of 27 fire fighters, 2 chiefs, and 3 inspectors. The equipment at the main station consists of 2 engine-pumper trucks,

3 fire inspector vehicles, 1 fire chief vehicle, 1 assistant fire chief vehicle, and 1 special utilities vehicle. The other fire station is located at the Tipton Army Airfield and houses 1 truck company for a total of 10 fire fighters. This station also houses a 100-foot ladder truck, 1 crash truck, 1 fire engine, 1 small decontamination trailer, 1 small rescue vehicle, and a hazardous materials trailer with four-wheel-drive utility vehicle. The hazardous materials trailer and utility vehicle are scheduled to be replaced with a Squad, which is an engine truck/hazardous materials combination. The proposed Emergency Services Center project will consolidate these two stations into a single structure. This facility was evaluated in an EA dated 1996 (Fort Meade 1996).

### **3.13.6.3 Medical Facilities**

Kimbrough Ambulatory Care Center, formerly the Kimbrough Army Community Hospital, provides outpatient services only. Several other hospitals and numerous medical centers are near Fort Meade. Patients from Fort Meade are transported, as necessary, to other military facilities or to nearby civilian facilities, where services can be provided to military personnel under the Civilian Health and Medical Program of the Uniformed Services.

Nearby civilian emergency facilities are located at North Arundel Hospital in Glen Burnie (about 6 miles east of Fort Meade), Laurel Regional Hospital in Prince George's County (6 miles west), and Anne Arundel Medical Center in Annapolis (12 miles southeast). The closest military hospitals are the Walter Reed Army Hospital in northwest Washington DC. (about 30 miles from Fort Meade); and the National Naval Medical Center in Bethesda, (24 miles).

Dental care at Fort Meade is provided by three clinics: Epes Dental Clinic, Kimbrough Dental Clinic, and Dental Clinic #2. All three clinics are operated by the U.S. Army Dental Clinic Command. Veterinary care is provided at the Fort Meade Veterinary Treatment Facility on an outpatient basis and by appointment.

### **3.13.6.4 Family Support Services**

Numerous family support services are available to the residents of Fort Meade and Anne Arundel County. Federal, state, and local public service programs offer many services, including family



counseling, financial assistance, employment referrals, and emergency relief. Family support services are also available through the local school system, religious and civic organizations, and community volunteer programs.

### 3.13.7 Noise

Noise can be annoying or disruptive to normal activities for people and wildlife. In extreme cases, it can have adverse health effects, such as hearing loss. Recognizing that its activities and equipment can generate potentially annoying noise levels, the U.S. Army has an Army-wide noise impact management program. The purpose of this program is to minimize the potential for annoying the Army's neighbors.

The pattern (location, duration, timing and frequency) of activities at an Army installation rise to an associated pattern of noise. The loudness is measured in units called decibels (dB). The loudness of sound as heard by the human ear is measured on the A-weighted decibel (dBA) scale. Examples can be found in Table 3-14.

Table 3-14. Common Noise Levels

Source	Decibel Level	Exposure Concern
Soft Whisper	30	Normal safe levels.
Quiet Office	40	
Average Home	50	
Conversational Speech	66	
Busy Traffic	75	May affect hearing in some individuals
Noisy Restaurant	80	
Average Factory	80-90	
Pneumatic Drill	100	Continued exposure to noise over 90 dB
Automobile Horn	120	
Jet Plane	140	Noises at or over 140 dB may cause pain
Gunshot Blast	140	
Source: EPA Pamphlet, "Noise and Your Hearing," 1986.		

Because most noise generated is intermittent, the calculations of noise levels are averaged over a 24-hour period. The "sound exposure events," the calculations of the total sound exposure for a single event expressed in one second of time, are totaled and averaged. This averaging of sound exposure events results in the Day-Night Level (DNL) noise average. These DNLs are weighted more heavily toward nighttime noise compared to daytime noise, because noise at night is more

annoying. When DNLs are calculated for each location they produce noise contour maps. Just as a topographic map shows land elevations, a noise contour map shows areas of elevated noise levels. The higher the noise level, the more likely citizens exposed to that level would be annoyed. The noise zones and the associated annoyance level are shown in Table 3-15.

The main source of noise at Fort Meade and the surrounding area is vehicular traffic. Typical equivalent sound levels (Leq) associated with traffic range between 50 and 55 decibels. However, during a recent survey conducted at Fort Meade, the intersection of Reece Road and MD Route 175 had average equivalent sound levels for peak and off-peak traffic hours of 73.7 dB and 80.1 dB. This situation will be discussed in more detail in Section 4.13.7. Other sources of noise on the post include normal operation of the heating, ventilation, and air conditioning systems; lawn maintenance; snow removal; and general maintenance of the streets and sidewalks. None of these operations or activities produces excessive levels of noise, nor have they generated any complaints about noise.

Table 3-15. Department of Army Noise Zones

Noise Zone	Percentage of Population Likely to be Annoyed	Day-Night Level	Acceptability*
I	<15%	<65 dBA	Acceptable
II	15-39%	65-75 dBA	Normally Unacceptable
III	>39%	>75 dBA	Unacceptable

\* Acceptability recognized as per Department of Housing and Urban Development (HUD) standards pertaining to noise sensitive land uses such as housing, schools, etc.  
 Adapted from Source: Canter, L.W., Environmental Impact Assessment, second edition 1996, p. 313 and p. 318.

Tipton Airfield, located in the southwest section of Fort Meade, formerly served the military units stationed at Fort Meade. As recommended by BRAC, Tipton Army Airfield was closed in September 1995. A separate NEPA document was prepared to address the transfer to Anne Arundel County for the county to operate Tipton as a general aviation airport. Airfield activities had been suspended at Tipton until the disposition of the airfield to civilian control and

management. As of 1999, no Installation Compatible Use Zone (ICUZ) study for Tipton Airfield has been conducted.

### **3.13.8 Aesthetics and Visual Zones**

The Fort Meade Installation Design Guide identifies specific visual zones on the installation, designated by location, character, assets, and liabilities. Several of the proposed projects fall into the Transitional Zone (also known as the Northern, Central, and Southern Administrative areas), so named because of the change expected to take place within this zone in the future. Currently, WWII temporary structures, storage facilities, ball fields, and undeveloped grassed open spaces can be found within this zone. The EPA science laboratory and the Youth Activity Center are examples of buildings recently constructed within the Transitional Zone.

Pershing Hall, a renovation project site, is located in the Old Community Center Zone considered the town center of Fort Meade. This zone is the most visible and prominent area of Fort Meade. The arrangement of buildings, trees, and roadways around the parade field creates a formal space that is unique to this area, distinguishing it from other zones on post.

The barracks replacement project is located in one of the two Troop Support Zones on post. Although this zone has several land uses such as housing, administration, recreation, shops dining halls, and chapels, all functions are dedicated to the mission support of active duty military personnel. This singular mission as well as its distinctive architectural form and layout, give this area a unique visual character.

## **3.14 ENVIRONMENTAL JUSTICE**

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This Executive Order is designed to focus the attention of Federal agencies on the human health and environmental conditions in minority communities and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations. In an accompanying Presidential memorandum, the President emphasizes that existing laws, including NEPA, provide opportunities for Federal agencies to address environmental hazards in minority communities and low-income communities. In April of 1995,

the EPA released the document titled *Environmental Justice Strategy: Executive Order 12898*. The document established Agency-wide goals and defined the approaches by which EPA will ensure that disproportionately high and adverse human health or environmental effects on minority communities and low-income communities are identified and addressed. There are no minority or low income populations on the post that would require consideration under this executive mandate.

Also within the context of the NEPA process, effects of the action on children should be reviewed under environmental justice. Executive Order 13045, Protection of Children for Environmental Health Risks and Safety Risks, directs Federal agencies to ensure that their policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks. As children do reside on post and in areas near the proposed project sites, potential risks to children as the result of the proposed action and alternatives are addressed in Section 4.14.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

This section describes the potential environmental effects, both adverse and beneficial, of the Proposed Action and Alternative A as described in Sections 2 and 3. The analysis of resource impacts under the Proposed Action and Alternative A are addressed separately except where there would be little to no difference between the options. Cumulative effects are addressed within resource sections where impacts are anticipated and are summarized in Section 4.15. Mitigation measures are described if applicable and appropriate.

The No-Action Alternative was used to evaluate the environmental and socioeconomic effects of the Proposed Action and Alternative A as the baseline conditions at Fort Meade and adjacent areas in 1999 (as described in Section 2.2). Except as discussed under traffic impacts (Section 4.12.3.2), the No-Action Alternative (not implementing the proposed construction activities outlined in the Proposed Action and Alternative A) would not result in any changes to these baseline conditions. Specific comparisons of impacts with the No-Action Alternative are discussed in Section 5 (see Table 5-1).

### **4.1 LAND USE**

#### **4.1.1 On-Post Planning**

A long-range planning analysis recently conducted at Fort Meade examined a number of critical land use planning elements including (1) existing land use patterns, (2) future facility requirements, and (3) governmental regulations. The availability of land at Fort Meade for future development, and its location relative to existing post facilities, is the primary consideration for siting new projects. The land use plan developed for Fort Meade by the master planning office would retain the current overall land use pattern, while certain areas would change to compatible uses. Facilities required for future growth or mission changes, as well as replacements for inadequate or obsolete facilities, would be sited within appropriate land use areas. Refer to Figure 2-3 for a map displaying the land uses planned for Fort Meade as described in the RPMP, Long Range Component for Fort Meade, (Fort Meade 1998a). Planned land use would produce a more cohesive pattern, consolidating areas of compatible activities.

Long Range Component for Fort Meade, (Fort Meade 1998a). Planned land use would produce a more cohesive pattern, consolidating areas of compatible activities.

The most significant changes in future land use are expected to occur in the northern and central administrative areas (also referred to as the transition zone). Under the phased development strategy considered for Fort Meade, this area provides more than 300 acres for replacement of existing WWII structures and expansion for new tenant activities. Under the Proposed Action, an administrative area in the eastern portion of the post, bounded by Ernie Pyle Street and MD Route 175, would contain six of the new proposed administrative construction projects: MEPS, Bold Venture I, II, III and IV, and 1RBDE. Construction of these projects (under the Proposed Action or four projects under the Alternative A) in this designated administrative zone would be compatible with the installation development plans.

Three of the proposed projects under the Proposed Action and Alternative A, the Dining Facility, Company Headquarters, and Battalion Operations, are located in a Troop Housing area. The Personnel Barracks I & II include relocation of the currently substandard enlisted personnel barracks from area 8600 to areas 6400 and 6300. This area, once considered a recreation area, has recently been redesignated as a Troop Housing area under the current master plan.

As described in the Proposed Action and Alternative A, constructing new or renovating existing administrative buildings within the proposed project areas would be compatible with post-wide development strategies. No adverse effects to on-post land use are expected.

#### **4.1.2 Regional Planning**

Six project sites (Proposed Action), or four project sites (Alternative A), would be located on the east side of the installation near MD Route 175 in an area adjacent to commercially zoned land use areas. Constructing new administrative buildings on these sites would be compatible with off-post commercial development found along this stretch of MD Route 175. Therefore, no adverse impacts to regional land use would occur from projects on the post boundary. The five remaining proposed project sites under both the Proposed Action and Alternative A are centrally located on Fort Meade and would have no adverse effect on regional land use.

### **4.1.3 Geology**

At this time, it is unknown if subsurface construction activities, beyond those required for utility installation or upgrade, would be required for any of the proposed projects. Site assessments would be conducted during development of construction plans for individual projects. Based on the site assessment, project construction for either the Proposed Action or Alternative A would follow appropriate construction procedures in accordance with state and local regulations to ensure there would be no adverse effects on site geology.

### **4.1.4 Soils**

Prior to design and construction, appropriate subsurface investigations would be completed at all project sites considered under the Proposed Action and Alternative A. Approved sediment and erosion control plans would be followed to reduce the potential for erosion. Some soils mixing, compacting, and removal is to be expected during construction activities. Construction would seek to limit the affected area to the immediate building footprint and related parking areas. Adverse effects on soils are expected to be minimal as the result of the Proposed Action and the Alternative A.

### **4.1.5 Topography**

Topographic slopes for the project areas under consideration for both the Proposed Action and Alternative A range from 0 to 10 percent, and are within acceptable ranges for construction activities. Generally, slopes of 6 percent or less are found in the more southern areas of the installation, where most of the projects would be constructed. Therefore, extensive and expensive grading would not be needed for either the Proposed Action or Alternative A. Whatever grading would be required prior to construction would not adversely affect overall topography.

## **4.2 AIR QUALITY**

To assess the potential impacts to air quality under the Proposed Action, emissions from activities associated with the 11 Proposed Action projects were quantified. The primary sources

of air emissions from these projects are (1) construction vehicle fuel combustion; (2) earth moving activities (fugitive dust); (3) boiler fuel combustion; and (4) commuter vehicle fuel combustion. Important air pollutant emissions regulated by EPA and MDE include SO<sub>2</sub>, particulate matter (PM), CO, NO<sub>x</sub>, and VOC emissions. VOC and NO<sub>x</sub> are of particular importance because they contribute to the formation of ozone, and, as noted in the Affected Environment section of this EIS, Fort Meade is located in the Baltimore severe ozone nonattainment area.

All 11 projects associated with the Proposed Action would involve building construction activities. Six of these 11 projects would involve demolition of existing buildings. These construction and demolition activities at Fort Meade would generate temporary air emissions, mainly from fugitive dust-generating activities and construction/demolition vehicle exhaust.

The new buildings constructed for each project would require new boilers to support day-to-day operations (i.e., heating/cooling). All new boilers would use natural gas for fuel; estimated annual natural gas use for each project is given in Appendix F-3. Unlike construction activities, boiler operation constitutes an ongoing, continuous source of air emissions. (This analysis does not account for emissions decreases from removal of existing boiler(s) associated with the demolition of existing, active facilities under this Proposed Action). Effects of energy conservation measures implemented under installation maintenance operations would likely contribute to reduction in facility air emissions, but actual decreases expected at Fort Meade have not been quantified for this analysis.

Note that an MDE air quality permit (permit-to-construct or PTC) is not required for fuel-burning equipment, such as boilers, using natural gas with a rated capacity of less than 1.0 MMBtu/hr (COMAR 26.11.02.10C). At this time, it is anticipated that each new boiler associated with a Proposed Action project would have a capacity of less than 1.0 MMBtu/hr, thus precluding the need for a PTC.

Five of the 11 projects associated with the Proposed Action would involve increases in area commuter traffic as a result of relocating personnel to the new facilities at Fort Meade.



Commuter traffic constitutes an ongoing, continuous source of air emissions once the newly constructed facilities are occupied. Note that one project, the MEPS, involves the relocation of approximately 50 personnel from their current facility in the Baltimore metropolitan area.

#### **4.2.1 Proposed Action**

##### **4.2.1.1 Construction- and Demolition-Related Air Emissions**

Construction activities generate short-term, temporary emissions that result in generally localized impacts on air quality. Such temporary emissions include exhaust emissions from heavy-duty construction equipment/vehicles. Various types of construction equipment could be used at Fort Meade for grading, digging, hauling, etc. Exhaust emission factors for these types of equipment can be found in the EPA publication *AP-42, Volume II* (EPA 1991). At the time of this EIS, there was no specific estimate of equipment requirements for the Proposed Action construction projects. To estimate construction vehicle emissions, five pieces of equipment (one bulldozer, one loader, one excavator, and two dump trucks) were assumed to operate continuously on site for approximately 30 percent of the outdoor or exterior construction period. In addition, two pieces of equipment (one forklift and one crane) are assumed to operate continuously on site for approximately 70 percent of the exterior construction period.

The estimated time period of construction equipment operation for each Proposed Action project was based on the size and assumed period of construction for the DSS project. This project was analyzed in a previous EA for Fort Meade, and is included in this EIS under the cumulative impacts analysis. For the DSS project, the clearing/grading phase of construction was assumed to be 40 days and the actual building construction phase was assumed to be 100 days. For each Proposed Action project, the lengths of these two phases were calculated by multiplying the DSS project time periods by the ratio of the square footage of building area for each project to the square footage of building area for the DSS project. Emissions to the air from heavy-duty construction equipment/vehicles were assumed to cease once exterior construction is complete. See Appendix F-1 for more details on the emission estimation method for construction vehicles.

As mentioned earlier, six Proposed Action projects would involve demolition activities. Similar to construction activities, demolition activities generate short-term, temporary emissions that result in generally localized impacts on air quality. Such temporary emissions include exhaust emissions from heavy-duty construction equipment/vehicles. To estimate these emissions, five pieces of equipment (two bulldozers, one front-end loader, and two dump trucks) were assumed to operate for one week prior to initiation of construction activities. See Appendix F-1 for more details on the emission estimation method for demolition vehicles.

Short-term, temporary emissions also include fugitive dust (particulate matter) emissions generated by construction and demolition equipment activities. The specific sources of fugitive dust emissions associated with construction are earth-moving and dirt pile/loose soil wind erosion. The specific sources of fugitive dust emissions associated with demolition activities are dismantling and debris loading. See Appendix F-2 for more details on emission factors associated with these construction and demolition activities.

Based on above-discussed assumptions, the estimated total annual air emissions (tons per year or tpy) from construction and demolition activities associated with the Proposed Action projects are shown in Table 4-1. In general, for those projects with demolition activities, demolition-related emissions constitute a small fraction (approximately 10 percent or less) of the total (construction-plus-demolition) emissions. Also, fugitive dust accounts for the majority of PM emissions. Emission-generating activities (demolition and outdoor construction activities) were generally assumed to occur within the first half of the construction period. For a construction period of one year, demolition-related emissions (where applicable) and construction-related emissions were assumed to occur within the initial calendar year of construction. For a construction period of two years, demolition-related emissions (where applicable) were assumed to occur within the initial calendar year of construction, while the actual construction-related emissions were assumed to occur within the second calendar year of construction. Structural implementation of some environmental conservation measures would also result in minimal dust and fugitive emissions. Dust control measures would be used where feasible. It should be re-emphasized that all of the above are temporary emissions that would result in generally short-term, localized impacts on air quality.

Table 4-1. Estimated Annual Emission Increases (tpy) from Demolition and Construction Activities Associated with the Proposed Action

Proposed Action	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
MEPS	1.45	0.09	0.60	0.14	3.06
Personnel Barracks Replacement, Phase I	5.45	0.35	2.24	0.52	10.74
Personnel Barracks Replacement, Phase II	5.45	0.35	2.24	0.52	10.74
Dining Facility	1.34	0.09	0.55	0.13	2.43
Company Headquarters	0.59	0.04	0.24	0.06	0.83
Battalion Operations	0.59	0.04	0.24	0.06	0.83
Bold Venture I	1.58	0.10	0.65	0.15	3.34
Bold Venture II	3.72	0.24	1.53	0.35	7.86
Bold Venture III	1.58	0.10	0.65	0.15	3.34
Bold Venture IV	0.46	0.03	0.19	0.04	0.98
1RBDE	2.07	0.13	0.85	0.20	3.96

Note: Emission estimates include construction vehicle emissions, demolition vehicle emissions, and construction/demolition-related fugitive dust (PM) emissions; see Appendix F.

#### 4.2.1.2 Operations-Related Air Emissions

Once the completed buildings associated with the Proposed Action projects are occupied by Fort Meade personnel, emissions would be generated on a continuous basis from the new natural gas-burning boilers. Projected natural gas use and building area information for the DSS and Information Systems Software Center (ISSC) projects from the BRAC 95 EA (USACE 1997) was used as the basis for estimating gas use for each project boiler. Specifically, the ratio of the estimated natural gas use to building area for the DSS and ISSC projects was averaged to yield a factor that was multiplied by the building area for each project building area to estimate natural gas use for each new building. These natural gas use estimates were multiplied by pollutant emission factors provided in the revised EPA publication *AP-42, Volume I* (EPA 1998) to yield the emission estimates by project. The estimated annual air emissions from natural gas-burning boilers associated with the Proposed Action projects are shown in Table 4-2. Reductions in air emissions that would result from these environmental conservation measures at Fort Meade have not been quantified. However, based on the environmental conservation measure objectives, it

can be assumed that, once completed, these energy-saving upgrades and activities would contribute significant, beneficial impacts to air quality.

Table 4-2. Estimated Annual Emission Increases (tpy) from New Natural Gas-Fired Boilers Associated with the Proposed Action

Proposed Action	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
MEPS	0.09	0.0047	0.07	0.0005	0.0065
Personnel Barracks Replacement, Phase I	0.30	0.0164	0.25	0.0018	0.0227
Personnel Barracks Replacement, Phase II	0.30	0.0164	0.25	0.0018	0.0227
Dining Facility	0.07	0.0037	0.06	0.0004	0.0051
Company Headquarters	0.02	0.0013	0.02	0.0001	0.0017
Battalion Operations	0.02	0.0013	0.02	0.0001	0.0017
Bold Venture I	0.09	0.0051	0.08	0.0006	0.0071
Bold Venture II	0.22	0.0121	0.18	0.0013	0.0167
Bold Venture III	0.09	0.0051	0.08	0.0006	0.0071
Bold Venture IV	0.03	0.0015	0.02	0.0002	0.0021
1RBDE	0.002	0.0001	0.00	0.0000	0.0002

See Appendix F-3 for more information on the boiler emission estimation method and assumptions and emission estimates by project.

After construction of each project is complete, air emissions would also be generated on a continuing basis by new employee commuter vehicles. Similar to boilers, these emissions can be classified as a “permanent” emissions increase resulting from the Proposed Action. Mobile sources constitute an important source category of air emissions, especially for VOC, CO, and NO<sub>x</sub> emissions. Mobile source emissions of these pollutants are regulated by EPA under the Clean Air Act (CAA). EPA’s MOBILE5 model (EPA 1994) incorporates the CAA-mandated emission limits and emission reduction programs (e.g., inspection and maintenance) to calculate mobile source emission factors (grams per mile). For analysis in this EIS, MOBILE5 (Version b) model input data (reflecting emission limits and emission reduction programs applicable to the Baltimore area) were obtained directly from MDE (Khan 2000). Actual measured vehicle speed data for the roads in and around Fort Meade were used in this MOBILE5b modeling exercise.

Annual baseline (i.e., "No Action") and baseline-plus-Proposed Action emissions (tpy) from mobile sources were calculated for a total of 18 road segments in and around Fort Meade for the period 2000-2005. Information on these road segments is provided in Table 4-3. The baseline and baseline-plus-Proposed Action average daily traffic (ADT) volumes were multiplied by the length of the applicable segment to estimate a vehicle miles per day for each of the two scenarios for each segment. The baseline and baseline-plus-Proposed Action miles per day values were then multiplied by the MOBILE5b-calculated emission rate to derive gram per day emission rates. The daily emission rates were then multiplied by 250 (business) days per year to determine the estimated annual emission rates for the two scenarios for that segment. Subtracting the annual baseline emission rate from the annual baseline-plus-Proposed Action emission rate yields the incremental increase in annual emissions due to the Proposed Action. The ADTs for the future years account for increased traffic in the Fort Meade area due solely to the Proposed Action projects. The MOBILE5b-calculated emission rates and ADTs for the baseline and baseline-plus-Proposed Action scenarios for each segment and year are given in Appendix C-4. Note that most of the segments listed in Table 4-3 were projected to experience increases in ADT as a result of the Proposed Action.

In addition to estimating emission increases from additional traffic local to Fort Meade, emission increases from additional regional traffic associated with the Proposed Action projects were also estimated. To make this estimate, it was assumed that the average round trip on a daily basis for all new personnel was 25 miles (i.e., the regional segment length). This length was multiplied by the number of new personnel for each project, where applicable, starting with the year construction was completed and continuing for every year thereafter. The resulting miles per day value was then multiplied by the MOBILE5b-calculated emission rate (for a 50 miles per hour travel speed for the associated year) to derive a gram-per-day emission rate. This daily emission rate was then multiplied by 250 (business) days per year to determine the estimated annual regional emission rate.

Table 4-3. Road Segments Included in the New Commuter (Local)  
Emission Estimates for Fort Meade

Road Segment Information
MD 175 - BW Parkway to Rockenbach Road
MD 175 - Rockenbach Road to Mapes Road
MD 175 - Mapes Road to MD 32
Mapes Road - MD 175 to Ernie Pyle Street
Mapes Road - Ernie Pyle Street to Cooper Avenue
Mapes Road - Cooper Avenue to MD 32
Route 32 - MD 198 to Emory Road
Route 32 - Mapes Road to MD 198
Route 32 - Mapes Road to MD 175
Reece Road - MD 175 to Ernie Pyle Street
Llewelyn Avenue - MD 175 to Ernie Pyle Street
Llewelyn Avenue - Ernie Pyle Street to Cooper Avenue
Ernie Pyle Street - Llewelyn Avenue to Mapes Road
Ernie Pyle Street - Mapes Road to Reece Road
BW Parkway - MD 175 to NSA exit
Rockenbach Road - MD 175 to Cooper Avenue
Cooper Avenue - Rockenbach Road to Mapes Road
Taylor Avenue - South of Mapes Road

Table 4-4 shows the estimated total mobile source (local plus regional) VOC, CO, and NO<sub>x</sub> emissions for the years 2000 through 2005. These values represent emission increases associated with Proposed Action projects above and beyond the “baseline” (i.e., No Action) traffic emissions in the region for each year. A sharp increase in emissions occurs between 2003 and 2004 because of the sharp increase in new commuter traffic associated with the completion of the Bold Venture II and III projects in early 2004. Note that the Proposed Action projects are estimated to ultimately increase mobile source emissions in the Fort Meade area by approximately 6 percent (based on emission estimates for 2005).

Table 4-4. Estimated Annual NO<sub>x</sub>, VOC, and CO Emission Increases (tpy) for New Commuter Vehicles Associated with the Proposed Action

Year	Estimated Emissions (tpy)		
	NO <sub>x</sub>	VOC	CO
2000	0	0	0
2001	0.27	0.12	0.81
2002	0.29	0.13	0.90
2003	3.79	1.35	8.59
2004	13.43	4.68	29.95
2005	13.78	4.84	31.80

The total emissions, by year, for all source categories for the Proposed Action are shown in Table 4-5. These total values are composed of emissions from construction/demolition activities (equipment fuel burning and fugitives), new boilers, and new commuter traffic. The magnitude and potential impact of the combination of these “temporary” and “permanent” emissions increases on regional air quality (focusing on the ozone nonattainment issue) is discussed in the following section.

Table 4-5. Estimated Total Annual Emission Increases (tpy) Associated with Proposed Action Projects

Year	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
2000	1.86	0.12	0.76	0.18	3.14
2001	5.40	0.45	2.95	0.477	10.67
2002	3.27	0.31	2.29	0.25	3.51
2003	16.52	2.18	14.03	1.16	25.93
2004	17.17	4.91	30.96	0.25	5.03
2005	15.02	4.91	32.83	0.01	0.09

Note: The total annual emission rate includes construction/demolition vehicle emissions, fugitive dust emissions, new boiler emissions, and new commuter vehicle emissions, where applicable.

Note that the emission estimates shown in Table 4-5 do not account for emission decreases from removal of existing boilers associated with demolition of existing facilities. The total decrease for any particular pollutant would be less than one ton, and would not significantly reduce the

emission totals shown in Table 4-5. The exclusion of these emission decreases serves to infuse a small degree of conservatism in the emission totals. (This type of emission decrease should not be construed as a mitigation measure because the removal of the old boilers occurs as a consequence of the demolition activity; not for the specific purpose of air emissions reduction.)

#### **4.2.1.3 General Conformity**

Because Fort Meade is located in Anne Arundel County, which is part of the Baltimore severe nonattainment area for ozone, the Proposed Action must comply with EPA's General Conformity rule (40 CFR Part 51, Subpart W). The General Conformity rule states that proposed Federal actions must demonstrate conformity with the State Implementation Plan (SIP). The SIP is basically the plan devised by the state, and approved by EPA, to bring areas currently out of compliance with National Ambient Air Quality Standards (NAAQS) back into compliance. Thus, a Federal action must not adversely affect the timely attainment and maintenance of NAAQS or emission reduction plans leading to attainment.

The General Conformity rule stipulates threshold (*de minimis*) emission levels for EPA-regulated criteria pollutants. If the net change in emissions for one or more pollutants resulting from a Proposed Action is greater than the *de minimis* levels, then the action requires a formal conformity determination for the pollutant(s).

The *de minimis* level for a severe ozone nonattainment area is 25 tpy for either NO<sub>x</sub> or VOC. Table 4-5 shows the NO<sub>x</sub> and VOC emission increases from all Proposed Action projects on a year-by-year basis. Each annual emission increase shown in this table would be the total emissions from construction activities/equipment, new boilers, and new commuter vehicles for that year. The total increases in emissions for VOC and NO<sub>x</sub> would be less than the *de minimis* level. Therefore, if the total VOC and NO<sub>x</sub> emissions associated with the Proposed Action would be less than 10 percent of the nonattainment area's total emission budgets for VOC and NO<sub>x</sub>, the Proposed Action qualifies for a *de minimis* exemption from the General Conformity rule.



Based on the most recent SIP documentation for Maryland, the total VOC and NO<sub>x</sub> emissions in the Baltimore nonattainment area for ozone (in 1999) are approximately 139,000 tpy and 192,300 tpy, respectively (MDE 1998b). Therefore, VOC and NO<sub>x</sub> emissions associated with the Proposed Action would be on the order of 0.01 percent of the total Baltimore area emissions of these pollutants. Thus, the Proposed Action would qualify for a *de minimis* exemption from the General Conformity rule.

According to Army policy, a Record of Non-Applicability (RONA) must be developed for actions exempt from the General Conformity rule (DOA 1995). A RONA is a formal memorandum to the file setting out the facts and circumstances establishing that the action is exempt.

#### **4.2.2 Alternative A**

The Alternative A for Fort Meade includes all projects under the Proposed Action, with the exception of the Bold Venture III and Bold Venture IV projects. Therefore, construction-related emissions (in certain years) would be reduced under the Alternative A. Operations-related emissions also would be reduced because the associated heating boilers (two) and new personnel commuting to Fort Meade (causing traffic emissions) associated with these projects would also be eliminated (a total of 272 new personnel are associated with the Bold Venture III and IV projects). The total emission increases from the Alternative A projects on a year-by-year basis are given in Table 4-6. Note that in 2004, the total NO<sub>x</sub> emission under the Alternative A would be approximately 24 percent less than the total NO<sub>x</sub> emission under the Proposed Action. This decrease is mainly a result of the significant reduction in commuter traffic emissions, starting in 2004.

The General Conformity rule only applies to the Proposed Action, as opposed to the review of all options under NEPA (DOA 1995). Therefore, a conformity review would not be required for the Alternative A (unless, of course, the Alternative A becomes the action to be taken at a future time).

Table 4-6. Estimated Total Annual Emission Increases (tpy) Associated with Alternative A Projects

Year	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
2000	1.86	0.12	0.76	0.18	3.14
2001	5.40	0.45	2.95	0.477	10.67
2002	3.27	0.31	2.29	0.25	3.51
2003	14.94	2.08	13.38	1.01	22.59
2004	13.13	3.66	23.17	0.20	4.04
2005	10.60	3.40	22.90	0.01	0.08

Note: The total annual emission rate includes construction/demolition vehicle emissions, fugitive dust emissions, new boiler emissions, and new commuter vehicle emissions, where applicable.

#### 4.2.3 Air Quality Cumulative Impacts

Total air emissions from the Proposed Action and other actions referred to in Section 2.6 (see Appendix F) at Fort Meade were evaluated as part of the cumulative effects assessment required by Council on Environmental Quality (CEQ) regulations (40 CFR 1508.7). These other actions would result in both construction-related and operation-related emissions (from new boilers and additional commuter traffic), with the following exceptions. The ISSC project involves renovation and refurbishment of existing buildings; therefore, no construction emissions are assumed in this analysis. Also, because DSS personnel are relocating from Fort Holabird, located in Baltimore, there will be no net increase in commuter traffic (i.e., no incremental increase in mobile source emissions) in the Baltimore ozone nonattainment area as a result of that project. Note that construction on some of the other actions at Fort Meade was initiated in late 1998 and 1999. Other activities that can be considered in the cumulative analysis are the energy conservation measures instituted on the installation as part of daily maintenance and operations. However, reductions in air emissions that would result from these environmental conservation measures at Fort Meade have not been quantified. It is likely that, once completed, these energy-saving upgrades and activities would contribute significant, beneficial impacts to air quality.

This cumulative effects assessment is focused on the pollutants, NO<sub>x</sub> and VOC, that contribute to the ozone nonattainment problem in the Baltimore region. CO is also included because of past

issues with CO nonattainment in Baltimore (although Baltimore currently is in attainment of the CO NAAQS). The total incremental increases in CO, VOC, and NO<sub>x</sub> emissions for the years 2000 through 2005 for the other actions at Fort Meade are shown in Table 4-7. These emissions were added separately to the Proposed Action-related emissions and the Alternative A-related emissions to estimate the total cumulative emissions, by year and pollutant, for each action scenario (see Tables 4-8 and 4-9, respectively).

Table 4-7. Estimated Total Annual Emission Increases (tpy) Associated with Other Actions

Year	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
1999	2.32	0.15	0.95	0.22	4.89
2000	8.17	0.53	3.36	0.77	17.27
2001	17.68	4.14	28.73	0.636	14.18
2002	16.96	5.65	37.62	0.006	0.08
2003	16.08	5.21	34.23	0.006	0.08
2004	15.03	4.82	31.93	0.006	0.08
2005	13.90	4.51	30.47	0.006	0.08

Note: The total annual emission rate includes construction/demolition vehicle emissions, fugitive dust emissions, new boiler emissions, and new commuter vehicle emissions, where applicable.

Table 4-8. Estimated Total Annual Emission Increases (tpy) Associated with Proposed Action Projects Plus Other Actions

Year	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
1999	2.32	0.15	0.95	0.22	4.89
2000	10.03	0.65	4.12	0.95	20.41
2001	23.07	4.60	31.68	1.113	24.85
2002	20.24	5.96	39.90	0.256	3.58
2003	32.61	7.39	48.26	1.167	26.01
2004	32.20	9.72	62.89	0.253	5.11
2005	28.92	9.43	63.30	0.013	0.17

Note: The total annual emission rate includes construction/demolition vehicle emissions, fugitive dust emissions, new boiler emissions, and new commuter vehicle emissions, where applicable.

Table 4-9. Estimated Total Annual Emission Increases (tpy) Associated with Alternative A Projects Plus Other Actions

Year	Estimated Emissions (tpy)				
	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM
1999	2.32	0.15	0.95	0.22	4.89
2000	10.03	0.65	4.12	0.95	20.41
2001	23.07	4.60	31.68	1.11	24.85
2002	20.24	5.96	39.90	0.26	3.58
2003	31.03	7.29	47.61	1.02	22.67
2004	28.16	8.48	55.10	0.21	4.12
2005	24.50	7.92	53.36	0.01	0.16

Note: The total annual emission rate includes construction/demolition vehicle emissions, fugitive dust emissions, new boiler emissions, and new commuter vehicle emissions, where applicable.

In order to assess the potential significance of the total cumulative emissions, some measure of significance, or a significant *de minimis* threshold value, is needed. The NEPA does not specify *de minimis* thresholds for cumulative air quality effects. Therefore, for the purposes of this EIS, the thresholds specified under the General Conformity rule were used as the surrogate *de minimis* thresholds for cumulative effects. The surrogate *de minimis* threshold for VOC and NO<sub>x</sub> is 25 tpy, while the surrogate *de minimis* threshold for CO is 100 tpy. It should be emphasized that exceeding these thresholds would not trigger regulatory action under the CAA. However, such exceedances would be a reasonable indication of significant cumulative impacts under the NEPA definition. Moreover, this level of emissions has implications for future growth planning in Anne Arundel County, as well as nearby counties.

A comparison of cumulative annual emissions from Tables 4-8 and 4-9 against the surrogate *de minimis* thresholds indicates potentially significant cumulative NO<sub>x</sub> emissions in 2003, 2004, and 2005. The peak cumulative annual NO<sub>x</sub> emissions for the Proposed Action (33 tpy) and the Alternative A (31 tpy) would occur in 2003, and would be significantly greater than the surrogate *de minimis* threshold of 25 tpy.

These cumulative impacts results address the emission-generating activities/projects on Fort Meade property. Using guidance from the CEQ (1997), we also considered cumulative effects

over a wider geographic area (e.g., the Fort Meade vicinity and all of Anne Arundel County). While we did not quantify additional emissions just outside the installation, we conclude VOC and NO<sub>x</sub> emission levels in the local region would be even greater than those already deemed significant on the installation. At the same time, it should be noted, that the total (all source categories) cumulative VOC and NO<sub>x</sub> emissions at Fort Meade (Proposed Action plus other actions) would constitute less than 0.1 percent of the total (all source categories) VOC and NO<sub>x</sub> emissions in all of Anne Arundel County, based on emissions data given in the Maryland SIP (MDE 1998b).

The attainment of the NAAQS for ozone in the Baltimore area by 2005 (the CAA deadline for compliance) is critically important to the State of Maryland. The information and data provided in this EIS will help the State determine if their own emissions growth projections for the Fort Meade area adequately account for the total cumulative emissions identified by Fort Meade. If not, Fort Meade may need to work with the State to minimize cumulative effects, so that they do not inhibit progress toward attainment of the ozone NAAQS.

#### **4.2.4 Air Quality Mitigation**

The Army concludes that the cumulative impacts of all past, present, and reasonably foreseeable future actions would significantly hinder the State's ability to demonstrate "reasonable further progress" toward lowering emissions of ozone precursor pollutants, as required by the Clean Air Act Amendments of 1990. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the action while intensifying efforts to work in partnership with the State and others to address the larger air quality issue. Fort Meade is currently undertaking four initiatives that will help mitigate the adverse air quality impacts in the region: (1) conversion of existing oil-fired heating systems to natural gas, (2) use of vehicles powered by natural gas, (3) installation of more energy-efficient devices, and (4) an extensive tree planting and reforestation program. Each of these initiatives contributes to improved air quality by reducing the emissions of air pollutants or by sequestering atmospheric carbon.

In 1995, Fort Meade embarked on the Army's Pollution Prevention Initiative by committing to replace existing oil-fired heating systems with natural gas. Natural gas produces fewer emissions and contributes to cleaner air in the region. Since that time, Fort Meade has converted 51 major heating systems to natural gas, including the Water Treatment and Wastewater Treatment Plants. The two major boiler plants, Troop Boiler (P-8481) and Kimbrough (P-2482) will cease to function this year. This action will convert 15 buildings currently receiving steam from these oil-fired boilers to individually burn natural gas for their heat and hot water. This will increase the number of converted buildings to 66. These actions have reduced the volume of number 2 fuel on post, reduced the number of fuel overfills and spills, and reduced the emissions from oil-burning heating systems. Fort Meade has only eight buildings remaining that continue to use oil for heating purposes. Emissions from automobiles is also reduced when they are powered by natural gas. A proportion of the Fort Meade Department of Public Works' vehicle fleet is powered by natural gas.

Fort Meade is currently preparing NEPA analysis that, when approved, will provide for converting out-dated and inefficient energy devices to newer, more energy-efficient technology. This initiative is designed to replace light bulbs and ballasts, toilets, sinks, heating and cooling units, windows, and other devices with more efficient versions. The energy saved directly converts to lesser demand for electricity from regional power plants and ultimately less air pollution. Once it is approved, the Proposed Action for development and operations at Fort Meade will comply with this energy conservation initiative.

Fort Meade has also initiated an extensive tree planting and reforestation program to restore open meadow areas to their native forested condition. In addition to this continuing program, Fort Meade requires all new construction activities to either comply with Fort Meade's reforestation plan or apply to the Maryland Department of the Environment for consideration. Usually, Fort Meade's plan is adopted and it is agreed that 20 percent of the disturbed area will be replanted with native vegetation.

## 4.3 WATER QUALITY

### 4.3.1 Surface Water

In general, the potential effects on surface water quality associated with the Proposed Action and Alternative A would be limited to (1) construction activities and (2) continuing runoff from new structures and parking areas. Storm water runoff from construction areas typically carries excess sediments and sediment-bound metals and nutrients into receiving waters. Following construction, the grease and oil that accumulated on newly paved parking areas may result in periodic inputs of these substances into rivers and streams. In addition, runoff may contribute to thermal pollution, because water flowing over warm asphalt will have a higher temperature than ambient surface water.

New construction associated with the Proposed Action would increase the amount of impervious surfaces, consequently increasing runoff. According to Fort Meade DPW, there are approximately 530 acres of impervious surface at Fort Meade (Harmeyer 1999a).

Pursuant to the NPDES regulations, any construction related activity that disturbs more than 5 acres of land may require a NPDES permit for storm water discharges. A Notice of Intent (NOI) must be prepared to provide site information and indicate that Fort Meade would comply with the conditions outlined in the state's general permit for stormwater discharges. All stormwater management plans would be approved by the State of Maryland in accordance with COMAR 26.09.01-26.09.02.

Maryland State regulations require that all jurisdictions implement a stormwater management program (SWMP) to control the quality and quantity of storm water runoff that results from new development. The regulations require that the release rate from newly developed areas not exceed the rate generated by the site prior to development. Currently, Fort Meade follows stormwater management guidance outlined in the *Maryland Stormwater Design Manual* (MDE 1998a).

#### 4.3.1.1 Proposed Action

The 11 projects considered under the Proposed Action would increase impervious surface area by approximately 9.07 acres or 1.8 percent of the total impervious surface at Fort Meade.<sup>2</sup> Roadway surfaces are not included in this estimate. Site-specific analysis would be conducted to determine if additional SWM facilities are necessary to mitigate increased runoff from any new facility, thus avoiding impacts to surface waters and ensuring compliance with state regulations.

Stormwater drainage for the proposed project areas varies by location. The Personnel Barracks Phase I and II areas would drain into a retention pond located on Taylor Avenue south of the Gaffery Fitness Center. Stormwater runoff from MEPS and the two Bold Venture initiatives, located in the administrative areas west of MD Route 175, would drain into roadside cement-lined culverts feeding a new stormwater retention pond near the EPA Laboratory. The 1RBDE project and Bold Ventures II and III, located in the administrative area to the south, drain into roadside culverts. Construction designs for each construction project would also include landscaping and perimeter tree plantings to shade pavement and reduce runoff temperatures, minimizing the potential for increasing ambient surface water temperatures. Some of the structures may have designs that incorporate a rain garden concept. Rain gardens are designed to collect and improve water quality, then gradually release stormwater into grassy areas that slow and absorb runoff water before reaching nearby streams. The use of rain gardens, recommended in the *1998 Maryland Stormwater Design Manual* (MDE 1998a, Harmeyer 1999a), is a highly efficient management technique used to address both water quantity and quality issues.

#### Stormwater Management Operations and Maintenance

Currently, all stormwater facilities are maintained in accordance with State and local regulations. With the implementation of the Proposed Action, no change is expected to occur in these and other related stormwater operations.

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<sup>2</sup> Estimate of impervious surface area derived using square footage of building footprints and parking areas of projects considered under the Proposed Action and Alternative A.



Based on a Fort Meade assessment of long-term potential needs, no other SWM facilities are planned for the post-wide drainage system. Given the implementation of SWM plans, no significant adverse impacts on surface waters are anticipated under the Proposed Action.

#### **4.3.1.2 Alternative A**

The nine projects considered under the Alternative A would increase impervious surface area by approximately 8.3 acres or 1.5 percent of the total impervious surface at Fort Meade. Roadway surfaces are not included in this estimate. Site-specific analysis would be conducted to determine if additional SWM facilities are necessary to mitigate increased runoff from any new facility, thus avoiding impacts to surface waters and ensuring compliance with the above-mentioned State regulations. The type of SWM design and mitigation planning would not vary from that referred to in the Proposed Action, above. Given the implementation of these SWM plans, no significant adverse impacts on surface waters are anticipated under the Alternative A.

#### **Stormwater Management Operations and Maintenance**

With the implementation of Alternative A, no change is expected to occur with maintenance and operation of stormwater facilities.

#### **4.3.2 Groundwater**

It is not known if construction considered under the Proposed Action or Alternative A would require subsurface excavation (other than utility installation). If subsurface excavation for either the 11 construction projects or on-going maintenance and repair operations is required, high water table areas would be avoided. Some environmental conservation measures may involve the installation of geothermal loops and as such have the potential to disturb groundwater through deep-hole drilling. Such disturbance would be minimal and localized. To address concerns about groundwater contamination related to the Fort Meade's Superfund designation, CERCLA investigation results would be reviewed prior to construction. If remediation is necessary, Fort Meade would follow all applicable Federal and State guidelines.

Based on water supply capacity and projected population increases, groundwater resources are sufficient to meet potable water supply needs for either the Proposed Action or the Alternative A, therefore, no adverse effects on groundwater are expected.

#### **4.3.3 Water Quality Cumulative Impacts**

Studies suggest that the existing SWM system would be adequate to serve the new facilities included in the Proposed Action at Fort Meade. It is anticipated, however, that Fort Meade may have to implement additional stormwater controls once the details of the projects are known (e.g., total extent of impervious surfaces). The Draft Long Range Component of the Fort Meade Real Property Master Plan has recommended that a detailed storm drainage study be conducted, and that a new updated storm drainage plan be devised before any major development is undertaken on the installation. Fort Meade is committed to providing adequate SWM as new facilities are constructed on post. The same considerations for stormwater control are being applied to other present actions at Fort Meade (e.g., EPA Laboratory) and should not pose a cumulative effects problem on post.

Increases in stormwater flows are also probable, as development continues in the surrounding counties. SWM is a major concern for local governments and they have developed specific regulations and are undertaking additional initiatives to remedy existing problems and ensure they are not exacerbated by new development. Both Fort Meade and the local governments are committed to support Chesapeake Bay initiatives involving stormwater control. Given the regional development anticipated, it is possible that the Proposed Action may add to the impacts of past, present, and future actions. However, the installation plans to work closely with county and State planners to ensure that the cumulative loading of local streams remains acceptable. Both groups plan to use a watershed approach that crosses ownership boundaries to assess stormwater control needs and ensure water quality protection for streams and, ultimately, the Chesapeake Bay.

## **4.4 AQUATIC RESOURCES AND WETLANDS**

### **4.4.1 Aquatic Resources**

None of the project areas considered under either the Proposed Action or Alternative A contain permanent surface water features. The Bold Venture I site is near an area of aquatic habitat that may possibly support seasonal populations of aquatic or semi-aquatic organisms. The vegetated ditch has a seasonally wet environment which may potentially offer habitat to certain macroinvertebrates and/or amphibians. Best management practices, such as installing silt fences and hay bale barriers during construction at the Bold Venture I site, would minimize toxicant and sediment loadings to the possible aquatic habitat. Fort Meade is currently implementing measures such as a riparian buffer and "no-mow" zone along the channel. No significant adverse impacts to aquatic resources are expected.

### **4.4.2 Wetlands Resources**

No jurisdictional wetlands occur on or near any of the sites considered under the Proposed Action or Alternative A. Therefore, no significant effects to wetlands resources are anticipated.

## **4.5 VEGETATION**

### **4.5.1 Proposed Action**

Of the 11 project areas considered under the Proposed Action, seven are predominantly grassy meadow and lawn areas containing thinly scattered trees and shrubs with species commonly found within the region. The existing vegetation at the sites would be completely removed during construction, and new vegetation would be planted around the new buildings once construction is complete. At four previously developed sites, little to no vegetation would be impacted; the Bold Venture III, Dining Facility, Command Headquarters, and Battalion Headquarters currently have minimal vegetation surrounding the existing buildings. With landscaping planned, a positive impact on vegetation would be expected. Fort Meade planners would use native shrub species where possible to provide a higher quality, albeit reduced amount of habitat. Although some grassy areas would be lost, resulting landscaping would produce a

potentially positive visual impact for Fort Meade. No significant adverse impact to vegetation is expected under the Proposed Action.

#### **4.5.1.1 Landscaping Operations and Maintenance**

Under the Proposed Action, grounds and landscape maintenance procedures would remain unchanged. Grounds crews would continue current mowing and trimming regimes. Once planted and landscape vegetation is established after construction, Fort Meade tenants would arrange for private contractors to maintain landscape plantings as discussed in section 3.5.2 (Moore 1998). No adverse effects to Fort Meade grounds operations are anticipated as a result of the Proposed Action.

#### **4.5.2 Alternative A**

Under the Alternative A, areas proposed for Bold Ventures III and IV would not be impacted by construction, thereby reducing the need to remove existing vegetation. Five sites would have existing open grass vegetation removed and replaced in a manner similar to that described under the Proposed Action. At three previously developed sites, new plantings would enhance area vegetation. Positive visual impacts would also be expected, but to a reduced degree.

#### **4.5.2.1 Landscaping Operations and Maintenance**

Maintenance procedures would not vary from those specified under the Proposed Action. No adverse impacts are expected.

### **4.6 WILDLIFE RESOURCES**

None of the vegetative habitats in the remaining project areas considered under either the Proposed Action or Alternative A for new construction have important wildlife habitat values. It is expected that the few urbanized birds and small mammals that may be found on these proposed construction areas would quickly relocate to similar habitat elsewhere on the installation. Therefore, no adverse impacts to wildlife on post are expected under either the Proposed Action or Alternative A.

#### **4.7 THREATENED AND ENDANGERED SPECIES**

A study conducted at Fort Meade between 1993 and 1994 by Eco-Science Professionals, Inc., identified rare and endangered species habitats within installation boundaries (Eco-Science Professionals 1994). None of these habitats are found within the areas designated for construction or renovation activities under the Proposed Action or the Alternative A, nor were threatened or endangered species (or evidence of their presence) observed during site reconnaissance of the project areas. Therefore, no impacts to threatened or endangered species are expected.

The Little Patuxent River may support one of only two populations of the glassy darter in the State. Listed as highly rare by the Maryland Natural Heritage Program, the species was relatively common in the Little Patuxent River immediately below the Fort Meade Dam at MD Route 198. Maryland DNR has stated that it is important to take special precautions to avoid impacts to this area, as even very infrequent impacts to the stream could potentially cause damage to the glassy darter population in Maryland (Dintaman 1998).

Although surface water runoff from the project sites does not drain directly into the Little Patuxent River, concern for stormwater runoff impacts to sensitive species has been incorporated into Fort Meade development plans (see Section 3.3.1.3). Fort Meade is currently planting trees and shrubs as riparian buffers to minimize runoff into stream channels (Harmeyer 1999a) where species such as the glassy darter possibly exist. Implementing best management practices, such as rain gardens and retention ponds, near the source of runoff-producing areas would avoid or minimize potential impacts to endangered species that exist outside of the immediate vicinity of any project. Therefore, no significant adverse impacts to sensitive species are expected.

#### **4.8 PRIME AND UNIQUE FARMLANDS**

None of the soil types in the project areas considered under the Proposed Action or Alternative A qualify under the Farmland Protection Policy Act, nor do they qualify for designation as productive agricultural land under Anne Arundel County's Agricultural Land and Woodland

Preservation Program (County Bill No. 45-90). Therefore, no impacts to prime and unique farmlands would occur.

#### **4.9 WILD AND SCENIC RIVERS**

No Maryland rivers fall under the Federal Wild and Scenic Rivers designation, and as such, no impacts would occur. However, the Patuxent and Severn Rivers were formally designated under the Maryland Scenic and Wild Rivers Act as two of Maryland's Scenic Rivers. The Little Patuxent River and Severn Run are each tributaries of these rivers, respectively. Once construction plans for the individual projects are developed, Fort Meade would review the site location of each and, if deemed necessary, would devise mitigation strategies appropriate for each of the 11 proposed projects following guidelines set forth by the Patuxent and Severn River Commissions. Therefore, no significant impacts to either of these rivers are anticipated under the Proposed Action or Alternative A.

#### **4.10 CULTURAL RESOURCES**

##### **4.10.1 Archeological Resources**

Of the projects under consideration by the Proposed Action and Alternative A, only four, (Bold Ventures I and IV, 1RBDE, and the Dining Facility) fall within portions of the post designated by the CRMP as exhibiting a high probability for potentially significant archeological resources. Two additional proposed structures, the Company and the Battalion Operations Buildings, may intersect peripheral segments of high probability lands. All other projects are located in portions of Fort Meade determined to exhibit low probabilities for significant archeological resources. No known archeological sites potentially eligible for listing in the NRHP are located on or otherwise intersect any areas identified for construction under the present Proposed Action. Of the projects situated within high probability areas, both Bold Ventures I and IV are located in lands determined by the CRMP to be undisturbed; subsequent Phase I survey investigations have demonstrated these lands to contain no significant cultural resources. Recommendations have been made that neither of these two areas require further intensive examination. Both the 1RBDE and the Dining Facility lie in high probability but disturbed ground and, likewise, would

require no further archaeological testing. Based on these findings, the current Proposed Action or Alternative A would not impact any significant archeological sites and would not require any additional cultural resources investigation.

#### **4.10.2 Historic Architectural Resources**

The projects under consideration by the Proposed Action and Alternative A would not impact the two eligible architectural resources at Fort Meade. The projects are grouped in two clusters that are not in the vicinity of either the Post Core Historic District or Building 8688. In addition, the projects will not impact buildings related to the former NIKE operation in the vicinity of Building 1978 (of potential historic value).

#### **4.10.3 Repair and Maintenance of Historical Structures**

As additional structures at Fort Meade reach the 50-year eligibility mark, the level of effort and maintenance would be upgraded, commensurate with the expanded number of “new” historic structures (Robert 1998). Repair and maintenance of historical structures would follow the CRMP guidelines summarized in Section 3.10.6. As per recent agency request from the Maryland State Historic Preservation Officer, Fort Meade would conduct rehabilitation of historic structures on post in accordance with the Secretary of Interior’s *Standards for Rehabilitation*, matching existing historic architecture in scale, massing, and materials (Bowlin 1998). In general, should a construction, repair, or energy-related upgrade operation have the potential to disturb cultural resources at Fort Meade, appropriate steps would be taken to identify and mitigate the potential impact. Fort Meade’s continuing coordination efforts with the Maryland SHPO facilitates on-going repair and maintenance of installation historic structures. No changes to maintenance operations are anticipated as the result of the Proposed Action or Alternative A.

## **4.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES**

### **4.11.1 Underground Storage Tanks and Above Ground Storage Tanks**

Two 20,000-gallon heating oil USTs are located outside Building 8481 in the vicinity of but not on the Company Headquarters site. According to statutory exclusions as interpreted in 40 C.F.R. 280.12 in the Maryland and Federal Regulation of USTs, heating oil tanks are not regulated. The two USTs will not be affected by Company Headquarters construction. There are no other ASTs or USTs associated with any of the other project areas, therefore no impacts are anticipated.

### **4.11.2 Polychlorinated Biphenyls**

Fort Meade has removed all PCB-transformers with PCB concentrations exceeding 500 ppm and all PCB-contaminated transformers (with concentrations between 50 ppm and 500 ppm). Therefore, PCBs should not be an issue for proposed project areas at Fort Meade.

### **4.11.3 Radon**

A radon survey of the installation was completed in 1989-1990 by the Fort Meade EMO. All test results were below the EPA action level of 4 PCi/L; therefore, no further action was required.

### **4.11.4 Asbestos-Containing Materials**

Before demolition activities are initiated at any of the project sites (Dining Facility, Company Headquarters, Battalion Operations Facility, Personnel Barracks Phase I and II, and the wooden WWII buildings) an EPA-certified asbestos inspector will inspect any affected areas and identify all friable asbestos that potentially could be released during the Proposed Action. Any remaining friable asbestos will then be removed and disposed of by qualified personnel in accordance with all applicable Federal, State, and local requirements. No impacts are anticipated.

### **4.11.5 Lead-Based Paint**

The older buildings proposed for demolition at Fort Meade under the Proposed Action and Alternative A may contain lead-based paint. Many of the structures to be demolished under either the Proposed Action or Alternative A were built prior to 1978 and, therefore, it will be



assumed that each of these structures contain lead-based paint and will not be sampled. Implementation of certain environmental conservation measures also have the potential to disturb lead-based paint containing materials. If work site inspections reveal a potential for lead, abatement of lead-containing substances would be conducted in accordance with the guidance from U.S. Army Engineering and Housing Support Center Technical Note 420-70-2 and in accordance with applicable Maryland regulations. Debris from any facility exceeding safe criteria levels for lead-based paint, as defined under RCRA, would be treated as hazardous waste and disposed of offsite at an approved facility. No adverse impacts are anticipated. As the new buildings will not contain lead paint, a beneficial reduction in lead exposure to Fort Meade personnel would likely result.

#### **4.11.6 Pesticides, Herbicides, and Fertilizers**

None of the facilities to be constructed under the Proposed Action or Alternative A would store pesticides, herbicides, or fertilizers. Application of pesticides at these facilities would be conducted in accordance with Federal and State regulations and protocols described in the Fort Meade IPMP. New facilities would not require significant additional pest management support; therefore, no adverse impacts are anticipated.

#### **4.11.7 Hazardous Materials and Waste**

##### **4.11.7.1 Hazardous Materials**

Most of the new facilities considered under the Proposed Action or Alternative A would not store any hazardous materials beyond those routinely used for maintenance and office supplies. Facilities, such as the MEPS, that may use hazardous materials, would order supplies in small quantities from Fort Meade's hazardous materials facility on an as-needed basis. All handling and storage operations, transportation, and disposal of hazardous materials would remain the same, conducted in accordance with the *Fort George G. Meade Management Plan for Hazardous Materials and Hazardous Waste* (DOA 1993) and any other applicable Federal, State, local, and installation guidelines. Provided all personnel follow applicable guidelines, no adverse impacts from the storage and handling of hazardous materials are anticipated.

#### **4.11.7.2 Hazardous Waste**

Significant amounts of hazardous waste will not be generated by the proposed construction activities on post. The minimal amounts of waste material generated under the Proposed Action or Alternative A would be disposed of according to local, county, state, or Federal guidelines. Although Fort Meade has been declared an EPA Superfund site, none of the contaminated areas are in the proximity of the project sites. For all applicable activities, Fort Meade operations and maintenance personnel would continue to adhere to procedures for the disposal of hazardous wastes as defined in the *Fort George G. Meade Management Plan for Hazardous Materials and Hazardous Waste* (DOA 1993). No adverse impacts are anticipated.

#### **4.11.8 Contaminated Areas**

Fort Meade has been designated an EPA Superfund site. Contamination on post has largely been the result of spills, leakage, unexploded ordnance, landfills (which are now inactive), and buried drums near the DRMO. All contaminated sites are in various stages of investigation and remediation. Based on new policy and post procedures regarding storage, handling, and disposal of hazardous materials, it is not expected that additional contamination will occur on Fort Meade.

No known contaminated sites are in the vicinity of any of the projects considered under the Proposed Action. Contaminated areas are generally located along the southern border of the installation and all are undergoing investigative or remediation activities at this time. The Troop Boiler Plant has a pump and treatment system in place and well monitoring is being performed. Well monitoring is also being performed at the DRMO drum site; further site exploration and sampling is being done to determine the extent of contamination. Other contaminated sites include all inactive landfills on post located at Tipton Airfield and landfill cells 1, 2, and 3. Landfills 2 and 3 at Tipton Airfield have been closed and capped and all other post landfills are to be closed and capped in the near future. The Fire Training Area and Post Laundry facility (2250) both have well monitoring activities underway. Both the Battery Shop building (2283), which has lead in the groundwater, and The Library of Congress site, which has petroleum products in the groundwater, have well monitoring in place and are undergoing further

investigation to recommend clean up procedures. Potential offsite effects, such as groundwater contamination, should be considered prior to construction.

The construction sites planned under the Proposed Action and Alternative A are not located on or near known or suspected hazardous sites. No significant adverse impacts from hazardous waste sites are expected to occur as the result of Proposed Action or Alternative A.

The EPA was contacted as part of agency coordination efforts. EPA has expressed concern over Fort Meade NPL status and the potential for groundwater and soil contamination that may effect project sites. EPA respondents have requested investigators to review the historical use of the property as part of the CERCLA process (Delgrosso 1999). Depending on the outcome of the concurrent CERCLA site investigations, remediation (if necessary) would be considered on a project-by-project basis.

Table 4-10 summarizes environmental concerns relative to hazardous or toxic materials that may be encountered during construction or demolition activities at certain proposed project sites.

#### **4.11.9 Permits and Regulatory Authorizations**

Fort Meade operates under a number of permits from various Federal and State agencies (see Table 3-7). No changes to the existing operational permits and authorizations currently held by Fort Meade would be required.

Table 4-10. Summary of Potential Environmental Concerns at Project Sites Involving Hazardous Materials or Waste

Project Title	Potential Environmental Issues
<b>Military Entrance Processing Station (MEPS)</b>	Possible presence of lead-based paint and ACM since building was constructed prior to 1978.
<b>Personnel Barracks Replacement, Phase I and II</b>	Old barracks may contain lead-based paint or ACM since building construction was prior to 1978. Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>Dining Facility</b>	Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>Company Headquarters</b>	Possible presence of lead-based paint and ACM since building was constructed prior to 1978. Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste. Two 20,000 gallon heating oil USTs located in vicinity of project area. Both tanks are located outside Building 8481.
<b>Battalion Operations</b>	Possible presence of lead-based paint and ACM since building was constructed prior to 1978. Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>Bold Ventures I and II</b>	Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>Bold Ventures III and IV</b>	Construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>1RBDE</b>	Possible presence of lead-based paint and ACM since building was constructed prior to 1978. Demolition and construction activities would result in a one-time increase in amount of hazardous or solid waste.
<b>All projects</b>	Fort Meade has been designated a Superfund site. Known contaminated sites are not in close proximity to any of the activities included in the Proposed Action. Groundwater contamination at project sites is a possible issue. Results of the current CERCLA investigation will determine if additional actions are required.

## 4.12 INFRASTRUCTURE

### 4.12.1 Utilities

According to Fort Meade's Real Property Master Plan (RPMP), Long Range Component, the installation is fully capable of accepting additional DoD tenant activities and other Federal agencies that are looking for a place to work and grow. The installation utility infrastructure can support expansion. With appropriate modification to electrical and gas systems to support new construction, the systems can support up to an additional 26,300 personnel (Fort Meade 1998a). Additionally, operations and maintenance procedures to implement energy conservation measures planned through 2005 may significantly reduce overall energy and water usage at Fort Meade. Fort Meade's electric, natural gas, water and wastewater utility distribution, collection and treatment systems are currently being analyzed as part of the DOD's privatization initiative (Fort Meade 1999c).

#### 4.12.1.1 Potable Water Supply

Raw water is readily available for Fort Meade via both its primary source at the little Patuxent River and its secondary source, six major wells. The primary water supply is constrained by drought and low-flow conditions, but the secondary source, the six deep wells, is not constrained because the wells are drawing from a deep depth aquifer. Between the two sources, the installation has a minimum available water supply of approximately 11.2 mgd.

Recent studies indicate that Fort Meade's average water usage for the 1994-1995 fiscal year was approximately 3.3 mgd which is approximately 40 percent of plant treatment capacity. Per the Army Stationing and Installation Plan, the average water treatment (consumption) at an installation like Fort Meade is an estimated 90.0 gpcd (gallons for capita per day). As documented in the RPMP (1998a), the existing water treatment and distribution system can support a population of 54,667 to 91,111 persons.

As discussed in Section 3, the water distribution system has notable deficiencies. Implementation of the DoD privatization initiative would likely provide for the requisite system-wide infrastructure repair and upgrades. It is assumed that some projects would require

modifications to the water supply and distribution system. Demolition and new construction of service mains would be the primary system modification. The Fort Meade 1999 ISR comments that the installation's "aging water system and the expense required to capitalize that system are significant shortcomings that will be offset by privatization" (Fort Meade 1999c).

Serving the total net increase of 912 administrative personnel at Fort Meade under the Proposed Action (or the reduced number of 640 administrative personnel under the Alternative A), is well within the capacity of the installation's water supply and distribution system. Existing lines are proximal to all the administrative areas considered under the Proposed Action or Alternative A and have sufficient capacity to accommodate the required level of service for either alternative. Considering the projected capacity of the systems, project-specific upgrades, and on-going installation-wide water conservation efforts, no adverse impacts to the potable water supply would be expected under the Proposed Action or the Alternative A.

#### **4.12.1.2 Sewer and Wastewater**

The proposed construction activities under either the Proposed Action or Alternative A would not impact the ability of Fort Meade to convey and treat wastewater. Fort Meade's sewage treatment plant processes approximately 2.5 mgd but has the capacity to treat approximately 4.5 mgd. The unused capacity of Fort Meade's sewage treatment system would not be exceeded under the Proposed Action or Alternative A, even if larger than expected volumes of wastewater were generated. It is expected that planned water conservation measures and related maintenance upgrades will enhance capacity. The existing sewage collection and treatment system can support a total population of approximately 64,011 to 106,034 persons, comfortably above Fort Meade's current on-post population of 47,745 (Fort Meade DRM 1999).

The system is constrained only by (1) the potential failure of aged sections of the system (and the efficacy of normal maintenance, repair, and spot replacements) and (2) the East Side Pump Station pumping capacity. In addition to the construction of service connections to new facilities, the RPMP Utilities Assessment reports that development planned in the more built-up areas of the installation may require replacement or renovation of collection mains (Fort Meade 1998a).

The recent RPMP Utilities Assessment, mentioned above, identified system deficiencies and proposed actions to address them, including: (1) upgrading the methanol dosing system at the AWTP, (2) evaluating the structural integrity of the AWTP, and (3) replacing the 2,600 gpm pumps' variable frequency drive with direct drives at the East Side Pump Station. These items are not included in the installation's current list of planned upgrades. The RPMP also states that some planned facilities (it is assumed that this would include some, if not all, of the projects within Proposed Action) would require adjustments to the existing sewage collection system in their immediate vicinity; this should be considered during pre-construction planning. Implementation of the DoD privatization initiative would likely result in the government-owned systems being sold, repaired and upgraded, but this will only be beneficial by alleviating some of the current system problems and will not affect the Proposed Action or the Alternative A.

Capacity data provided in the Fort Meade Utilities Assessment indicate that the system can support the needs of increased personnel and associated activities resulting from the Proposed Action or Alternative A (Fort Meade 1998a). Existing wastewater lines are proximal to all proposed construction sites. Given that Fort Meade would identify potential wastewater system deficiencies that may affect project areas and mitigate project-specific problems prior to or during construction, no adverse impacts to the wastewater system or resulting from the conveyance system are anticipated.

#### **4.12.1.3 Energy**

##### **Electric Power**

Electric power from the commercial supplier, BGE, is readily available at Fort Meade. On the installation, the extensive government-owned and operated distribution system provides ready availability of electric power. However, electric power supply is constrained by the peak capacity of Substation #3. Substation #3 serves all non-NSA loads on the installation. Recent studies suggest that Substation #3 should be able to handle typical installation growth without impacting redundancy (Fort Meade 1998a). Installation-wide maintenance efforts to reduce energy consumption should produce some positive impacts by reducing overall demand on the system.

The RPMP Long Range Component has reported that capacity at the Substation #3 (without support from NSA Substations) was adequate to support a maximum population of 19,868 persons. Although 1999 post population is reported at 47,745 (FGGM DRM1999), an estimated 21,875 are NSA employees and would be served by other substations. Approximately 14,911 persons (including military assigned and family members) actually live on post. (The remaining 10,959 persons are civilian employees, service contractors, volunteers and others that would require limited energy use only). According to the *Fort Meade 1999 ISR*, the electric power supply received a C-1 rating for quantity, indicating adequate electric power to support the current Fort Meade post population; however, a rating of C-4 for quality and an overall system rating of C-3 indicate a need for system upgrades (Fort Meade 1999c). The RPMP Long Range Component, suggests that that any specific future expansion consideration should be accompanied by a detailed study (Fort Meade 1998a).

Provided the appropriate modifications to the system (as mentioned above) are implemented by privatization of the distribution system or other means, the additional military and civilian personnel expected under either the Proposed Action or Alternative A should pose no problems. New planned activities would require adjustments to the existing distribution system in their immediate vicinity. It is assumed that construction of new services lines would be studied and implemented as part of project construction. Therefore, no advance impacts to the electrical system or its operation are anticipated.

### **Natural Gas**

Natural gas supplies from the commercial supplier, BGE, are readily available at Fort Meade. The extensive BGE and government-owned distribution systems provide readily available natural gas throughout the installation. The BGE and government-owned systems loop the entire installation so that almost every building is within a few hundred feet of an active gas supply. The existing BGE natural gas supply and installation distribution system can support a population of approximately 41,488 to 68,000 persons. Current Fort Meade population is 47,745, well within system limits.



Whether by implementation of the DoD privatization initiative or by other means, the installation natural gas distribution system can be expanded in both the developed and undeveloped areas of Fort Meade. Expansions in the developed areas can be accomplished by adding service connections. Expansion in the undeveloped areas can be accomplished by installing new distribution mains and service connections. Any impacts to resources as the result of excavation would be considered and addressed prior to project construction. Reports indicate that the capacity of the system can be upgraded to exceed the existing connected capacity by 25 percent and the current demand by 300 percent. No adverse impacts to the natural gas system or services are expected.

### **Fuel Oil**

Number 2 fuel oil is used throughout the installation as fuel for individual heating plants and some buildings. The oil is stored in both ASTs and USTs near the heating plants and buildings they service. None of the buildings to be demolished have fuel tanks on site nor will any of new construction projects use fuel oil as a heating source; therefore, no impacts would occur.

### **Steam**

None of the proposed construction and renovation projects considered under either the Proposed Action or Alternative A would tap existing steam heating distribution networks; therefore, no impacts would occur.

## **4.12.2 Solid Waste**

### **4.12.2.1 Proposed Action**

To evaluate the potential of impacts to Fort Meade's solid waste generation and disposal under the Proposed Action, several items were considered. These items include evaluating the degree to which the following could impact Fort Meade's SWMP and the capacity of the landfill used by the installation: (1) proposed demolition and construction, (2) changes in operations, and (3) potential for additional solid waste. Solid waste generated during construction and demolition activities would consist of building materials such as concrete block, metals, and lumber.

The following assumptions are incorporated into this analysis:

- Based on a waste assessment conducted by the National Association of Homebuilders (NAHB), the average weighted value for generation rates of construction debris is 4.38 pounds per square foot (Franklin Associates 1998);
- The weight of concrete debris is 150 pounds per cubic foot (Merritt 1976);
- The weight of lumber debris is 60 pounds per cubic foot; and
- The loose density of non-burnable waste (concrete, brick, steel) is 2,400 pounds per cubic yard (Wilson 1977).

Solid waste generation would increase as a result of the proposed demolition and construction projects. The solid waste generated from the demolition of the concrete barracks would be approximately 11,312 cubic yards or 17,452 tons. The solid waste generated from the demolition of the wooden WWII dining facility buildings would be approximately 1,453 cubic yards or 2,800 tons. The solid waste generated from the demolition of the wooden WWII 1RBDE buildings would be approximately 4,316 cubic yards or 3,496 tons. Therefore, the cumulative solid waste generated from the demolition of wooden WWII era buildings would be approximately 5,769 cubic yards or 6,296 tons. The solid waste generated from the demolition of the cinder block Company Headquarters buildings would be approximately 495 cubic yards or 966 tons. The solid waste generated from the demolition of the cinder block Battalion Operations building would be approximately 439 cubic yards or 823 tons.

Projected solid waste generation from construction under the Proposed Action has been estimated based on the square footage for each building and the assumption that 4.38 pounds of construction debris would be produced per square foot (Franklin Associates 1998). Using the criteria provided above, the construction effort under the Proposed Action would produce approximately 14,855 cubic yards or 30,081 tons of loose debris.

Given that disposal of demolition and construction debris generated as a result of the Proposed Action would take place over a period of years, no significant impact on daily operations at the King George Landfill is expected. With the total landfill capacity of 45,500,000 cubic yards or

31,850,000 tons, the solid waste requirement for the Proposed Action would decrease the landfill life by an estimated 15.8 days or 0.043 years and, as such, would not significantly impact the life of the landfill. The total project solid waste generation from these activities are presented in Table 4-11.

Table 4-11. Estimated One-Time Solid Waste Increases From Construction and Demolition Activities Proposed Action

<b>Projects Generating Solid Waste</b>	<b>Tons</b>
Demolition of Personnel Barracks Phase I and II	17,452
Demolition of Dining Facility Buildings	2,800
Demolition of 1RBDE Building	3,496
Demolition of Company Headquarters Buildings	966
Demolition of Battalion Operations Building	823
Construction Debris (total)	30,081
<b>Total:</b>	<b>55,618</b>

Fort Meade is expecting a net increase of approximately 912 workers/employees on post as a result of the proposed new administrative space. Therefore, solid waste generation may increase. Without considering the potential for recycling, the projected 912 additional personnel on post would increase the annual solid waste tonnage by approximately 493 tpy, an increase of 0.02 percent. Daily maintenance activities associated with additional facilities would create only minimal increases in total annual solid waste. Based on current landfill capacities this amount would not measurably decrease the life of the landfill. It is estimated that the increase in waste would decrease the life of the King George landfill by 3.95 days between now and 2004. No adverse impacts to solid waste generation and disposition at Fort Meade are anticipated.

#### **4.12.2.2 Alternative A**

The same approach used for the Proposed Action was used for evaluating solid waste generation under Alternative A. Using the criteria provided above, the construction effort under the Alternative A would produce approximately 13,418 cubic yards or 27,172 tons of loose debris.

Given that disposal of demolition and construction debris generated as a result of the Alternative A would take place over a period of years, no significant impact on daily landfill operations is expected. With the total landfill capacity of 45,500,000 cubic yards or 31,850,000 tons, the solid waste requirement for the Alternative A would decrease the landfill life by an estimated 15 days or 0.041 years and, as such, will not significantly impact the life of the landfill. The total project solid waste generation from these activities are presented in Table 4-12.

Table 4-12. Estimated One-Time Solid Waste Increases From Construction and Demolition Activities Alternative A

Projects Generating Solid Waste	Tons
Demolition of Personnel Barracks Phase I and II	17,452
Demolition of Dining Facility Buildings	2,800
Demolition of 1RBDE Building	3,496
Demolition of Company Headquarters Buildings	966
Demolition of Battalion Operations Building	823
Construction Debris (total)	27,172
<b>Total:</b>	<b>52,709</b>

Fort Meade would experience a net increase of approximately 640 workers/employees on post as a result of the proposed new administrative space under the Alternative A. Therefore, solid waste generation may increase. Without considering the potential for recycling, the projected 640 additional personnel on post would increase the annual solid waste tonnage by approximately 346 tpy, an increase of 0.01 percent. Based on current landfill capacities this would not measurably decrease the life of the landfill. Similar to the Proposed Action, daily maintenance activities would contribute minimally to total annual solid waste. It is estimated that the increase in waste would decrease the life of the King George landfill by 3.75 days between now and 2004. No adverse impacts to solid waste generation and disposition at Fort Meade are anticipated.

#### 4.12.3 Traffic

Section 3, Affected Environment, provided the evaluation of existing traffic conditions and identified the areas likely to be affected by the Proposed Action and alternatives along the road

system in and around Fort Meade. This section evaluates the likely extent and potential significance of traffic impacts from the Proposed Action and the Alternative A. Current traffic levels are presented under the No-Action Alternative and are used as the baseline for comparison. No impacts are anticipated from the No-Action Alternative because no changes in traffic would occur.

For purposes of this analysis, traffic volumes were forecasted for the weekday morning and evening peak hours on an annual basis beginning in 2001 and extending through 2005. In addition, an analysis of year 2020 forecasts was conducted.

The impacts of the Proposed Action and Alternative A were evaluated using the Critical Lane Volume (CLV) Capacity technique (Capacity Analysis) for the affected intersections. This technique is commonly used for planning purposes.

#### **4.12.3.1 Cumulative Traffic Forecasts**

The Fort Meade Future Development and Operations EA, completed in April 1999, stated that traffic (along with air quality) was the resource most likely to be significantly impacted. It also determined that the potential impacts are the product of many activities both within and outside the Proposed Action. Therefore, the traffic analysis in this EIS focuses on cumulative effects and incorporates the following factors: (1) current traffic conditions based on 1999 traffic counts (incorporated in the No-Action Alternative), (2) additional projects approved or under construction but not included in the baseline as they were not yet completed by 1999, (3) 11 projects within the Proposed Action (or nine projects with the Alternative A), (4) future development outside of Fort Meade as contained in the 2020 State Highway Administration (SHA) forecasts, and (5) planned roadway improvements (including the MD 32 interchanges currently under construction) as noted in the Maryland State Highway Administration's Consolidated Transportation Program (CTP).

The two developments on Fort Meade that are currently either approved or under construction are as follows:

1. ISSC – projected 290 additional personnel
2. DSS – projected 382 additional personnel

The ISSC is proposed to be constructed and occupied by the Year 2001. This project is located along the north side of Llewellyn Avenue, east of Cooper Avenue. The DSS is located along the south side of Mapes Road, east of Ernie Pyle Street and is also proposed to be constructed by 2001.

In addition to the approved development already under way within Fort Meade, this study evaluates the effect of 11 projects within Fort Meade identified as the Proposed Action for this study. These projects along with their estimated year of completion, approximate locations, and projected additional personnel are as follows:

- A. MEPS (2001). Located along the east side of Chisholm Avenue, south of Reece Road – approximately 50 additional personnel.
- B. Personnel Barracks Phase I. (2002) Located along the west side of Taylor Avenue, south of Simonds Street – replacement facility (no additional personnel).
- C. Bold Venture Initiative I. (2003) Located along the east side of Chisholm Avenue, north of Mapes Road – approximately 210 additional personnel.
- D. Personnel Barracks Phase II. (2004) located along the west side of Taylor Avenue, north of Dutt Road – replacement facility (no additional personnel).
- E. Dining Facility. (2004) Located along the north side of Simonds Street, east of 6<sup>th</sup> Armored Calvary Road – replacement facility (no additional personnel).
- F. Company Headquarter. (2004) Located along the south side of Simonds Street, west of 6<sup>th</sup> Armored Calvary Road – replacement facility (no additional personnel).

- G. Battalion Operations. (2004) Located along the west side of 6<sup>th</sup> Armored Calvary Road, south of Company Headquarters – replacement facility (no additional personnel).
- H. Bold Venture Initiative II. (2004) Located along the west side of MD 175, north of Llewellyn Avenue – 380 additional personnel.
- I. Bold Venture III. (2004) Located along the north side of Llewellyn Avenue, west of MD 175 – 210 additional personnel.
- J. Bold Venture IV. (2005) Located along the west side of MD 175, south of Reece Road – 62 additional personnel.
- K. 1RBDE. (2005) Located along the west side of Chisholm Avenue, south of Mapes Road – replacement facility (no additional personnel).

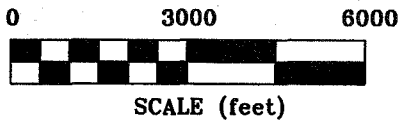
A map identifying the locations of the approved developments and Proposed Action developments is contained on Figure 4-1. This figure identifies the approximate locations of these developments with respect to the surrounding area road system.

The impact of the currently approved and Proposed Action developments within Fort Meade was evaluated by conducting Trip Generation Analyses for the proposed developments. The Institute of Transportation Engineers (ITE) Trip Generation Report (6<sup>th</sup> Edition) was used as a source to project peak hour traffic from the proposed developments. The Trip Generation Report is a nationally accepted source of projecting traffic for numerous land uses and is a compilation of data obtained by conducting traffic counts at numerous land uses throughout the country.


Using the ITE Trip Generation Report, Figure 4-2 shows the projected weekday morning and evening peak hour trip generation for the approved development (three projects) within Fort Meade. Similarly, Figure 4-3 identifies the projected weekday morning and evening peak hour trip generation characteristics for development under the Proposed Action (11 projects). The trips projected to be generated by this development were assigned to the surrounding area road system according to the locations and existing travel patterns.



- |                                 |                                |
|---------------------------------|--------------------------------|
| A - MEPS                        | H - Bold Venture Initiative II |
| B - Personnel Barracks (Ph. I)  | I - Bold Venture III           |
| C - Bold Venture Initiative I   | J - Bold Venture IV            |
| D - Personnel Barracks (Ph. II) | K - 1RBDE                      |
| E - Dining Facility             | 1 - ISSC                       |
| F - Company Headquarters        | 2 - DSS                        |
| G - Battalion Operations        |                                |



- ① Approved development
- Ⓐ Proposed development

FORT MEADE EIS	
Figure 4-1	Location of Planned Development
TTG PROJ: 1999-0521	
FILE: FtMeade	
DATE: 08 April 99	
 <b>versar</b> inc. 9200 RUMSEY ROAD COLUMBIA, MARYLAND 21045 (410) 964-9200	



## TRIP GENERATION RATES

### Directional Distribution

ITE - Office employee	
Morning Trips = 0.44 x employee	90/10
Evening Trips = 0.43 x employee	20/80

## TRIP GENERATION TOTALS

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

### Approved Development

1	Information Systems Software Center (ISSC) - 290 add'l personnel	115	13	128	25	100	125
2	Defense Security Services (DSS) - 382 add'l personnel	151	17	168	33	131	164

**Figure 4-2**

**TRIP GENERATION RATES AND TOTALS  
FOR APPROVED DEVELOPMENT**



## TRIP GENERATION RATES

### Directional Distribution

ITE - Office employee	
Morning Trips = 0.44 x employee	90/10
Evening Trips = 0.43 x employee	20/80

## TRIP GENERATION TOTALS

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

### Proposed Development

A	Military Office Processing Station (MEPS) - 50 add'l personnel	20	2	22	4	18	22
B	Personnel Barracks - Phase I	REPLACEMENT FACILITY - no new trips					
C	Bold Venture Initiative I - 210 add'l personnel	83	9	92	18	72	90
D	Personnel Barracks - Phase II	REPLACEMENT FACILITY - no new trips					
E	Dining Facility	REPLACEMENT FACILITY - no new trips					
F	Company Headquarters	REPLACEMENT FACILITY - no new trips					
G	Battalion Operations	REPLACEMENT FACILITY - no new trips					
H	Bold Venture Initiative II - 380 add'l personnel	150	17	167	33	130	163
I	Bold Venture III - 210 add'l personnel	83	9	92	18	72	90
J	Bold Venture IV - 62 add'l personnel	24	3	27	5	22	27
K	USA 1st Recruiting Brigade, etc.	REPLACEMENT FACILITY - no new trips					

**Figure 4-3**

**TRIP GENERATION RATES AND TOTALS  
FOR PROPOSED DEVELOPMENT**

In addition to future traffic impacts resulting from development within Fort Meade, traffic impacts resulting from regional traffic growth were also considered. Traffic forecasts were obtained from the Maryland SHA for the Year 2020. Forecasted traffic volumes through Year 2020 throughout the study area are shown on Figure 4-4. Using this information and a review of historical traffic growth along the major roadways in the study area, an annual growth rate was developed for the roadways within the study.

Traffic volumes were developed for the study area intersections considering all of the previously mentioned growth factors. The resulting weekday morning and evening peak hour traffic volumes at the key intersections in the study area for the various years under the No-Action Alternative and Proposed Action are identified on Exhibits 1 through 10 (see Appendix G).

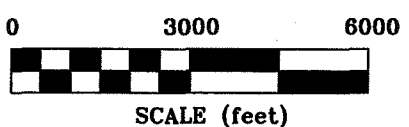
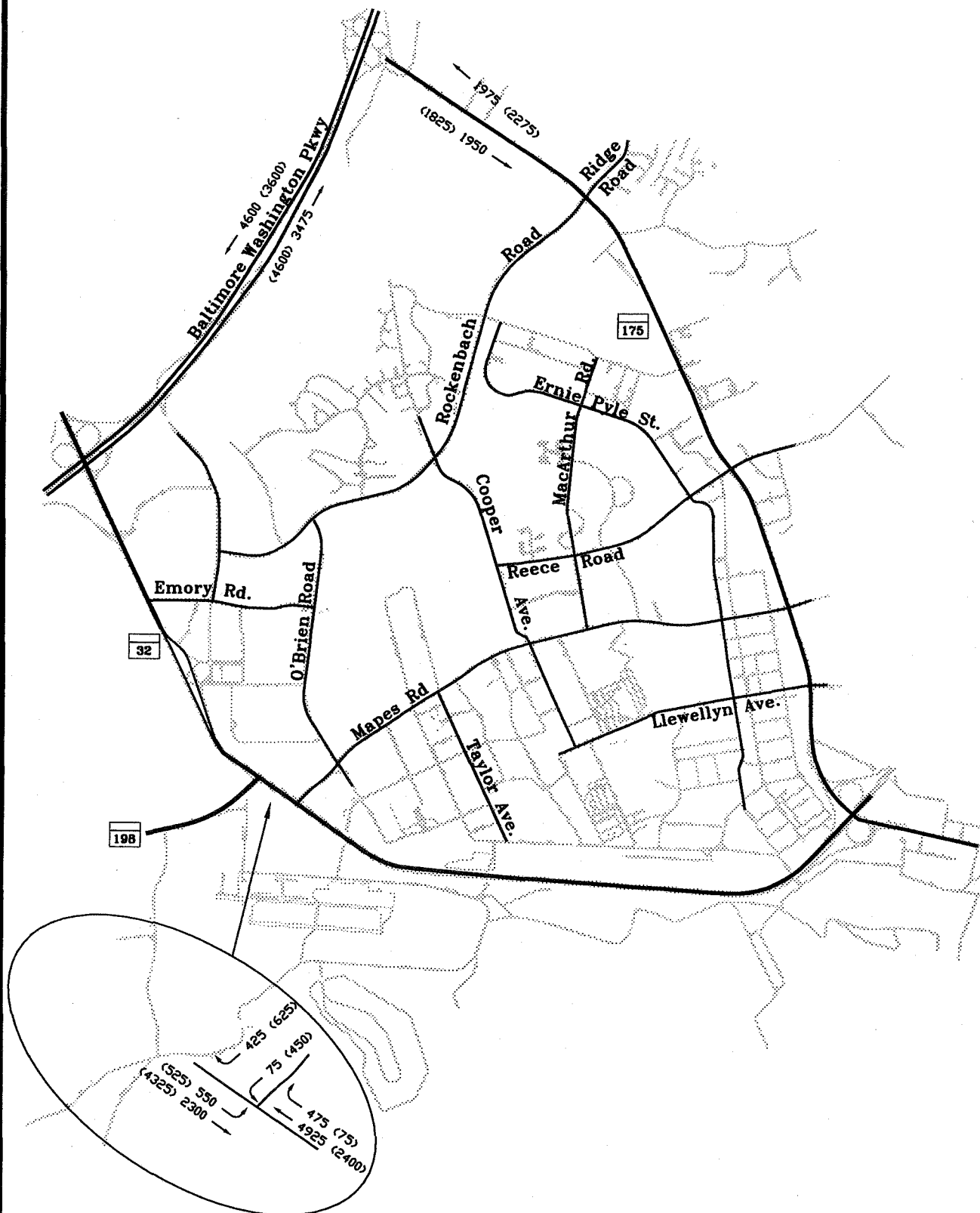
A final consideration in evaluating future traffic conditions is road improvements planned within the study area. The Maryland State Highway Administration (SHA) Consolidated Transportation Program (CTP) shows that interchanges are planned along MD 32 at the following locations:

- B-W Parkway/NSA access
- Samford Road
- MD 198/Mapes Road

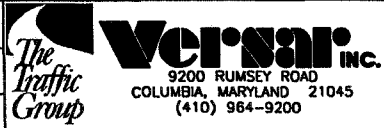
As part of these road plans, Emory Road will also be closed at MD 32. These projects are fully funded for construction within the current CTP and some construction is underway. The interchanges are planned to be completed by 2003.

Plans have been considered for upgrading MD 175 within the study area; however, nothing has been funded at this time and there is no item in the MSHA CTP. Thus, future roadway improvements along MD 175 were not included in the short-term analyses; however, some roadway improvements were assumed for the 2020 analyses.

This study also addresses the projected impact of development within Fort Meade under the Alternative A. The Alternative A scenario assumes the same developments as the Proposed Action scenario with the exception of the eliminated Bold Ventures III and IV (a total of nine



00 - MORNING PEAK HOUR  
 (00) - EVENING PEAK HOUR

FORT MEADE EIS	
Figure 4-4	MSHA 2020 Projected Peak Hour Traffic Volumes
TTG PROJ: 1999-0521	
FILE: FtMeade	
DATE: 08 April 99	
 <b>Vernal</b> INC. 9200 RUMSEY ROAD COLUMBIA, MARYLAND 21045 (410) 964-9200	

projects). Under the Alternative A scenario, traffic forecasts were made for Years 2004, 2005, and 2020. The resulting total projected traffic forecasts for the key intersections in the study area under the Alternative A scenario are identified in Exhibits 11 through 15 (see Appendix G).

#### **4.12.3.2 Evaluation of Traffic Impacts**

The impacts of the Proposed Action and Alternative A scenarios were evaluated based upon anticipated effects of the identified key intersections in the study area. Intersection Capacity Analyses were conducted for the key intersections in the study area using the No-Action Alternative traffic forecasts, Proposed Action traffic forecasts, and Alternative A traffic forecasts using the CLV methodology. The results of these analyses for the No-Action Alternative traffic forecasts are displayed in Figure 4-5. Figure 4-6 illustrates the results of the CLV Analyses using the Proposed Action traffic forecasts. Figure 4-7 provides the results of the CLV Analyses using the Alternative A traffic forecasts.

Intersection Capacity Analyses were conducted for the key intersections in the study area using the No-Action Alternative traffic forecasts, Proposed Action traffic forecasts, and Alternative A traffic forecasts using the CLV methodology. The results of these analyses for the No-Action Alternative traffic forecasts are displayed on Figure 4-5.

Figure 4-6 illustrates the results of the CLV Analyses using the Proposed Action traffic forecasts. Figure 4-7 provides the results of the CLV Analyses using the Alternative A traffic forecasts.

#### **No-Action**

A review of the Capacity Analysis results for the No-Action Alternative traffic forecasts illustrates that the key on-post intersections currently have and are projected to maintain optimum LOS-A conditions during both the weekday morning and evening peak hours for the Years 2001 through 2005. LOS descriptions were provided in Section 3 of this study and for purposes of traffic planning and design, LOS-D or better conditions are considered to be acceptable.

## Intersection Capacity Analysis

	2001	2002	2003	2004	2005	2020
AM Peak Hour	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV
MD 175 & Rockenbach Rd.	D / 1355	D / 1373	D / 1390	D / 1408	D / 1426	D / 1332
MD 175 & Reece Rd.	A / 846	A / 856	A / 866	A / 876	A / 886	C / 1256
MD 175 & Mapes Rd.	A / 817	A / 827	A / 837	A / 847	A / 857	D / 1314
MD 175 & Llewellyn Ave.	A / 999	B / 1009	B / 1019	B / 1029	B / 1039	D / 1353
Mapes Rd. & Cooper Ave.	A / 676	A / 676	A / 676	A / 676	A / 676	A / 783
Mapes Rd. & Taylor Ave.	A / 534	A / 534	A / 534	A / 534	A / 534	A / 746
MD 32 & Mapes Rd.	E / 1597	F / 1634	INTERCHANGE			
MD 32 & MD 198	D / 1332	D / 1365	INTERCHANGE			
MD 32 & Emory Rd.	F / 1804	F / 1837	CLOSED			
PM Peak Hour						
MD 175 & Rockenbach Rd.	D / 1359	D / 1388	D / 1416	D / 1445	E / 1474	D / 1399
MD 175 & Reece Rd.	A / 1000	B / 1010	B / 1020	B / 1030	B / 1040	D / 1312
MD 175 & Mapes Rd.	B / 1147	C / 1157	C / 1167	C / 1177	C / 1187	D / 1380
MD 175 & Llewellyn Ave.	A / 948	A / 958	A / 968	A / 978	A / 988	D / 1356
Mapes Rd. & Cooper Ave.	A / 801	A / 801	A / 801	A / 801	A / 801	B / 1006
Mapes Rd. & Taylor Ave.	A / 735	A / 735	A / 735	A / 735	A / 735	A / 920
MD 32 & Mapes Rd.	A / 930	A / 946	INTERCHANGE			
MD 32 & MD 198	F / 1690	F / 1734	INTERCHANGE			
MD 32 & Emory Rd.	E / 1532	E / 1568	CLOSED			

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**Figure 4-5**  
Results of Capacity Analyses  
No Action

## Intersection Capacity Analysis

	2001	2002	2003	2004	2005	2020
AM Peak Hour	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV
MD 175 & Rockenbach Rd.	D / 1355	D / 1373	D / 1393	D / 1417	D / 1435	D / 1332
MD 175 & Reece Rd.	A / 852	A / 862	A / 893	A / 954	A / 972	D / 1329
MD 175 & Mapes Rd.	A / 822	A / 832	A / 865	A / 933	A / 949	D / 1406
MD 175 & Llewellyn Ave.	A / 1000	B / 1009	B / 1020	C / 1156	C / 1167	D / 1423
Mapes Rd. & Cooper Ave.	A / 676	A / 676	A / 679	A / 687	A / 688	A / 805
Mapes Rd. & Taylor Ave.	A / 534	A / 534	A / 541	A / 611	A / 617	A / 854
MD 32 & Mapes Rd.	E / 1600	F / 1637	INTERCHANGE			
MD 32 & MD 198	D / 1334	D / 1367	INTERCHANGE			
MD 32 & Emory Rd.	F / 1804	F / 1838	CLOSED			
PM Peak Hour						
MD 175 & Rockenbach Rd.	D / 1363	D / 1392	D / 1438	E / 1517	E / 1552	D / 1399
MD 175 & Reece Rd.	B / 1001	B / 1011	B / 1030	B / 1093	B / 1107	D / 1372
MD 175 & Mapes Rd.	B / 1149	C / 1159	C / 1185	C / 1245	C / 1259	D / 1445
MD 175 & Llewellyn Ave.	A / 949	A / 959	A / 971	B / 1038	B / 1058	D / 1410
Mapes Rd. & Cooper Ave.	A / 806	A / 806	A / 828	A / 888	A / 894	B / 1093
Mapes Rd. & Taylor Ave.	A / 737	A / 737	A / 742	A / 757	A / 758	A / 943
MD 32 & Mapes Rd.	A / 931	A / 947	INTERCHANGE			
MD 32 & MD 198	F / 1691	F / 1735	INTERCHANGE			
MD 32 & Emory Rd.	E / 1532	E / 1570	CLOSED			

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**Figure 4-6**  
Results of Capacity Analyses  
Proposed Action

## Intersection Capacity Analysis

	2004	2005	2020
	LOS / CLV	LOS / CLV	LOS / CLV
<b>AM Peak Hour</b>			
MD 175 & Rockenbach Rd.	D / 1414	D / 1432	D / 1320
MD 175 & Reece Rd.	A / 936	A / 946	D / 1305
MD 175 & Mapes Rd.	A / 912	A / 922	D / 1380
MD 175 & Llewellyn Ave.	B / 1111	B / 1121	D / 1399
Mapes Rd. & Cooper Ave.	A / 684	A / 684	A / 791
Mapes Rd. & Taylor Ave.	A / 586	A / 586	A / 823
MD 32 & Mapes Rd.	INTERCHANGE		
MD 32 & MD 198	INTERCHANGE		
MD 32 & Emory Rd.	CLOSED		
<b>PM Peak Hour</b>			
MD 175 & Rockenbach Rd.	E / 1499	E / 1528	A / 405
MD 175 & Reece Rd.	B / 1074	B / 1084	D / 1351
MD 175 & Mapes Rd.	C / 1227	C / 1237	D / 1424
MD 175 & Llewellyn Ave.	B / 1013	B / 1028	D / 1391
Mapes Rd. & Cooper Ave.	A / 867	A / 867	B / 1066
Mapes Rd. & Taylor Ave.	A / 752	A / 752	A / 937
MD 32 & Mapes Rd.	INTERCHANGE		
MD 32 & MD 198	INTERCHANGE		
MD 32 & Emory Rd.	CLOSED		

**Figure 4-7**  
Results of Capacity Analyses  
Proposed Action Alt.



Examining the Capacity Analysis results for the off-post intersections along MD 175 and MD 32, Exhibits 1 through 5 in Appendix G shows that the No Action traffic forecasts indicate acceptable LOS-D or better conditions can be maintained during the weekday morning peak hour along MD 175. During the weekday evening peak hour, the results of the No-Action Alternative Capacity Analyses indicate that the intersection of MD 175 with Rockenbach Road is projected to operate near capacity by a 2004 time frame. The other intersections along MD 175 are projected to maintain good LOS-C or better conditions.

However, along MD 32, LOS conditions are projected (for Year 2001 and Year 2002) to continue at or degrade to LOS-E or F at the three key intersections along this roadway during both the weekday morning and evening peak hours under the No-Action Alternative. The projected levels of service at these intersections do not include the negative impacts that the construction of interchanges at MD 32 & Mapes Road and at MD 32 & MD 198 will have. During the Year 2003, the MSHA plans to have finished construction of these two interchanges and plans to close the MD 32 & Emory Road intersection.

### **Proposed Action**

The results of the Capacity Analyses for the Proposed Action scenario were reviewed, for each corresponding design year and are presented below.

Based upon the Year 2001, the Proposed Action Capacity Analysis results illustrate that minimal impacts would occur on the surrounding area road system as a result of the proposed development within Fort Meade. Minimal LOS changes are projected for the weekday morning peak hour between the No Action and Proposed Action scenarios, but conditions at MD 175 and Llewellyn Avenue are expected to degrade from LOS-A to LOS-D by the year 2020. During the weekday evening peak hour, the only projected LOS drop during the project years would be from LOS-A to LOS-B at the MD 175/Reece Road intersection. A more detailed review of the Capacity Analysis results illustrates that the Proposed Action scenario would have a negligible impact on surrounding area traffic conditions. The effect of the Proposed Action scenario on 2001 traffic conditions would be less than the day-to-day variations in traffic volumes throughout the study area.

Similar to 2001 traffic conditions, the Proposed Action scenario for 2002, would not result in any LOS changes during the weekday morning peak hour. Furthermore, during the weekday evening peak hour, no LOS changes are projected as a result of the Proposed Action scenario when compared to the No Action scenario. A detailed review of the Capacity Analysis results illustrates that, once again, the Proposed Action scenario would have a negligible impact on surrounding area traffic conditions. No noticeable impact would occur on the surrounding area road system as a result of the Proposed Alternative A by 2002.

For 2003 traffic forecasts, no LOS changes are projected on the surrounding area road system based upon the Proposed Action scenario when compared with the No Action. The Year 2003 traffic forecasts and Capacity Analysis results illustrate that the Proposed Action scenario would have a minimal affect on the surrounding area road system during both the weekday morning and evening peak hours. The effect of the Proposed Action development would begin to become measurable from a traffic analysis standpoint, but from an operational standpoint (and effect to motorists along the road system), the impacts would still not be noticeable. The impact of the Proposed Action is projected to remain less than typical daily fluctuations in traffic volumes through all of the key intersections in the study area.

For 2004, the Capacity Analysis results show that the Proposed Action alternative would have a measurable significant impact on surrounding area traffic conditions. The Year 2004 is the year when the majority of projected new personnel would be added to Fort Meade. The results of the Capacity Analyses show that during the weekday morning peak hour, the intersection of MD 175 and Rockenbach Road is projected to fall from a LOS-D to a LOS-E based upon the Proposed Action. Similarly, the intersection of MD 175 with Llewellyn Avenue is projected to drop from a LOS-B to a LOS-C condition. The MD 32/MD 198 intersection is projected to drop from a LOS-D to a LOS-E condition. During the weekday evening peak hour, the only LOS change forecasted is a drop from LOS-A to LOS-B at the MD 175/Llewellyn Avenue intersection.

The Capacity Analysis results for the Year 2005 illustrate that the Proposed Action would result in continued impacts to overall traffic conditions. The key on-post intersections are projected to maintain optimum LOS-A conditions through 2005 during both the weekday morning and

evening peak hours. The intersections along MD 175 are projected to operate at optimum LOS-A conditions during the weekday morning peak hour with the exception of MD 175 at Rockenbach Road. This intersection is projected to operate at a LOS-E condition first attained in 2004. The intersections along MD 32 are projected to continue or worsen and operate at LOS-E and F conditions during the weekday morning peak hour. During the weekday evening peak hour, the intersections along MD 175 are projected to maintain LOS-B or C conditions with the exception of MD 175 at Rockenbach Road which is projected to drop to at a LOS-E condition. During the weekday evening peak hour, LOS-F conditions are projected along MD 32 at MD 198 and Emory Road, while good LOS-B conditions are projected at the MD 32/Mapes Road intersection.

#### Alternative A

In addition to evaluating the impact of the Proposed Action alternative, we also evaluated the Alternative A scenario for the Years 2004 and 2005. The results of these analyses are provided in Appendix G. A comparison of the Alternative A and Proposed Action results for 2004 and 2005 traffic conditions illustrates that the difference between the two scenarios is negligible. While slightly lower CLV were obtained at some of the intersections using the Alternative A scenario, the difference in operating conditions would be undetectable to motorists along the road system and much less than daily variations in traffic flow.

This study also includes an evaluation of Year 2020 traffic conditions under the No-Action Alternative, Proposed Action, and Alternative A scenarios. For purposes of 2020 traffic analyses, both road improvements were assumed for the surrounding area road system based upon SHA forecasts. The results of the analyses are shown on Exhibits 6, 12, and 15. The Capacity Analysis results for Year 2020 traffic conditions illustrates that with the road improvements assumed along MD 175, LOS-D or better conditions can be maintained during the weekday morning and evening peak hours under all studied scenarios. During the weekday evening peak hour, LOS-E and F conditions are projected along MD 32 due to the high volume of forecasted through traffic along this roadway. The analyses assumed MD 32 would be

widened to a four-lane roadway, but based upon the forecasted traffic volumes, a four-lane roadway would not be sufficient to adequately accommodate the SHA traffic forecasts.

The results of the Capacity Analyses show that under the Proposed Action the greatest impacts of the Fort Meade development would occur along MD 175. At the Mapes Road and Llewellyn Avenue, intersections acceptable LOS-C or better would be maintained through 2005 during both the weekday morning and evening peak hours.

In contrast, the intersection of MD 175 with Rockenbach Road is projected to be operating at or near capacity for the Year 2005. The effect of the Proposed Action would be an increase in the CLV of approximately 2 percent during the morning peak hour and 5 percent during the weekday evening peak hour. Although this would be a proportionally small change, it would exacerbate an already bad situation resulting in the LOS dropping below the acceptable D at this intersection.

The intersections along MD 32 are projected to operate at LOS-E and F conditions during one or both of the morning and evening peak hours based upon traffic forecasts for the 2001 through 2005 Design Years. The capacity conditions along these intersections would be created by the volume of through traffic along MD 32. The Proposed Action would result in an increase of no more than 3 percent to the CLV at any of these locations during the weekday morning or evening peak hours. In fact, at most of the intersections, the Proposed Action alternative would have an increase of less than 1 percent to the CLV's during the weekday morning and evening peak hours. The LOS of MD 32 intersection, already below the acceptable D condition before these proportional small increases in traffic volume from the Proposed Action and Alternative A would worsen.

To summarize, the majority of key on-post intersections (five of nine) could maintain acceptable levels of service and accommodate further development within Fort Meade under the Proposed Action and Alternative A. Three MD 32 intersections are already at unacceptable LOS-E or LOS-F and would be only marginally affected by Proposed Action and Alternative A. Two MD 175 intersections would drop below LOS-D in either 2004/2005 (MD 175 and Rockenbach

Road) or 2020 (MD 175 and Mapes Road). These problematic intersections along MD 175 may be able to accommodate the projected traffic volumes through the 2005 Design Year with minor road improvements. However, the MD 32 corridor is currently overtaxed and in need of major road improvements (e.g., additional through lanes) to provide acceptable operating conditions during the weekday morning and evening peak hours. It is noted that the traffic congestion on MD 32 is primarily influenced by traffic volumes generated from other activities within the region.

#### **4.12.4 Traffic Mitigation**

In addition to three MD 32 intersections currently operating below acceptable levels of service, two MD 175 intersections are expected to fall below this threshold as a result of the Proposed Action or Alternative A. Given that population and activity in the Region of Influence (Anne Arundel and Howard Counties) is expected to grow, we expect that the existing traffic impacts at Fort Meade will increase as a result of local and regional cumulative effects. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the Proposed Action while intensifying efforts to work in partnership with the State and others to address the larger traffic issue.

The most effective solutions to the traffic problems surrounding Fort Meade will be regional in nature. Specifically, future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, but these have not yet been approved. At the same time, new interchanges are under construction to alleviate problems along MD 32. Fort Meade is considering encouraging the use of alternative transportation (e.g., carpooling and flextime) although major rail or bus lines do not currently service the installation. In addition, the construction of the MD 198 by-pass onto Fort Meade via the former Tipton army airfield is designed to limit the through traffic at Fort Meade to Fort Meade residents and workers. This will reduce traffic congestion at the MD 198 and MD 32 intersection.

## **4.12.5 Other Transportation**

### **4.12.5.1 Railways**

It is unlikely that new personnel traveling to the installation would use the railway system. No railway lines currently cross Fort Meade, nor does Fort Meade require railway service to support its mission. No effects on railway capacity are anticipated under the Proposed Action or Alternative A.

### **4.12.5.2 Aviation**

The air transportation system would not be affected by the Proposed Action or Alternative A, because it is unlikely that any of the functions of Fort Meade would require significant air transportation support.

### **4.12.5.3 Public Transportation**

Few additional employees are likely to use bus service, because it does not provide direct service to Fort Meade. Therefore, additional personnel under the Proposed Action or Alternative A scenarios within Fort Meade will not significantly affect the capacity for public transportation in the area.

## **4.13 SOCIOECONOMICS**

Table 4-13 presents the combined socioeconomic impacts of the 11 projects included in the Proposed Action, as determined by a simulation of the EIFS model approach<sup>3</sup>. Impacts are

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<sup>3</sup> The analysis described herein is based on 1997 multipliers which were used at the time the analysis was conducted for the April 1999 EA prepared by the USACE. The multipliers used in the EA were still applicable because: 1) the study area for the socioeconomic impact assessment was identical in both the EA and EIS so the multipliers were based on the same two counties; and 2) the draft EIS was prepared only 18 months after the EA, so that both the size (e.g., total employment income, population, and wage levels) and composition (i.e., income and employment by SIC code) of the study area's economy which determines the size of the multipliers, are virtually the same as the multipliers used in the EA. Finally, the EA's multipliers were appropriate because the direct construction and operation effects (e.g., number of projects, total construction cost, length of the construction period, and total direct increase in operating employment on Fort Meade) of the proposed action were similar in magnitude to those evaluated in the EA.

Table 4-13. Economic Impacts of Fort Meade Projects

Construction Effects - Temporary	2000			RTV Thresholds	
	Amount		%	Positive %	Negative %
Total Change in Sales Volume	\$ 11,945,831		0.050%	9.36%	-5.97%
Total Change in Employment	127		0.040%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 3,802,891		0.023%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 3,802,891				
Total Change in Local Population	0		0.000%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ -	\$ -	0.000%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	-	-			
Total Change in Employment	-	-	0.000%	4.72%	-2.51%
Total Change in Place of Work Income	\$ -	\$ -			
Total Change in Place of Residence Income	\$ -	\$ -	0.000%	7.81%	-3.62%
Total Change in Local Population	-	-	0.000%	2.41%	-0.62%
Employees to Relocate	0	0			

Construction Effects - Temporary	2001			RTV Thresholds	
	Amount		%	Positive %	Negative %
Total Change in Sales Volume	\$ 12,526,531		0.05%	9.36%	-5.97%
Total Change in Employment	133		0.04%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 3,987,753		0.02%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 3,987,753				
Total Change in Local Population	0		0.00%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ 6,133,585	\$ 6,133,585	0.03%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	50	50			
Total Change in Employment	83	83	0.03%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 3,113,165	\$ 3,113,165			
Total Change in Place of Residence Income	\$ 3,113,165	\$ 3,113,165	0.02%	7.81%	-3.62%
Total Change in Local Population	34	34	0.01%	2.41%	-0.62%
Employees to Relocate	13	13			

Construction Effects - Temporary	2002			RTV Thresholds	
	Amount		%	Positive %	Negative %
Total Change in Sales Volume	\$ 19,024,842		0.08%	9.36%	-5.97%
Total Change in Employment	202		0.06%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 6,056,456		0.04%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 6,056,456				
Total Change in Local Population	0		0.00%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ -	\$ 6,133,585	0.03%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	-	50			
Total Change in Employment	-	83	0.03%	4.72%	-2.51%
Total Change in Place of Work Income	\$ -	\$ 3,113,165			
Total Change in Place of Residence Income	\$ -	\$ 3,113,165	0.02%	7.81%	-3.62%
Total Change in Local Population	-	34	0.01%	2.41%	-0.62%
Employees to Relocate	0	13			

Table 4-13. Economic Impacts of Fort Meade Projects

Construction Effects - Temporary	2003			RTV Thresholds	
	Amount		%	Postive %	Negative %
Total Change in Sales Volume	\$ 35,256,792		0.15%	9.36%	-5.97%
Total Change in Employment	375		0.12%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 11,223,809		0.07%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 11,223,809				
Total Change in Local Population	0		0.00%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ 25,761,057	\$ 31,894,642	0.13%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	210	260			
Total Change in Employment	348	430	0.13%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 13,075,293	\$ 16,188,458			
Total Change in Place of Residence Income	\$ 13,075,293	\$ 16,188,458	0.10%	7.81%	-3.62%
Total Change in Local Population	141	174	0.03%	2.41%	-0.62%
Employees to Relocate	53	65			

Construction Effects - Temporary	2004			RTV Thresholds	
	Amount		%	Postive %	Negative %
Total Change in Sales Volume	\$ 16,259,603		0.07%	9.36%	-5.97%
Total Change in Employment	173		0.05%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 5,176,157		0.03%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 5,176,157				
Total Change in Local Population	0		0.00%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ 72,376,303	\$ 104,270,946	0.43%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	590	850			
Total Change in Employment	977	1,407	0.44%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 36,735,347	\$ 52,923,806			
Total Change in Place of Residence Income	\$ 36,735,347	\$ 52,923,806	0.32%	7.81%	-3.62%
Total Change in Local Population	395	570	0.10%	2.41%	-0.62%
Employees to Relocate	148	213			

Construction Effects - Temporary	2005			RTV Thresholds	
	Amount		%	Postive %	Negative %
Total Change in Sales Volume	\$ 2,101,581		0.01%	9.36%	-5.97%
Total Change in Employment	22		0.01%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 669,027		0.00%	7.81%	-3.62%
Total Change in Place of Residence Income	\$ 669,027				
Total Change in Local Population	0		0.00%	2.41%	-0.62%
Operation Effects - Annual, Permanent	Incremental Impact	Cumulative Impact	Cumulative %		
Total Change in Sales Volume	\$ 7,605,645	\$ 111,876,591	0.46%	9.36%	-5.97%
Total Change in Employment at Ft. Meade	62	912			
Total Change in Employment	103	1,510	0.47%	4.72%	-2.51%
Total Change in Place of Work Income	\$ 3,860,325	\$ 56,784,130			
Total Change in Place of Residence Income	\$ 3,860,325	\$ 56,784,130	0.34%	7.81%	-3.62%
Total Change in Local Population	42	611	0.11%	2.41%	-0.62%
Employees to Relocate	16	228			



presented for both construction and operation phases each year to incorporate when individual projects would be constructed and begin operation between 2001 and 2005. The construction impacts for a given year include all the projects that would be constructed during that year. For example, the Personnel Barracks Phase II, Dining Facility, Company Headquarters, Battalion Operations and the Bold Venture I development would be under construction in 2002. When a project's construction phase would last for two or more years, such as the Personnel Barracks Replacement Phase II, the direct economic effects were divided among the years before running the model so as not to over-estimate the indirect and induced impacts (see Appendix H for more details).

The impacts of the construction phase of any project would be temporary. There would be short-term (one to two years) increases in the four indicator variables within the ROI as construction workers are hired and local expenditures are made for goods and services. The multiplier effect would translate these short-term direct effects into total, temporary changes in economic activity in the ROI. In contrast, the operational impacts are permanent once a new building is opened and its employees begin working at Fort Meade. The ongoing, annual expenditures for goods and services, along with spending of disposable income by the new workers would generate annual permanent changes in sales volume, employment, income, and population in the ROI. A net permanent increase in the level of economic activity in the ROI would occur only when an activity comes into the ROI from outside, or existing businesses expand, causing an increase in employment and annual purchases of goods and services. There would be no net increase in economic activity in the ROI when (1) erecting a new structure on Fort Meade to replace an existing one and then moving the employees from the old to the new building or (2) building a new structure at Fort Meade and transferring an activity there that is currently elsewhere in the ROI.

The EIFS model is no longer available; however, the simulation uses the EIFS economic relationships that were in the EIFS model most recently applied to the ROI during the fall of 1998 for the Fort Meade EA.

#### **4.13.1 Region of Influence**

The ROI consists of Anne Arundel and Howard Counties because the primary direct economic effects (i.e., hiring of construction and operation workers, purchases of goods and services, and destination of relocating workers) would occur in these jurisdictions.

#### **4.13.2 Demographics**

There would be no change in the local population during the construction phase, since no construction workers would likely relocate into the ROI. There are enough construction workers residing in the Baltimore and Washington DC metropolitan areas within easy daily commuting distance of Fort Meade to meet the construction labor demands of the Proposed Action.

The cumulative demographic impacts of the 11 projects would be minimal, as relatively few workers would relocate into the ROI once their jobs have been transferred to Fort Meade. It was assumed that some civilian employees would relocate into the ROI for the following projects: MEPS and Bold Ventures I, II, III, and IV. These five projects are being relocated from such a distance that it is likely that some of their current employees would eventually relocate and reduce their daily commuting trips. It was assumed that 25 percent of the employees from these 5 projects would relocate into the ROI. Using this assumption, Table 4-13 shows that a total of 228 civilian employees would relocate into the ROI by 2005 (also assuming relocation usually follows a period of enduring long daily commutes). This immigration would result in a total permanent increase in the ROI population of 611 persons; equivalent to a 0.1 percent increase in the projected ROI population. The remaining six projects would construct new buildings to replace existing structures at Fort Meade; current employees would be transferred within the installation into the new buildings.

There would be no increase in the total number of military personnel and their dependents residing on or off Fort Meade under the Proposed Action, as only civilian employees would be transferred to Fort Meade.

### 4.13.3 Economics

Table 4-13 presents the numerical changes in the relevant socioeconomic and demographic variables in the ROI, along with their percentage changes and the corresponding Rational Threshold Value (RTV) thresholds (see Appendix H). The table shows that the combined impacts of the projects would not have a significant socioeconomic or demographic impact within the ROI during either construction or operation. The table also shows that the combined, permanent economic effects of the 11 projects would have a positive, but not significant, socioeconomic impact in the ROI. The total economic impacts would not be significant, because the percent increases in the four indicator variables would be less than the RTV thresholds.

The construction of the 11 projects would generate total one-time construction expenditures of \$87.8 million in the ROI between 2000 and 2005. Table 4-13 presents the temporary indirect and induced increases in economic activity in the ROI that would be generated by these expenditures through the multiplier effect. The temporary increases in the ROI during the construction phase for the four economic indicator variables (sales volume, employment, place of residence personal income, and population) would be well below the RTV thresholds. During the highest year of construction activity in 2003, sales volume in the ROI would increase temporarily by 0.15 percent, with the percent increases for the other three indicator variables being smaller.

The permanent economic impacts that would begin in 2005, when the projects are complete and the relocated civilian employees are working at Fort Meade, also would not be significant. The cumulative percentage increases in sales volume, total employment, and place of residence income, as shown in Table 4-13, would be 0.46 percent, 0.47 percent, and 0.34 percent, respectively. These changes are well below the corresponding RTV positive thresholds of 9.36 percent, 4.72 percent, and 7.81 percent. The cumulative population increase would be even smaller at 0.34 percent, as only approximately 25 percent of the transferred employees from five projects would relocate into the ROI. If the four Bold Venture projects attract activities that are currently located in the ROI, the cumulative operational impacts would be even smaller than those shown in Table 4-13.

Based on the assumption that 25 percent of the civilian employees would relocate for the 5 projects identified above, a total of 228 civilian employees are forecasted to move into the ROI. Employment on Fort Meade would increase over its current level by about 2.2 percent as a result of the 912 new civilians working on the installation. The total cumulative percent increase in employment within the ROI by the year 2005 would be far smaller at 0.47 percent, as shown in Table 4-13. Table 4-13 indicates that the cumulative economic impacts of the 11 projects would generate a total increase in employment in the ROI of 1,510 jobs by 2005. This is equivalent to 0.65 indirect and induced jobs for each new civilian position on Fort Meade. The new jobs off post would be created through the combined multiplier effects from the annual spending for goods and services, and from the annual local expenditures of disposable income by the new civilian employees at Fort Meade.

The completion of the 11 projects would significantly increase Fort Meade's annual economic contribution to the ROI's economy. The number of persons employed on Fort Meade would increase from the current figure of 41,711 (8,877 military and 32,834 civilian) to 42,623 workers, an increase of 2.2 percent. The total annual payroll (military and civilian) would rise from its current level of \$1.526 billion to around \$1.559 billion (based on average income of \$36,585, see Section 3.13.3), and the annual purchases would increase by \$30.5 million. The total direct annual spending generated by Fort Meade in the ROI would increase from its current level over \$1.747 billion to more than \$1.8 billion. This increase of \$63 million is the sum of \$33.3 million of additional payroll and purchases of \$30.5 million, an increase of more than 3 percent. The net increase in economic activity in the ROI would depend on the extent to which the activities relocated to Fort Meade come from outside the ROI as opposed to from within it. The figures presented above assume that five of the projects (MEPS and Bold Ventures I, II, III and IV) would come from outside the ROI.

#### **4.13.4 Housing**

##### **4.13.4.1 On-Post Housing**

There would be no impact to on-post housing, as there would be no increase in the number of military personnel assigned to Fort Meade under the 11 projects.

#### **4.13.4.2 Off-Post Housing**

Table 4-13 shows that there would be a small increase in the demand for additional off-post housing, owing to the small increase in local population. The EIFS approach projects a total increase in demand for 166 units of owner-occupied housing and 62 units of rental housing in the ROI. The local housing market would be able to accommodate these very small increases in demand without significantly affecting either the availability or price of housing.

#### **4.13.4.3 Schools, Libraries, and Recreation Facilities**

There would be no increase in the demand for schools, libraries, and recreation facilities during the construction phase, as it is not anticipated that construction workers and their families would relocate into the ROI.

The population of the ROI would increase by 611 persons by 2005, (Table 4-13) resulting in an estimated 88 additional school children. The new residents would likely reside throughout the ROI, so the enrollment increase, assuming all the children attended public schools, would be spread out among a number of individual schools. The public school systems in the ROI would accommodate the increase in enrollment, since the new students would be dispersed throughout it as opposed to occurring at a single school. There would be minimal growth in enrollment at the public schools on Fort Meade. While there would be no additional military personnel assigned to the installation under the 11 projects, some enrollment increase at the on-post schools could occur if the new civilian employees moved into the attendance zones of the on-post schools. The resulting increase in enrollment would be minimal, and the on-post schools have the capacity to accommodate the additional students.

The construction of the two new Personnel Barracks Phase I and II would result in the loss of the softball fields that currently occupy the proposed site. There is sufficient remaining undeveloped open space available elsewhere on Fort Meade where new softball fields could be constructed if demand warrants.

There would be no increase in the use of library and recreation facilities on Fort Meade because there would no increase in the number of military personnel assigned to the installation under the

Proposed Action. Similarly, there would be a minimal increase in demand for library and recreation services located off Fort Meade in the ROI generated by the small, permanent increase in population. The percentage increase in demand for these services would be comparable to the percent increase in population shown in Table 4-13. The existing library and recreation systems would be able to accommodate these small increases in demand.

#### **4.13.5 Public Health and Safety**

The Proposed Action would not affect the public health and safety of either the military personnel and their dependents residing on Fort Meade or the civilian workers employed at Fort Meade. The construction and operation of the 11 projects would not disturb hazardous materials or hazardous wastes that are present on Fort Meade.

#### **4.13.6 Police Services**

There would be no increase in the demand for police services from persons living on Fort Meade, as the on-post population would not increase. However, there would be a small increase in demand for police services from the 912 new civilian employees working on the installation, primarily for traffic control during the peak daily commuting periods. Based on the existing police force of 88 officers, and assuming that there is no excess service capacity, the increase in employment would require Fort Meade to add between 1 and 2 new full-time police officers.

The increase in employment on Fort Meade would also require traffic control services by county police on the major roads that lead to and from the installation. Since the number of persons employed at Fort Meade would increase by approximately 2.2 percent, the percent rise in traffic volumes during peak commuting hours would be similar. There would also be a minimal increase in demand for off-post police services generated by the increase in population of 611 persons. If this increase occurred in one jurisdiction, the affected police department would have to add between 1 and 2 new full time police officers. However, since the population increase would be dispersed throughout the ROI, the County Police departments would be able to accommodate the demands of the new residents without having to hire new officers.

#### **4.13.7 Fire and Emergency Services**

The impact on fire and emergency services would be similar to those for police services. First, there would be no increase in the demand for fire and emergency services from Fort Meade residents since the population of the installation would remain the same. Second, there would be an increase in demand for on-post fire and emergency services from the new activities on Fort Meade (11 new buildings and 912 additional civilian employees). Based on Fort Meade's existing fire protection staff, they would have to add about 0.5 full time fire fighters to meet the demands from the new workers. Fort Meade's current emergency medical system would be able to meet the demands of the new employees.

The increased off-post population of 611 residents would generate a small increase in demand for off-post fire and emergency services provided by the surrounding civilian companies. If the population increase occurred in one jurisdiction, the affected fire and emergency medical department would have to add between 1 and 1.5 new full time fire fighters. However, since the population increase would be dispersed throughout the ROI, the affected fire and emergency medical companies would be able to accommodate the demands of the new residents without having to hire new personnel.

#### **4.13.8 Medical Facilities**

There would be a minimal increase in the demand for on-post medical services from the additional 912 civilian employees. However, since these employees would not reside on post and would not be eligible to use the military medical facilities, there would be no impact on Fort Meade's existing medical facilities. Since the on-post population would not increase, there would be no additional demands for on-post medical services from residents of Fort Meade. The existing off-post medical facilities in the ROI would be able to accommodate the increased demands from the small increase in population.

#### **4.13.9 Family Support Services**

There would be no impact on family support services, since the on-post population would remain unchanged under the Proposed Action.

#### **4.13.10 Alternative A – Socioeconomics**

The above discussion of socioeconomics has focussed on potential impacts (both adverse and beneficial) of the 11 projects included in the Proposed Action. Thus, of the proposed projects that would bring new employees to Fort Meade, Bold Ventures III and IV are not included in the Alternative A. Therefore, the slight positive impacts of the Proposed Action on economics would be less or absent. The lower number of new employees under Alternative A would result in no adverse to other aspects of socioeconomics.

#### **4.13.11 Noise**

A fundamental purpose of any noise impact analysis is to explore the potential cause-and-effect relationships between noise generators and noise receivers. Usually, the noise impact analysis assumes that the potential for causing impact resides in the proposed projects and that the impact, if any, will be born by the project's neighbors. For this EIS, noise analysis will focus on the impacts of construction noise and noise generated by traffic increases resulting from the Proposed Action or Alternative A.

Analysis of impacts from construction noise was based, primarily, on procedures detailed in the Department of Housing and Urban Development, Office of Community Planning and Development document, "*The Noise Guidebook*," (HUD 1991). Analysis of traffic noise impacts anticipated from the Proposed Action and Alternative A was developed using data derived from recent traffic studies conducted in conjunction with this EIS using the FHWA's Traffic Noise Model (TNM).

As actual construction plans are not available for any of the projects considered under the Proposed Action or Alternative A, the following assumptions have been made concerning the type of heavy equipment (the major noise generators) that may be used for construction and demolition activities at each of the project sites:

- Demolition activities include 2 bulldozers, 1 front end loader, and 2 dump trucks



- Construction grading, excavation, and foundations include 1 bulldozer, 1 excavator, 1 loader, and 2 dump trucks, and
- Construction erection and finishing include 1 crane and 1 forklift.

The duration of demolition activities varies according to project size. It is assumed that it would require 5 working days to raze structures less than 50,000-SF. Structures greater than 50,000 would require approximately two weeks to demolish.

Construction timeframes for each project were estimated separately using assumptions derived from a similar project (DSS) currently under construction on post. For each proposed project, a breakdown of the construction phases and estimated duration is presented in Table 4-14.

Noise at construction sites varies relative to the particular operation. Construction operations can be divided into five consecutive phases: ground clearing (including demolition and removal of structures), excavation, placing foundations, erection, and finishing. Table 4-15 show typical energy-equivalent noise levels at construction sites. Table 4-16 contains information on noise levels observed 50 feet from various type of construction equipment.

As no installation compatible use zone (ICUZ) study has been conducted for the installation, published noise level information for similar land uses has been considered in this analysis. Table 4-17 shows typical day-night noise levels in urban areas in the U.S. Recent background noise measurements taken at Fort Meade (Section 3.13.7), as well as results from traffic noise modeling analysis (see following section), have shown a wide variation in existing noise levels for various areas on the installation. Areas in the interior of Fort Meade, such as the troop support area where five of the 11 proposed projects would be located, are comparable to a normal suburban residential area with typical day-night noise level range of 53 to 57  $L_{dn}(\text{sub})$  dB, or 55 $L_{dn}$  dB on average. However, surrounding land use areas, especially areas bordering the northeastern portion of Fort Meade, (extending along MD Route 175) have considerably higher existing noise levels, reaching those typical of very noisy urban residential areas. The difference in noise levels between the two areas needs to be considered when analyzing the impact of

Table 4-14. Estimated Duration of Demolition and Construction Activities (work days) for Projects Considered Under the Proposed Action in the Eastern Administrative Area.

Title	Scope Magnitude	Demolition/ Ground Clearing	Excavation	Foundations	Building Erection	Finishing	Estimated Construction Completion Date
MEPS	31,179-SF	5	5	5	40	20	10/01
Personnel Barracks Replacement, Phase I	110,483-SF	15/10	30	20	90	50	5/02
Personnel Barracks Replacement, Phase II	110,483-SF	15/10	30	20	80	60	4/04
Dining Facility	24,456-SF*	5 /5	5	5	40	20	4/04
Company Headquarters	8,316-SF*	5 /2	2	2	30	20	4/04
Battalion Operations	12,160-SF*	5/2	2	2	30	20	4/04
Bold Venture I	34,000-SF	5	5	5	40	20	4/03
Bold Venture II	80,000-SF	10	10	10	80	40	4/04
Bold Venture III	34,000-SF	5	5	5	40	20	4/04
Bold Venture IV	10,000-SF	5	5	5	35	20	4/05
1RBDE	40,114-SF	5	5	5	45	30	4/05

Table 4-15. Typical Ranges of Energy-equivalent Noise Levels (in dBA) at Construction Sites

Phase	Domestic Housing		Office Building, Hotel, School, Public Works		Industrial Parking Garage, Religious Amusement and Recreations, Store, Service Station		Public Works Roads and Highways, Sewers, and Trenches	
	I <sup>(a)</sup>	II <sup>(b)</sup>	I	II	I	II	I	II
Ground clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

(a) All pertinent equipment present at site.  
 (b) Minimum required equipment present at site.  
 Source: EPA, 1972, p. 2-104.

Table 4-16. Construction-equipment Noise Ranges

		Noise level at 50 ft, dBA						
		60	70	80	90	100	110	
Equipment powered by internal combustion engines	Earth-moving	Compactors (rollers)			—			
		Front loaders		—	—			
		Backhoes		—	—	—		
		Tractors			—	—	—	
		Scrapers, graders			—	—		
		Pavers				—		
		Trucks			—	—		
	Materials handling	Concrete mixers		—	—			
		Concrete pumps			—			
		Cranes, movable		—	—			
		Cranes, derrick				—		
	Stationary	Pumps		—				
		Generators		—	—			
Compressors				—	—			
Impact equipment	Pneumatic wrenches				—			
	Jackhammers and rock drills			—	—			
	Impact pile drivers, peaks					—		
Other	Vibrator		—	—				
	Saws			—	—			

Source: EPA 1972, p. 2-108.

construction noise associated with the Proposed Action and Alternative A. The study areas for this noise analysis have been defined as the larger area, and the areas of noise influence in the vicinity of each of the two major construction areas.

Table 4-17. Typical day-night noise levels in urban areas in the U.S.

Description	Typical Range of $L_{dn}$ dB	Average $L_{dn}$ dB	Average Census Tract Population Density, No. of People/mi <sup>2</sup>
Quiet suburban residential	48-52	50	630
Normal suburban residential	53-57	55	2,000
Urban residential	58-62	60	6,300
Noisy urban residential	63-67	65	20,000
Very noisy urban residential	68-72	70	63,000
Source: EPA 1974.			

The concept of noise attenuation by distance has been applied to this analysis. Described briefly, in flat areas with no obstruction between the noise source and a receptor, noise will attenuate approximately 6 dB for each doubling of distance between a point source and receptor (e.g., a noise of 90 dB would be reduced to approximately 50 decibels at 4,000 feet).

A second important concept used in this analysis is the designation of "sensitive" noise receptors. A sensitive receptor is a church, school, hospital, retirement home, residential area, or similar facility (HUD 1991). These facilities are less tolerant of noise; noise levels greater than 65 dBA are considered "normally unacceptable." Some allowance for noise levels greater than 65 dBA can be made depending upon the time of day and the duration of the noise. In particular, higher levels of construction noise are usually considered acceptable because they are of short duration. Receptors that are not sensitive (e.g., office buildings) tolerate higher noise levels. For example, noise levels up to 75 dBA are considered "acceptable" for office buildings (HUD 1991). For the purposes of this EIS, nine noise receptors within the areas of noise influence surrounding the project sites were selected based on their potential for impact from additional traffic generated as the result of the Proposed Acton and Alternative A. Figure 4-8 shows the location of the receptors relative to the project sites.

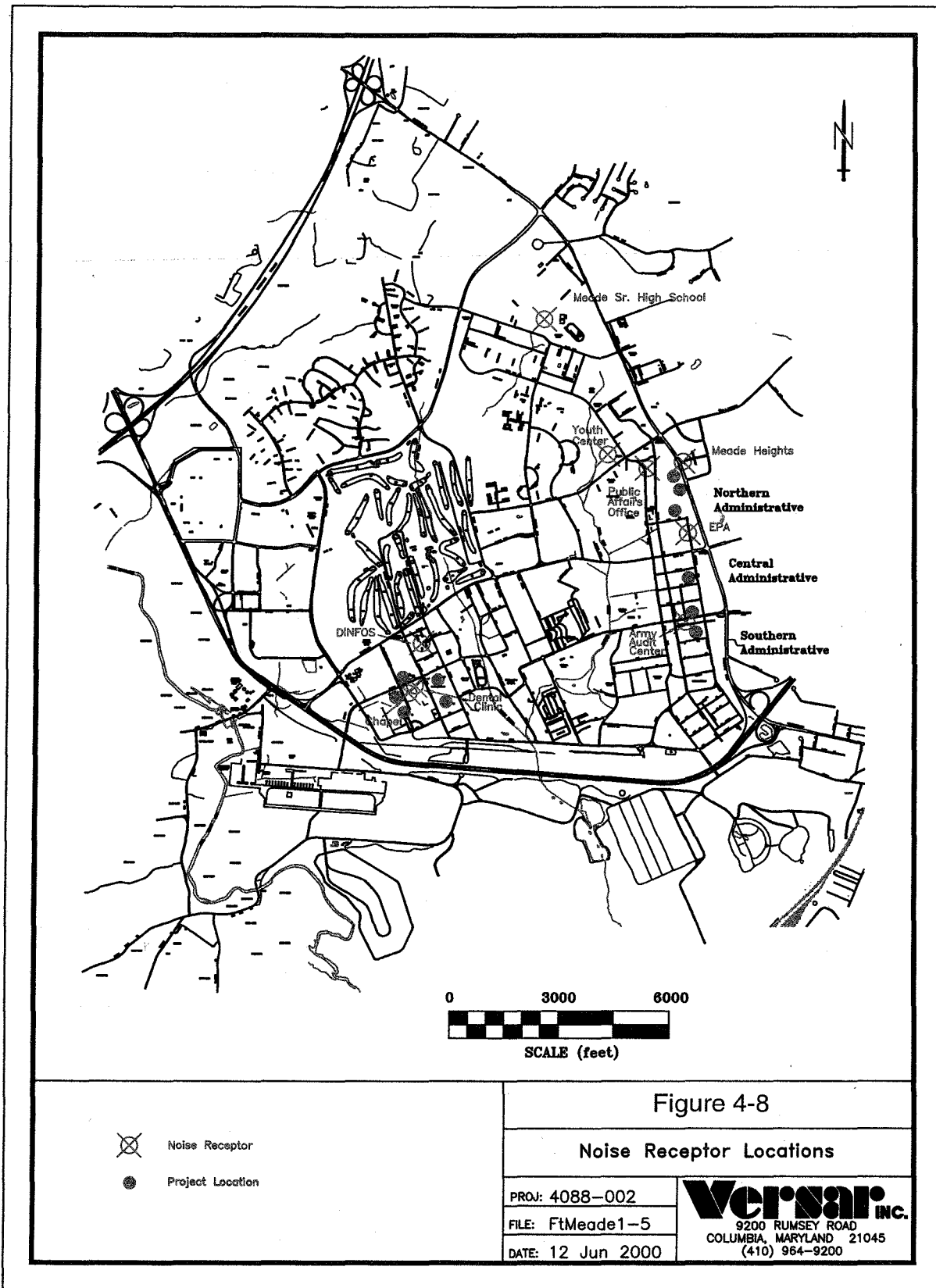


Figure 4-8. Map showing selected noise receptors in relation to proposed project sites

The analysis focused on whether the noise levels created by construction activities under the Proposed Action or Alternative A exceeded ambient conditions experienced by relevant receptors (i.e., the baseline condition). Specifically, if there was an existing noise source closer to the receptor than that included as part of the Proposed Action or Alternative A, the noise levels from the two sources were compared. For example, it is very possible, if not probable, that the noise from a highway would mask any but the most intrusive individual noises emanating from a construction site, even if it was quite close. Using the procedures and assumptions described above, the following conclusions were drawn based on available information.

#### **4.13.11.1 Proposed Action–Construction Noise**

The nearest noise receptors for projects considered under the Proposed Action within the eastern administrative area includes the Fort Meade Youth Center (located approximately 1500 feet from the MEPS site), Meade Heights housing area (approximately 800 feet away from the MEPS site), Fort Meade Army Audit Center (located across the street from the Bold Venture III site), and EPA Environmental Laboratory building (located south of the proposed Bold Venture I site). MD Route 175 borders the eastern administrative area and is planned for conversion from a four-lane highway to a wider “urban boulevard.” Considering the noise levels currently produced by traffic along MD Route 175 (see following section), it is likely that the temporary, short-term construction noise will blend with the highway noise and not affect residents in the Meade Heights housing development nor employees at the EPA Environmental Laboratory.

During the construction of Bold Ventures II and III (both scheduled within the same year), the Army Audit Center may experience short-term, intermittent (lasting a total of approximately 45 days, see Table 4-14 above) noise levels markedly above 65 dB during the “noisier” grading and excavation phases of construction. Construction of a new administrative office building to be occupied by the 1RBDE would occur a year after the Bold Venture III project. 1RBDE construction could cause minor annoyances to the personnel working at Army Audit Center or the EPA Environmental Laboratory, but noise from the intervening stretch of MD Route 175 would likely overwhelm noise from the project.

Within the western Troop Support area, several projects are proposed for construction within the same timeframe. These proposed projects virtually surround the nearest sensitive noise receptors such as the post dental clinic and Calvery Chapel. The other possible noise receptor in the vicinity of the construction would be the DINFOS building (approximately 1100 feet to the north of the Barracks Phase I site). Only the dental clinic and DINFOS which operate during the normal work week, would experience potential impacts from the construction noise.

As described above, construction activities (i.e., operation of earthmoving and other construction equipment) associated with several projects under the Proposed Action would temporarily increase noise levels. While the noise level of non-blasting construction activity (no blasting will be involved) could possibly reach 75 to 80 dBA at the construction sites, the distance to nearby receptors such as the DINFOS in the western Troop support area and the Youth Center in the eastern administration area would attenuate these noise levels considerably.

#### **4.13.11.2 Proposed Action–Traffic Noise**

Data and information garnered from the EIS traffic analysis (Section 4.12.3) was input into the Traffic Noise Model to determine existing noise levels and projected noise impacts through 2005 and in 2020. Table 4-18 presents the results of noise modeling conducted as part of the EIS noise analysis. According to these results, additional, long-term noise from traffic volumes is expected to increase less than 3 dB beyond existing noise levels at all nine receptors through 2005 and in 2020. Five of the nine receptors would not experience traffic noise levels greater than 65 dBA in any year. The Public Affairs Office, EPA Laboratory and Army Audit Center would experience about 68 to 70 dBA in 2005 and 2020. Meade Heights would experience 79 dBA in 2005 and 80 dBA in 2020. These higher levels of noise are essentially the same under the No-Active Alternative and are reflective of greater traffic in these areas, independent of the Proposed Action. Therefore, no significant adverse impacts from traffic noise resulting from the Proposed Action are anticipated (see Appendix I for more details).

#### **4.13.11.3 Alternative A–Construction Noise**

Under the Alternative A, the Bold Venture III and IV projects, scheduled for construction in 2003 and 2004 respectively, would not be implemented. It can be assumed that construction noise

Table 4-18. Projected Traffic Noise Levels at Nine Sensitive Receptors on Fort Meade

Scenario	Dental Clinic (dBA)	Calvary Chapel (dBA)	DINFOS (dBA)	Youth Center (dBA)	Meade H.S. (dBA)	Meade Heights (dBA)	EPA (dBA)	Public Affairs Office (dBA)	Army Audit Center (dBA)
Existing	59.1	59.7	61.4	60.1	56.3	77.9	68.5	66.3	70.3
2000	59.2	59.6	61.5	60.2	56.4	78.0	68.5	66.4	70.3
2001 – No Action	59.2	59.6	61.5	60.2	56.5	78.2	68.6	66.5	70.3
2002 – No Action	59.3	59.7	61.5	60.3	56.6	78.3	68.7	66.5	70.4
2003 – No Action	59.4	59.8	61.5	60.4	56.7	78.4	68.8	66.6	70.4
2004 – No Action	59.5	59.9	61.6	60.5	56.8	78.5	68.9	66.7	70.4
2005 – No Action	59.6	60.0	61.6	60.5	56.9	78.6	68.9	66.7	70.4
2020 – No Action	61.2	61.6	62.2	61.7	58.5	80.2	70.2	67.7	70.4
2001 – Proposed Action	59.2	59.6	61.6	60.3	56.5	78.2	68.6	66.6	70.3
2002 – Proposed Action	59.3	59.7	61.5	60.3	56.6	78.3	68.7	66.6	70.3
2003 – Proposed Action	59.4	59.8	61.6	60.6	56.8	78.4	68.9	67.0	70.4
2004 – Proposed Action	59.6	60.0	61.8	60.8	57.1	78.7	69.1	67.2	71.3
2005 – Proposed Action	59.7	60.1	61.9	60.9	57.2	78.8	69.2	67.3	71.3
2020 – Proposed Action	61.2	61.7	62.5	62.0	58.7	80.3	70.4	68.2	71.5
2004 – Action Alt.	59.6	60.0	61.8	60.7	57.0	78.7	69.0	67.1	71.0
2005 – Action Alt.	59.7	60.1	61.8	60.8	57.1	78.8	69.1	67.2	71.0
2020 – Action Alt.	61.2	61.7	62.4	61.9	58.6	80.3	70.3	68.1	71.2



impacts to the Army Audit Center and the EPA Environmental Laboratory would be non-significant and less than under the Proposed Action.

#### **4.13.11.4 Alternative A--Traffic Noise**

Traffic noise level increases at the noise receptor sites under the Alternative A vary little, if at all, from the results of the Proposed Action. All modeling results show less than a 3 dB increase in traffic noise during the five-year build out, as well as the in 2020. Therefore, no significant traffic noise impacts would be expected.

#### **4.13.11.5 Noise Management Practices**

Several of the noise receptors considered in this noise analysis already experience (or will experience) unacceptable levels of noise because of traffic outside Fort Meade. Several steps can be taken to minimize the additional noise impacts contributed by the Proposed Action or Alternative A. Periods of construction could be limited to selected daylight hours. Noise attenuation measures could be used in building design and construction. Temporary barriers against construction noise and muffling of construction equipment could also be implemented.

Noise control measures for roads and highways around Fort Meade would likely include construction of barriers to obstruct or dissipate sound emissions and landscaping, using trees and shrubs. Other noise-control measures for roadways in this area could include limitations on allowable grades and maintenance of proper road surface repairs.

#### **4.13.11.6 Noise Cumulative Impacts**

Several on-going projects have begun construction on post and may overlap some of the planned projects scheduled for implementation during 2000 and 2001 (see Figure 2-1) under the Proposed Action and Alternative A. Most of the on going projects are scattered in other areas of the post, and would not contribute to temporary, short-term construction noise generated by projects under the Proposed Action or Alternative A. It can be assumed that construction currently in progress would already be in its less noise intrusive phases by the time any new proposed projects would

begin. As such, construction noise from the Proposed Action or Alternative A would add little to general construction noise currently experienced on post.

Table 4-19 presents analysis results for existing and potential traffic noise emissions generated by traffic resulting from projects considered under the Proposed Action or Alternative A that also takes into account currently developed projects on post. These results show little to no increase over noise levels predicted for selected noise receptors through 2020 under the Proposed Action or Alternative A alone (see Table 4-18).

#### **4.14 ENVIRONMENTAL JUSTICE**

Neither the Proposed Action or Alternative A are expected to result in adverse environmental or socioeconomic impacts to minority or low-income populations. The 11 proposed projects would be built on sites well away from concentrations of minority or low-income residents, either on or off the installation. Construction activities would not have disproportionate, adverse environmental or human health impacts on either minority or low-income populations.

Operation of the 11 projects would also have no adverse impacts on environmental justice.

While it is assumed that the 912 relocated jobs would be held by the transferred workers, a proportionate or greater number of indirect and induced jobs created in the ROI would potentially be available to minority and low-income residents.

The construction and operation of the proposed nine projects would not have disproportionate, adverse human health or safety impacts on children. Where a project is close to a site frequented by children (e.g., day care center, school, recreation center, theater, athletic facility), potential effects would be avoided by normal practices to restrict access to the construction site. For example, where projects would be located close to on-post housing areas (MEPS, 1RBDE, and Bold Venture I), normal precautions (fencing, proper storage of hazardous materials, and locking equipment) would be taken to prevent access by children or other unauthorized persons.

The MEPS, 1RBDE, and Bold Venture I, II, III, and IV projects are located along the west side of Annapolis Road-MD Route 175 across from the Meade Heights Family Housing complex and local businesses. The presence of this highway, along with normal construction site safety and

Table 4-19. Projected Traffic Noise Levels at Receptors Under all Actions Considered and Other Currently Developed Projects On Post

Scenario	Dental Clinic (dBA)	Calvary Chapel (dBA)	DINFOS (dBA)	Youth Center (dBA)	Meade H.S. (dBA)	Meade Heights (dBA)	EPA (dBA)	Public Affairs Office (dBA)	Army Audit Center (dBA)
Existing	59.1	59.7	61.4	60.1	56.3	77.9	68.5	66.3	70.3
2000	59.2	59.6	61.5	60.2	56.4	78.0	68.5	66.4	70.3
2001 – No Action	59.4	59.8	61.8	60.4	56.7	78.3	68.9	66.6	70.6
2002 – No Action	59.5	59.8	61.8	60.5	56.8	78.5	69.0	66.6	70.6
2003 – No Action	59.6	59.9	61.9	60.5	56.9	78.6	69.1	66.7	70.7
2004 – No Action	59.6	60.0	61.9	60.6	57.0	78.7	69.1	66.8	70.7
2005 – No Action	59.7	60.1	61.9	60.7	57.1	78.8	69.2	66.8	70.7
2020 – No Action	61.2	61.7	62.5	61.8	58.5	80.2	70.3	67.8	70.9
2001 – Proposed Action	59.4	59.8	61.8	60.4	56.7	78.3	68.9	66.6	70.6
2002 – Proposed Action	59.5	59.9	61.8	60.5	56.8	78.5	69.0	66.7	70.6
2003 – Proposed Action	59.6	60.0	61.9	60.7	57.0	78.6	69.2	67.1	70.7
2004 – Proposed Action	59.7	60.1	62.1	60.9	57.3	78.9	69.4	67.2	71.1
2005 – Proposed Action	59.8	60.2	62.2	61.0	57.4	79.0	69.5	67.3	71.1
2020 – Proposed Action	61.3	61.7	62.7	62.0	58.7	80.3	70.5	68.2	71.3
2004 – Action Alt.	59.7	60.1	62.1	60.8	57.2	78.8	69.3	67.2	71.0
2005 – Action Alt.	59.8	60.2	62.1	60.9	57.3	78.9	69.4	67.3	71.0
2020 – Action Alt.	61.3	61.7	62.6	61.9	58.6	80.3	70.4	68.1	71.2

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storage practices, would minimize the chance that unauthorized access to construction sites by children would result in an injury.

The two Personnel Barracks, Phase I and II would be located due east of the Murphy Field House; use of this facility by children is limited. Finally, the Personnel Barracks, Dining Hall, and Company and Battalion Headquarters would be constructed adjacent to the existing barracks complex located along 6th Armored Cavalry Road south of Mapes Road. Since these structures are for single military personnel, there would be minimal, if any, impacts on children.

#### **4.15 CUMULATIVE IMPACTS**

CEQ regulations (40 CFR 1508.7) require an analysis of the cumulative impacts resulting from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of who undertakes these other actions. Cumulative impacts can result from individually minor, but collectively significant, actions.

Throughout this section (Environmental Consequences) the cumulative magnitude and intensity of effects resulting from the Proposed Action and Alternative A have been assessed and described for each potentially impacted resource in its relevant section. As appropriate, the cumulative impact of the proposed construction activities (and related maintenance and operations activities) at Fort Meade have been combined with other actions on post, as well as activities in the surrounding area.

The Proposed Action or Alternative A would not have measurable effects on land use, vegetation, wildlife resources, threatened and endangered species, prime and unique farmlands, wild and scenic rivers, cultural resources, hazardous substances, or environmental justice, and would not contribute to cumulative effects. Minor, but not significant, effects on water quality (by stormwater runoff), water supply and wastewater infrastructure, socioeconomics, and noise would result, but, considering the best management practices planned to address these effects, the Proposed Action or Alternative A would not contribute to cumulative impacts.

Significant cumulative effects on air quality and traffic would result from the Proposed Action or Alternative A. Emissions increases in NO<sub>x</sub>, when added to other actions at Fort Meade and planned regional activities, would constitute adverse cumulative impacts to regional air quality. These impacts, however, would be small relative to the larger air quality problem and would be addressed through mitigation measures at Fort Meade and efforts to work with other parties in the region. While traffic increases from the Proposed Action or Alternative A would be very small proportions of total traffic volumes, they would contribute to adverse cumulative impacts. Future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, while new interchanges are under construction to alleviate problems along MD Route 32. Fort Meade would pursue additional mitigation measures as feasible.

## 5.0 CONCLUSIONS

This EIS has identified significant impacts to air quality and traffic from the Proposed Action and Alternative A. No other significant impacts were identified.

Air Quality. To assess the potential impacts to air quality under the Proposed Action, emissions from activities associated with the 11 Proposed Action projects were quantified. The primary sources of air emissions from these projects are (1) construction vehicle fuel combustion, (2) earth moving activities (fugitive dust), (3) boiler fuel combustion, and (4) commuter vehicle fuel combustion. Air pollutant emissions of VOC and NO<sub>x</sub> are of particular importance because they contribute to the formation of ozone and Fort Meade is located in the Baltimore severe ozone nonattainment area.

All 11 projects associated with the Proposed Action would involve building construction activities; 6 of these 11 projects would involve demolition of existing buildings. These construction and demolition activities would generate temporary air emissions, mainly from fugitive dust-generating activities and construction/demolition vehicle exhaust. The new buildings constructed for each project would require new boilers to support day-to-day operations (i.e., heating and cooling). Unlike construction activities, boiler operation constitutes an ongoing, continuous source of air emissions. While existing boilers associated with the demolition of existing facilities would be removed and environmental conservation measures would be implemented throughout Fort Meade, neither of these activities would significantly reduce emission totals.

Five of the 11 projects associated with the Proposed Action would involve increases in area commuter traffic as a result of relocating personnel to the new facilities at Fort Meade. Commuter traffic constitutes an ongoing, continuous source of air emissions once the newly constructed facilities are occupied. Note that one project, the MEPS, involves the relocation of approximately 50 personnel from their current facility in the Baltimore metropolitan area.

Total air emissions from the Proposed Action and other actions at Fort Meade were evaluated as part of the cumulative effects assessment. These other actions would result in both

construction-related and operation-related emissions (from new boilers and additional commuter traffic). This cumulative effects assessment focused on the pollutants, NO<sub>x</sub> and VOC, that contribute to the ozone nonattainment problem in the Baltimore region.

Analysis of the effects on air quality from the combined emissions of the 11 projects constituting the Proposed Action determined that NO<sub>x</sub> emissions, are slightly below the *de minimus* level, i.e., they do not exceed the threshold of 25 tpy. Alternative A would produce approximately 25% fewer emissions than the Proposed Action. However, when combined with concurrent, on-going projects on post, both the Proposed Action and Alternative A would likely produce NO<sub>x</sub> emissions that exceed the 25 tpy threshold during each year from 2001 to 2005. Regional growth and attendant increased traffic volumes outside Fort Meade, would, undoubtedly, produce additional NO<sub>x</sub> emissions.

Fort Meade concludes that the cumulative impacts of all past, present, and reasonably foreseeable future actions would significantly hinder the State's ability to demonstrate "reasonable further progress" toward lowering emissions of ozone precursor pollutants, as required by the Clean Air Act Amendments of 1990. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed with the action, while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger air quality issue.

Traffic. The traffic analysis in this EIS focuses on cumulative effects and incorporates the following factors: (1) current traffic conditions based on 1999 traffic counts (incorporated into the No-Action Alternative), (2) additional projects approved or under construction but not included in the 1999 baseline, (3) 11 projects within the Proposed Action (or nine projects within Alternative A), (4) future development outside of Fort Meade as contained in the 2020 State Highway Administration (SHA) forecasts, and (5) future planned roadway improvements. For the purposes of this analysis, traffic volumes were forecasted for the weekday morning and evening peak hours on an annual basis beginning in 2001 and extending through 2005. In addition, an analysis of year 2020 forecasts was conducted.

This traffic analysis focused on the morning and evening peak hour traffic conditions that represent the extreme traffic conditions for this area. Given the land use within and surrounding the study area, traffic conditions at times other than morning and evening peak hour conditions will be less congested. Additionally, the analysis concentrated on traffic operations at intersections rather than roadway segments, since (owing to the number and the spacing of intersections within the area), the traffic along the roadway segments is controlled by the intersections. The impacts of the Proposed Action and Alternative A were evaluated using the Critical Lane Volume Capacity technique for the affected intersections. The impacts of the Proposed-Action and Alternative-A scenarios were evaluated based upon anticipated effects of the identified key intersections in the study area. This analysis also included the presently programmed and funded road improvements within the study area, as identified by SHA sources.

Three roadway intersections at Fort Meade currently operate below the acceptable level of service or LOS-D (i.e., at LOS-E or LOS-F), where traffic exceeds the capacity of the roadways. These intersections are located along MD 32 and are programmed under the Maryland SHA Consolidated Improvement Program (CIP) for improvement. Specifically, interchanges at Mapes Road and at MD 198 are under construction and the intersection at Emory Road is to be closed. The MD 175 and Rockenbach Road intersection is projected to operate below LOS-D in 2005 under the No Action and to operate below LOS-D in 2004/2005 under the Proposed Action and Alternative A. The remaining on-post intersections could maintain acceptable levels of service, while accommodating the development within Fort Meade included under the Proposed Action or Alternative A. Problematic intersections along MD Route 175 might be able to accommodate the projected traffic volumes through 2005 with minor road improvements.

While the population in the area immediately surrounding Fort Meade is not expected to increase, growth in population and activity in the ROI (Anne Arundel and Howard Counties) is expected to exceed the average annual rate in Maryland of 0.6 percent. Based on these considerations, we expect that the existing traffic impacts at Fort Meade will increase significantly as a result of local and regional cumulative effects. Nonetheless, given that the contribution of Fort Meade is small relative to the regional problem, it is reasonable to proceed



with the action, while undertaking mitigation measures at Fort Meade and intensifying efforts to work in partnership with the State and others to address the larger traffic issue.

Other Resources. The only other resources that would be measurably affected by the Proposed Action or Alternative A are water quality (by stormwater runoff), water supply and wastewater infrastructure, socioeconomics, and noise. Considering mitigation measures planned to address these effects, no significant impacts to these other resources, from the Proposed Action, Alternative A, or cumulative effects of other actions, are expected to occur.

In general, the potential effects on surface water quality associated with the Proposed Action or Alternative A would be limited to (1) construction activities and (2) continuing runoff from new structures and parking areas. Studies suggest that the existing SWM system would be adequate to serve the new facilities included in the Proposed Action at Fort Meade. Should additional stormwater controls be deemed necessary once the details of the projects are known (e.g., total extent of impervious surfaces), Fort Meade is committed to providing adequate SWM facilities as needed.

No permanent aquatic resources or wetlands exist on the sites included in the Proposed Action. Only grassy vegetation and disturbed wildlife habitat would be affected. The only threatened and endangered species habitat of concern is the glassy darter habitat in the Little Patuxent River; no uncontrolled stormwater runoff from the projects would drain to this river. No Prime and Unique Farmlands nor Federal Wild and Scenic Rivers exist on Fort Meade. Best management practices (such as planting riparian buffers and implementing stormwater controls at Fort Meade) would minimize potential effects to tributaries of the Maryland "Scenic and Wild" Patuxent and Severn Rivers. Studies indicate that no archaeological or historic resources would be affected. Should a construction, repair, or energy-related upgrade have the potential to disturb cultural resources at Fort Meade, appropriate steps would be taken to identify and mitigate the potential impact through continuing coordination with the Maryland State Historic Preservation Office.

Most of the new facilities considered under the Proposed Action would not store any hazardous materials (beyond those routinely used for maintenance and office supplies), nor would they produce significant amounts of hazardous waste (the minimal amounts of waste material would

be disposed of according to local, county, state, or Federal guidelines). Although Fort Meade has been declared an EPA Superfund site, none of the contaminated areas are in the proximity of the project sites. For all applicable activities, Fort Meade operations and maintenance personnel would continue to adhere to procedures as defined in the *Fort George G. Meade Management Plan for Hazardous Materials and Hazardous Waste*.

Infrastructure capacity data indicate that Fort Meade's utilities system can support the needs of increased personnel and associated activities resulting from the Proposed Action. At the same time, the natural gas, water distribution, and wastewater systems have notable deficiencies. While no system-wide upgrades are planned for the near future, site-specific upgrades will be implemented on a project-by-project basis. Fort Meade's utility distribution and collection systems are currently being analyzed as part of the Department of Defense's privatization initiative. The combined increase in solid waste generation from construction and additional personnel through 2005 would only reduce landfill life by 0.05 years and therefore would have no significant impact.

The completion of the 11 projects under the Proposed Action would significantly increase Fort Meade's annual economic contribution to the economy in the ROI. The net increase in economic activity in the ROI would depend on the extent to which the activities relocated to Fort Meade come from outside the ROI as opposed to from within it. The local housing market would be able to accommodate these very small increases in demand without significantly affecting either the availability or price of housing. The resulting increase in student enrollment would be minimal and well within the capacity of on-post schools. There would be no impact to services at Fort Meade, since the on-post resident population would remain unchanged under the Proposed Action.

For this EIS, the noise analysis focused on the impacts of construction noise and noise generated by traffic increases on sensitive receptors resulting from the Proposed Action or Alternative A. Construction activities (i.e., operation of earthmoving and other construction equipment) associated with several projects would temporarily increase noise levels. While the noise level could possibly reach 75 to 80 dBA at the construction sites, the distance to nearby receptors would attenuate these noise levels considerably. Additional, long-term noise from traffic

volumes is expected to increase less than 3 dB beyond existing noise levels at all nine receptors through 2005 and in 2020. These higher levels of noise are essentially the same under the No-Active Alternative and are reflective of greater traffic in these areas, independent of the Proposed Action. Therefore, no significant adverse impacts from traffic noise resulting from the Proposed Action or Alternative A are anticipated.

Neither the Proposed Action nor Alternative A are expected to result in adverse environmental or socioeconomic impacts to minority or low-income populations. Potential environmental and socioeconomic impacts associated with implementing the Proposed Action, No-Action Alternative, and Alternative A are summarized in Table 5-1.

Mitigation. To mitigate the significant impacts to air quality and traffic caused by the Proposed Action and cumulative actions, Fort Meade will continue to work in partnership with other contributing parties in the region. This is appropriate given that the contributions of Fort Meade are small relative to regional air quality and traffic problems, and that solutions at that scale will be most effective.

Nonetheless, Fort Meade is currently undertaking four initiatives that will help mitigate the adverse air quality impacts in the region: (1) conversion of existing oil-fired heating systems to natural gas, (2) use of vehicles powered by natural gas, (3) installation of more energy-efficient devices, and (4) extensive tree planting and reforestation program. Each of these contributes to improved air quality by reducing the emissions of air pollutants or sequestering atmospheric carbon.

To address traffic impacts, Fort Meade is considering encouraging the use of alternative transportation (e.g., carpooling and flextime), although major rail or bus lines do not currently service the installation. In addition, the construction of the MD 198 by-pass onto Fort Meade via the former Tipton Army Airfield is designed to limit the through traffic at Fort Meade to Fort Meade residents and workers. This will reduce traffic congestion at the MD 198 and MD 32 intersection.

Irreversible and Irretrievable Commitments of Resources. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use will

have on future generations. Neither the Proposed Action nor Alternative A would result in the loss of species or habitat that cannot be restored. Certain amounts of labor, materials, and energy resources would be irreversibly committed to the projects included in the Proposed Action or Alternative A. None of these commitments would be inconsistent with the maintenance of the long-term productivity of the environment.

Table 5-1. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action	No-Action Alternative	Alternative A
Land Use	Constructing new administration and support buildings within the proposed land use zones would be compatible with post-wide and regional development strategies. No adverse impacts to land use are anticipated.	Conditions on post would remain unchanged. Modest development would continue in the surrounding communities. No effect.	Constructing new administration and support buildings within the proposed land use zones would be compatible with post-wide and regional development strategies. No adverse impacts to land use are anticipated.
Air Quality	Fort Meade is in a severe non-attainment zone for ozone. Analysis under the general conformity rule of the Clean Air Act shows that emissions increases for NO <sub>x</sub> under the Proposed Action would be slightly less than <i>de minimis</i> levels. When added to other actions at Fort Meade and planned regional activities, these project emissions would constitute adverse cumulative impacts to regional air quality. These impacts, however, would be small relative to the larger air quality problem and would be addressed through mitigation measures at Fort Meade and efforts to work with other parties in the region.	Conditions on post would remain unchanged. Modest development in the surrounding communities would continue to increase emissions. No effect.	Fort Meade is in a severe non-attainment zone for ozone. Analysis under the general conformity rule of the Clean Air Act shows that emissions increases for NO <sub>x</sub> under Alternative A would be slightly less than <i>de minimis</i> levels. When added to other actions at Fort Meade and planned regional activities, these project emissions would constitute adverse cumulative impacts to regional air quality. These impacts, however, would be small relative to the larger air quality problem.
Water Resources	No surface water bodies would be affected. The Proposed Action would increase impervious surfaces at Fort Meade by 1.8 percent. SWM will be consistent with state regulations. Site-specific analysis would determine if additional SWM facilities were necessary to avoid impacts to surface water. Other best management practices, such as "rain gardens," would be implemented where appropriate to avoid stormwater runoff impacts. Given the implementation of stormwater management plans and other mitigation measures, no significant impacts on surface water are anticipated.  Groundwater resources are sufficient to meet potable water supply needs. Any project construction plans involving subsurface excavations would avoid high water tables. There-	Conditions on post would remain unchanged. Modest development in the surrounding communities suggests a watershed approach to stormwater planning. No effect.	No surface water bodies would be affected. Alternative A would increase impervious surfaces at Fort Meade by 1.5 percent. SWM will be consistent with state regulations. Site-specific analysis would determine if additional SWM facilities were necessary to avoid impacts to surface water. Other best management practices such as "rain gardens" would be implemented where appropriate to avoid stormwater runoff impacts. Given the implementation of stormwater management plans and other mitigation measures, no significant impacts on surface water are anticipated.  Groundwater resources are sufficient to meet potable water supply needs. Any project construction plans involving subsurface excavations

Table 5-1. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action	No-Action Alternative	Alternative A
	<p>fore, no significant, adverse impacts to groundwater are anticipated.</p> <p>Results of on-going Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations would be reviewed prior to construction. If remediation were necessary, actions would comply with all Federal and State regulations.</p>		<p>would avoid high water tables. Therefore, no significant, adverse impacts to groundwater are anticipated.</p> <p>Results of on-going Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations would be reviewed prior to construction. If remediation were necessary, actions would comply with all Federal and State regulations.</p>
Aquatic Resources and Wetlands	<p>None of the project areas contain permanent surface water features. A vegetated ditch with a seasonally wet environment near Bold Venture I may potentially offer habitat to macroinvertebrates or amphibians. Best management practices (such as establishing riparian buffers along streams) would be implemented to prevent or minimize pollutant loadings to this and other aquatic environments. No significant, adverse impacts are anticipated.</p> <p>No wetlands exist within the project areas considered under the Proposed Action and no impacts would occur.</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>None of the project areas contain permanent surface water features. A vegetated ditch with a seasonally wet environment near Bold Venture I may potentially offer habitat to macroinvertebrates or amphibians. Best management practices (such as establishing riparian buffers along streams) would be implemented to prevent or minimize pollutant loadings to this and other aquatic environments. No significant, adverse impacts are anticipated.</p> <p>No wetlands exist within the project areas considered under Alternative A and no impacts would occur.</p>
Vegetation	<p>Only grassy vegetation and scattered trees would be eliminated under the Proposed Action. Areas outside the construction footprint would be replanted. Subsequent landscaping around new structures would provide more variation in plant species and structure, a potentially positive impact.</p> <p>No change to on-post landscaping and lawn maintenance regimes are expected under the Proposed Action.</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>Only grassy vegetation and scattered trees would be eliminated under Alternative A. Areas outside the construction footprint would be replanted. Subsequent landscaping around new structures would provide more variation in plant species and structure, a potentially positive impact.</p> <p>No change to on-post landscaping and lawn maintenance regimes are expected under Alternative A.</p>
Wildlife Resources	<p>Projects under the Proposed Action would be built in grassy, open spaces or previously built acres, both offering poor wildlife habitats. It is anticipated that the suburban wildlife present would quickly relocate to similar habitats on post. Landscape plantings using native plants around proposed new structures may improve habitat value.</p>	<p>Conditions on post would remain unchanged. No effect.</p>	<p>Projects under Alternative A would be built in grassy, open spaces or previously built acres, both offering poor wildlife habitats. It is anticipated that the suburban wildlife present would quickly relocate to similar habitats on post. Landscape plantings using native plants around proposed new structures may improve habitat value.</p>

Table 5-1. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action	No-Action Alternative	Alternative A
Threatened and Endangered Species	There are no Federally listed threatened or endangered species known to exist on Fort Meade. No project areas drain directly into the Little Patuxent River (home to the rare glassy darter). No impacts are anticipated.	Conditions on post would remain unchanged. No effect.	There are no Federally listed threatened or endangered species known to exist on Fort Meade. No project areas drain directly into the Little Patuxent River (home to the rare glassy darter). No impacts are anticipated.
Prime and Unique Farmlands	There are no prime or unique farmlands on Fort Meade in the areas of the proposed projects. No impacts are anticipated.	Conditions on post would remain unchanged. No effect.	There are no prime or unique farmlands on Fort Meade in the areas of the proposed projects. No impacts are anticipated.
Wild and Scenic Rivers	The Patuxent River and Severn River are classified as Maryland "Scenic and Wild" rivers. Best management practices, such as planting riparian buffers along tributary stream channels and implementing stormwater controls at Fort Meade, would minimize potential effects to these river systems. No rivers in Maryland are classified under the more restrictive Federal Wild and Scenic Rivers Act. No adverse impacts are anticipated.	Conditions on post would remain unchanged. No effect.	The Patuxent River and Severn River are classified as Maryland "Scenic and Wild" rivers. Best management practices, such as planting riparian buffers along tributary stream channels and implementing stormwater controls at Fort Meade, would minimize potential effects to these river systems. No rivers in Maryland are classified under the more restrictive Federal Wild and Scenic Rivers Act. No adverse impacts are anticipated.
Cultural Resources	<p>The Proposed Action would not impact any significant archaeological sites and would not require further investigations. The projects would not impact the two National Register of Historic Places-eligible architectural structures on post. As newly eligible World War II wooden structures are considered in accordance with the 1986 Programmatic Memorandum of Agreement, they would be documented and demolished fulfilling Department of Defense's National Historic Preservation Act Section 106 responsibilities. No adverse impacts are anticipated.</p> <p>Maintenance and repair of historic structures would follow Cultural Resource Management Plan guidelines. No changes to these procedures would result from the Proposed Action.</p>	Conditions on post would remain unchanged. No effect.	<p>Alternative A would not impact any significant archaeological sites and would not require further investigations. The projects would not impact the two National Register of Historic Places-eligible architectural structures on post. As newly eligible World War II wooden structures are considered in accordance with the 1986 Programmatic Memorandum of Agreement, they would be documented and demolished fulfilling Department of Defense's National Historic Preservation Act Section 106 responsibilities. No adverse impacts are anticipated.</p> <p>Maintenance and repair of historic structures would follow Cultural Resource Management Plan guidelines. No changes to these procedures would result from Alternative A.</p>

Table 5-1. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action	No-Action Alternative	Alternative A
<p>Hazardous, Toxic, and Radioactive Substances</p>	<p>Any hazardous, toxic, and radioactive substances, or waste encountered during construction, demolition, or operations associated with the Proposed Action would be handled according to appropriate safety procedures. Fort Meade operations and maintenance personnel would follow established State and Federal regulations and protocols. No change in operations concerning hazardous waste handling or storage would occur as a result of the Proposed Action. No adverse impacts are anticipated.</p> <p>Fort Meade has recently been designated as a Superfund site. CERCLA investigations are currently underway. No known contaminated sites are located the proposed project areas. Results of the CERCLA investigations would be reviewed prior to construction.</p>	<p>Maintenance, materials handling, and waste disposal would not change on Fort Meade. No effect.</p>	<p>Any hazardous, toxic, and radioactive substances or waste encountered during construction, demolition, or operations associated with Alternative A would be handled according to appropriate safety procedures. Fort Meade operations and maintenance personnel would follow established State and Federal regulations and protocols. No change in operations concerning hazardous waste handling or storage would occur as a result of Alternative A. No adverse impacts are anticipated.</p> <p>Fort Meade has recently been designated as a Superfund site. CERCLA investigations are currently underway. No known contaminated sites are located in the proposed project areas. Results of the CERCLA investigations would be reviewed prior to construction.</p>
<p>Infrastructure</p>	<p>Water and wastewater capacity is sufficient to support the new facilities included under the Proposed Action. General maintenance and repairs to the overall water and sewer systems would be required of Fort Meade or Anne Arundel County when the County acquires the wastewater system. Specific project-related upgrades would be considered and implemented on a case-by-case basis. As water, sewer, and energy-related service facilities would continue to function under established protocols, operation would not be affected by the Proposed Action. No significant impacts to service from water, wastewater, or energy systems are anticipated.</p> <p>Demolition and construction activities would generate total solid waste of 55,381 tons, only 0.18 percent of total landfill capacity. Therefore, no adverse effects are expected from the Proposed Action.</p> <p>Maintenance associated with all infrastructure activities would remain consistent with established Army procedures and protocols and would not be affected under the Proposed Action.</p>	<p>The demand for infrastructure and its capacity would remain the same. No effect.</p>	<p>Water and wastewater capacity is sufficient to support the new facilities included under Alternative A. General maintenance and repairs to the overall water and sewer systems would be required of Fort Meade or of Anne Arundel County when the County acquires the wastewater system. Specific project-related upgrades would be considered and implemented on a case-by-case basis. As water, sewer, and energy-related service facilities would continue to function under established protocols, operation would not be affected by the Proposed Action. No significant impacts to service from water, wastewater, or energy systems are anticipated.</p> <p>Demolition and construction activities would generate total solid waste of 52,709 tons, only 0.17 percent of total landfill capacity. Therefore, no adverse effects are expected from Alternative A.</p> <p>Maintenance associated with all infrastructure activities would remain consistent with established Army procedures and protocols and would not be affected under Alternative A.</p>

Table 5-1. Comparison of Effects of the Proposed Action, No-Action Alternative, and Alternative A

Resource	Proposed Action	No-Action Alternative	Alternative A
Traffic	Under the Proposed Action, most key intersections would continue to operate at acceptable LOS through 2020. In addition to three MD 32 intersections currently operating below LOS-D, two MD 175 intersections would fall below LOS-D. While traffic increases from the Proposed Action are very small proportions of total traffic volumes, they would contribute to significant traffic impacts. Future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, while new interchanges are under construction to alleviate problems along MD 32. Fort Meade would pursue additional mitigation measures as feasible.	Traffic levels would not increase on Fort Meade. Three MD 32 intersections would continue to operate below acceptable LOS-D until new interchange construction is complete. Modest development in the surrounding communities would likely increase traffic congestion. Regional transportation plans are needed to address cumulative traffic problems.	Under Alternative A, most key intersections would continue to operate at acceptable LOS through 2020. In addition to three MD 32 intersections currently operating below LOS-D, two MD 175 intersections would fall below LOS-D. While traffic increases from Alternative A are very small proportions of total traffic values, they would contribute to significant traffic impacts. Future road improvements to MD Route 175 may be able to accommodate projected traffic volumes, while new interchanges are under construction to alleviate problems along MD 32.
Socioeconomic Conditions	<p>The Proposed Action is expected to have a positive socioeconomic impact on employment and income.</p> <p>The slight increase in surrounding populations should not have adverse impacts on schools or other social services.</p> <p>Construction noise effects would be of short duration and would be limited to new construction areas. No significant adverse impacts to noise receptors are anticipated. Traffic noise as the result of the Proposed Action is not expected to increase more than 3dB over the 5-year build-out period.</p>	Conditions on post would remain unchanged. Modest development in the surrounding communities would occur. No effect.	<p>Alternative A is expected to have a positive socioeconomic impact on employment and income.</p> <p>The slight increase in surrounding populations should not have adverse impacts on schools or other social services.</p> <p>Construction noise effects would be of short duration and would be limited to new construction areas. No significant adverse impacts to noise receptors are anticipated. Traffic noise as the result of the Proposed Action is not expected to increase more than 3dB over the 5-year build-out period.</p>
Environmental Justice	No disproportionately high adverse effects on minority or low-income communities or on children are anticipated.	Conditions on post would remain unchanged. Modest development in the surrounding communities would occur. No effect.	No disproportionately high adverse effects on minority or low-income communities or on children are anticipated.

Preferred Alternative. Fort Meade's preferred alternative is the Proposed Action. The Proposed Action most accurately reflects the requirements faced by Fort Meade between 2000 and 2005. Based on historical development and current projections, it is highly likely that Bold Ventures III and IV will be needed during this time period. To exclude them (and choose Alternative A as the preferred alternative) would necessitate additional analysis in the future and make accurate consideration of cumulative effects more difficult. Fort Meade believes that the Proposed Action



would best fulfill its mission as a Federal administrative center, given all technical, economic, and environmental factors.

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