United States
Department of the Army

Final
NEPA Manual for the Residential Communities Initiative

Prepared for the

Department of the Army

by

U.S. Army Corps of Engineers
Mobile District

with Technical Assistance from

Tetra Tech, Inc.
Fairfax, VA 22030
DACA01-96-D-0011

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ACRONYMS AND ABBREVIATIONS

AADT	average annual daily traffic
AC	asphalt concrete
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACSIM	Assistant Chief of Staff for Installation Management
AFROI	Air Force Region of Influence
AHPA	Archeological and Historic Data Preservation Act
AICUZ	Air Installation Compatibility Use Zones
AIMS	Automated Input-Output Multiplier System
AIRFA	American Indian Religious Freedom Act
APE	area of potential effect
APZ	accident potential zone
AR	Army Regulation
ARPA	Archeological Resources Protection Act
ASA(IL&E)	Assistant Secretary of the Army for Installation, Logistics, and Environment
AST	aboveground storage tank
AWWA	American Water Works Association
BAH	Basic Allowance for Housing
BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CDMP	Community Development and Management Plan
CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CONUS	Continental United States
CSPO	Competitive Sourcing and Privatization Office
C/V	volume-to-capacity ratio
CWA	Clean Water Act
CX	Categorical Exclusion
CZARA	Coastal Zone Act Reauthorization Amendments
CZMA	Coastal Zone Management Act
DA	Department of the Army
DAIM-MD	Department of the Army, Assistant Chief of Staff for Installation Management, Plans and Operations
DASA(I&H)	Deputy Assistant Secretary of the Army for Installations and Housing
dB	decibel
dBA	A-weighted decibel scale
dBC	C-weighted decibel scale
DDESB	DoD Explosive Safety Board
DENIX	Defense Environmental Network and Information eXchange
DFAS	Defense Finance and Accounting Service
DOA	Determination of Availability
DoD	Department of Defense
DOPAA	description of the proposed action and alternatives
DOT	Department of Transportation
DPW	Directorate of Public Works
DUSD(IA&I)	Deputy Under Secretary of Defense for Industrial Affairs and Installations
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
ENMP	Environmental Noise Management Plan
ENRD	Environmental and Natural Resources Division
EOD	explosive ordnance disposal
EPA	Environmental Protection Agency
ESA	Endangered Species Act

ETIS	Environmental Technical Information System
°F	degrees Fahrenheit
FAR	floor-to-area ratio
FEMA	Federal Emergency Management Agency
FFCA	Federal Facilities Compliance Act
FHIF	Family Housing Improvement Fund
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FIP	Federal Implementation Plan
FLPMA	Federal Land Protection Management Act
FNSI	Finding of No Significant Impact
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
FPPA	Farmland Policy Protection Act
FSI	forecast significance of impacts
GIS	Geographic Information System
gpd	gallons per day
HABS/HAER	Historic American Buildings Survey/Historic American Engineering Record
HAPS	hazardous air pollutants
HC	hydrocarbons
HDU	heating day units
HGM	Hydrogeomorphic Method
HOV	high occupancy vehicle
HQDA	Headquarters Department of the Army
ICRMP	Integrated Cultural Resources Management Plan
ICUZ	Installation Compatible Use Zone
INRMP	Integrated Natural Resources Management Plan
IO	input-output
IRP	Installation Restoration Program
ISDN	integrated digital switching network
ITAM	Integrated Training Area Management
IUMP	Installation Utilities Management Plan
IWTP	industrial wastewater treatment plant
kV	kilovolt
kVA	kilovolt-ampere
kW/hr	kilowatts per hour
kWh/yr	kilowatt hours per year
LB	low bituminous
LBP	lead-based paint
LCTA	Land Condition Trend Analysis
LIP	local implementation plan
LOS	level of service
MACOM	Major Army Command
Mbtu/yr	million British thermal units per year
Mgal/d	million gallons per day
MHPI	Military Housing Privatization Initiative
MSA	Metropolitan Statistical Area
msl	mean sea level
Mwh/yr	megawatt hours per year
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAF	nonappropriated fund
NAGPRA	Native American Graves Protection and Repatriation Act
NAPL	non-aqueous phase liquids
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOI	Notice of Intent
NO_x	oxides of nitrogen
NOV	notice of violation
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O_3	ozone
OCONUS	outside the continental United States
ODC	ozone-depleting chemicals
ODC(P/B)	Office of the Deputy Comptroller (Program/Budget)
OEA	Office of Economic Assessment
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PAO	Public Affairs Office
Pb	lead
PCB	polychlorinated biphenyl

pCi/L	picocuries per liter
PM-10	inhalable particulate matter
ppm	parts per million
psi	pounds per square inch
PWTB	Public Works Technical Bulletin
RCI	Residential Communities Initiative
RCRA	Resource Conservation and Recovery Act
REA	Representative Environmental Assessment
REC	Record of Environmental Consideration
REIS	Regional Economic Information System
RFQ	Request for Qualifications
RI/FS	remedial investigation and feasibility study
ROA	Report of Availability
ROD	record of decision
ROI	region of influence
RONA	Record of Non-Applicability
RPA	reasonable and prudent alternatives
RTV	rational threshold value
SAAM	Small Area Assessment Model
SAMP	Special Area Management Plan
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Office
SIP	state implementation plan
SJA	Staff Judge Advocate
SO_2	sulfur dioxide
SPPP	Stormwater Pollution Prevention Plan
SWCD	Soil Water Conservation District
TBMED	Medical Technical Bulletin
TIC	Technical Information Center (of the AEC)
TM	technical manual
TSCA	Toxic Substances Control Act
TSP	total suspended particulates
USACE	U.S. Army Corps of Engineers
USACERL	U.S. Army Construction Engineering Research Laboratories
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USACPW	U.S. Army Center for Public Works
USAEC	U.S. Army Environmental Center
USAEHA	U.S. Army Environmental Hygiene Agency
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USD(C)	Under Secretary of Defense (Comptroller)
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UXO	unexploded ordnance
V/C	volume to capacity ratio
VOC	volatile organic compounds
WET	Wetland Evaluation Technique
WRMP	Water Resources Management Plan
WWTP	wastewater treatment plant

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CHAPTER 1.0: INTRODUCTION

1.1 PURPOSE OF MANUAL

The purpose of this manual is to provide a common frame of reference for all participants involved in applying National Environmental Policy Act of 1969 (NEPA) procedures to Army Residential Communities Initiative (RCI) family housing privatization projects. This manual facilitates NEPA compliance for installation commanders who propose to implement family housing privatization projects. In so doing, it ensures that environmental considerations are consistently integrated with the planning and implementation of RCI actions.

This manual is intended to provide a comprehensive "one-stop" source of information for Army RCI NEPA compliance. The information is presented in a simple, understandable, and manageable format suitable for use throughout the Army to standardize and streamline NEPA compliance. The manual provides detailed information needed by participants in the NEPA documentation process, including proponents, preparers, and reviewers. It provides step-by-step guidance, recommendations, and suggestions for performing effective and efficient NEPA analyses and preparing environmental assessments (EAs), a preliminary measure taken to determine whether an environmental impact statement is required.[1] It also describes the applicability of relevant environmental statutes that bear on the Army RCI Program. Accompanying this manual is a "representative" EA (REA) designed to demonstrate the concepts presented. Users are encouraged to follow closely the guidance, procedures, and examples presented in this manual and in the accompanying REA.

1.2 WHAT THE MANUAL COVERS

The manual provides comprehensive guidance within the six chapters listed below.

[1]Absent extraordinary circumstances, virtually all NEPA analyses of Army RCI actions should be amenable to documentation with an EA, as opposed to requiring an environmental impact statement (EIS). (For definitions of these terms, see Section 1.4.4.)

Chapter 1.0 **Introduction.** Provides interpretive background information on the Army RCI and NEPA, along with an overview of the Army's NEPA process.

Chapter 2.0 **Roles and Responsibilities.** Identifies key players and describes the various levels and nature of internal Army and other participant involvement in the NEPA process for Army RCI actions.

Chapter 3.0 **Planning and Initiating a NEPA Analysis.** Describes the initial stages of the NEPA process and provides directions to properly characterize, frame, and focus NEPA analysis and documentation for Army RCI actions.

Chapter 4.0 **Environmental Assessment Preparation and Content.** Provides RCI Program-focused information and guidance on the preparation of EAs based on procedures and format required by the Army under the President's Council on Environmental Quality (CEQ) regulations and Army Regulation (AR) 200-2.

Chapter 5.0 **Environmental Resource Topics.** Provides in-depth analysis, documentation, and compliance guidance for various environmental resource topics that typically require attention during the NEPA analysis process for Army RCI actions. Several infrequently encountered topics are also described.

Chapter 6.0 **Document Review and Processing.** Describes and portrays the mechanics, reviews, and approvals for an Army EA from the early stages of analysis and document development to the initiation of the Army RCI action.

1.3 THE ARMY RESIDENTIAL COMMUNITIES INITIATIVE (RCI)

1.3.1 Overview

The majority of Army family housing does not meet current housing standards. In addition, local communities near many installations do not have enough affordable, quality housing. To eliminate the inadequacies and shortages of family housing, the Army seeks to privatize a portion of its family housing by executing the Army RCI Program.

The Army RCI provides a means for the construction and improvement of family housing and improvement of its operation and maintenance by leveraging assets to gain private sector capital and expertise to operate, maintain, repair, improve, and construct family housing and ancillary supporting facilities.[2]

Congress granted the Department of Defense (DoD) new authorities for privatization transactions involving family housing and ancillary supporting facilities in Section 2801 of the National Defense Authorization Act for Fiscal Year 1996 (Title 10 of the United States Code [U.S.C.], Sections 2871-2885). A copy of the statute is provided in Appendix E. Identified as the "Military Housing Privatization Initiative" (MHPI) in the statute, these authorities open numerous avenues for creative transactions to solve family housing inadequacies and shortages. See Section 4.4.1 of this manual for a thorough list of the authorities now available. In general, they allow for the following:

- Access to private sector capital for new construction and renovation of housing and long-term operation and maintenance. The new authorities grant the Army the ability to offer private developers guarantees and loans, conveyance or outlease of land and facilities, leases, differential payments, and investments.

[2]According to 10 U.S.C. 2871, the term *ancillary supporting facilities* means "facilities related to military housing units, including child care centers, day care centers, tot lots, community centers, housing offices, dining facilities, unit offices, and other similar facilities for the support of military housing." Congress, however, clarified its intent with respect to such facilities in Section 2804 of the National Defense Authorization Act for Fiscal Year 2000. This section amends Section 2881 of the statute and provides that an RCI project "...may not include the acquisition or construction of an ancillary supporting facility if, as determined by the Secretary concerned, the facility is to be used for providing merchandise or services in direct competition" with an exchange or commissary, or any nonappropriated fund (NAF) of DoD for the moral, welfare, and recreation of armed forces members. *[Preparer's Note: Could an RCI project include a merchandise or service activity that locally has not been provided by an exchange or NAF? For instance, if a particular installation currently does not have a bowling alley, could the Development Partner build and operate one?]*

- Exploitation of collateral features, such as authority to build to typical local room patterns and floor areas, to build ancillary supporting facilities (community centers, tot lots, etc.), and to assure payments through soldiers' allotments.

The new authorities exempt all these privatization and transaction-enhancing improvements from certain existing laws:

- The Military Leasing Act (10 U.S.C. 2667)
- The Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471, et seq)
- The Economy Act (40 U.S.C. 303b)
- The Stewart B. McKinney Homeless Assistance Act (42 U.S.C. 11401)

Each Army RCI project comprehensively addresses both the condition and deficit issues affecting family housing at an installation or cluster of nearby installations. Each project is carried out in association with a private sector Development Partner selected through Request for Qualifications procedures pursuant to Part 12 of the *Federal Acquisition Regulations*. Upon selection, the Development Partner and the Army negotiating team work together to create a Community Development and Management Plan (CDMP) for attaining affordable, quality housing and other facilities at an installation. The Army carefully considers the CDMP and may enter negotiations over any of its aspects. Following DoD and Congressional approval of the CDMP, which permits the Army to use the authorities available in the MHPI, the Army and the Development Partner execute the agreement. Any real estate transfers take place after the CDMP is executed. The Development Partner then proceeds to implement the CDMP.

In the typical Army RCI project, an Army installation outgrants land and conveys existing family housing to a private developer. In return for its investment, the private entity collects rent equal to each soldier/tenant's Basic Allowance for Housing (BAH).

1.3.2 Real Estate Concepts

The essence of an RCI project concerns real estate. Description of several basic real estate concepts applicable to RCI projects are provided in the following:

- *The CDMP.* The CDMP, which is proposed by the developer to meet the Army's housing needs and negotiated by the Installation Commander, may result in a contract that sets forth respective obligations. The CDMP will identify all relevant real estate interests that will affect implementation of the RCI project.

- *Leases and sales of real property.* The typical RCI project involves both outgranting of land and sale (conveyance) of existing improvements to the developer.

- *Leasehold.* A leasehold is an agreement that grants exclusive possession and use of a definite and certain parcel of land and/or buildings or other property, or part thereof, for a specified period of time. The lessor grants a leasehold in consideration of a return of rent. A lease, upon which a leasehold is founded, expresses rights and interest in real estate for a specified term and for a specified rent.

  In the context of an RCI project, the Army grants a lease of real property (family housing areas, ancillary supporting facilities, or parcels for new development) to the developer. The lease term could be for 50 years. Instead of money consideration, the Army obtains a promise that the developer will use the property for family housing purposes and in ways that are spelled out in detail in the CDMP. The lease of the underlying land results in the Government's retention of the title, and it guarantees that possession of the real property will return to the United States either at the end of the agreed term or earlier (in the event of a default by the lessee or termination for convenience of the Government).

- *Deed.* A conveyance is the transfer of ownership. Ownership of property in fee represents the largest possible collection of right, title, and interest in an estate.

In the context of an RCI project, the Army could convey existing real estate and/or improvements (i.e., family housing units and ancillary supporting facilities such as a community center) to the developer for use in conjunction with carrying out the negotiated terms of the CDMP. Transfers of these improvements will be either via deed or bill of sale, depending on state legal practices. Installation staff should consult the district engineer real estate specialist for the type of documentation used for transfer of improvements. In addition to a deed or bill of sale, the transfer is recorded on Department of the Army (DA) Form 337, Request for Approval of Disposal of Buildings and Improvements (see Appendix F in this manual).

- *Future liabilities.* In recent decades, environmental issues have taken increasingly important roles in the relationships between lessors and lessees and sellers and purchasers. Determinations of liabilities can often be established in leases and conveyance documents. In order to make such determinations, it is essential that the parties fully understand the environmental conditions of property subject to leasehold or sale. The Environmental Baseline Survey (EBS) serves as the basis for identifying property liabilities (see Section 1.6 in this manual).

1.3.3 Property Conditions and Encumbrances

In most cases, transfer or conveyance of Army property to support the RCI project will be accompanied by the imposition of conditions and encumbrances affecting use of the property. The Army imposes conditions in leases and encumbrances on conveyances in order to advance objectives related to environmental stewardship and protection of human health and the environment, and to foster greater opportunities for success based on sound planning and execution of the RCI. These conditions and encumbrances will be included as terms of the CDMP and will be part of the services provided by and responsibilities of the Development Partner. Under the NEPA process, these conditions and encumbrances are also evaluated as part of the RCI action.

Conditions in leases will appear as clauses in the lease document. Conditions, binding on the Development Partner, reflect the nature of the interest granted. That is, since at the end of the lease term the Army will resume full dominion and control of the property, the Army has a long-term desire

to maintain the property's value as an asset supporting the installation's mission. Toward this end, the Army will routinely impose many lease clauses designed to provide assurance that the property will not suffer irreparable injury. For instance, in accordance with prevailing regulations, the Army will prohibit the storage of hazardous wastes greater than any amount generated in routine operations. The Army will also reserve a right to inspect the property periodically to ensure its safe condition and its proper use in accordance with the terms of the CDMP.

The Army encumbers property it conveys to provide notice to the transferee of certain existing conditions and to limit or control, where necessary, the types of activities that may occur. Consistent with current policies, the Army will provide notice to purchasers of the presence of asbestos-containing materials, lead-based paint, and radon. In appropriate cases (expected to seldom occur), the Army will also provide notice of the presence of unexploded ordnance. These notices will be incorporated into the conveyance documentation or bill of sale as required by law of the jurisdiction where the conveyance occurs. The Army will also identify, when present, the existence of easements and rights-of-way which may affect use of the conveyed property. Finally, the Army may impose affirmatively obligations on the transferee. These may require that the transferee adhere to certain standards imposed by the Army or other entities (e.g., the Installation Design Guide for housing to be renovated, building codes, or zoning). Encumbrances would be in the form of covenants in the lease, deed, or bill of sale and would be binding on the transferee, as well as any subsequent successors or assigns.

For a proposed RCI project site, the RCI NEPA document must address the conditions and encumbrances to be applied, which typically also include allowances for little or no impacts to wetlands, cultural resources, threatened and endangered species, floodplains, surface water and groundwater, and wildlife habitats. Even if the conditions or encumbrances do not apply, because such resources are not present, it is useful to include a statement in the affected environment section documenting the fact that they do not exist at or near the project site. By doing so, the reader is better informed knowing that such important issues have not been overlooked.

1.4 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OVERVIEW

The National Environmental Policy Act of 1969 (NEPA) requires the analysis and documentation of potential environmental effects associated with proposed federal actions. NEPA ensures that environmental factors are considered equally with the technical and economic components of a decision, and that the public is fully informed and appropriately involved in the environmental analysis process.

NEPA requires the proponent to make a definitive statement about the potential environmental effects of a proposed action, adverse effects that cannot be avoided, and alternatives to the proposed action. The analysis must fully disclose the environmental effects of the proposed action and demonstrate that the proponent and the decision maker have taken an interdisciplinary "hard look" at the environmental consequences of implementing the action.

A quality analysis is essential to making quality decisions. Good analysis must build on regulatory compliance, legal sufficiency, appropriate mitigation, provisions for mitigation monitoring, consideration of public concerns, and adherence to appropriate NEPA guidance—all identified and incorporated into the analysis from the start.

The environmental analysis of an RCI project proposal must parallel other decision support processes to help commanders and principal staff officers make sound decisions. It cannot be an "after-the-fact" justification for implementation of decisions already made. Such justification can lead to regulatory agency and public mistrust, the potential for otherwise avoidable adverse effects on the environment, and a court order stopping the action. What the analysis *must* do is inform the leadership, clearly and concisely, of all the potential environmental consequences of the proposed action.

1.4.1 The NEPA Process

The process for implementing NEPA is codified in Title 40 of the *Code of Federal Regulations* (CFR), Parts 1500-1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.*

The NEPA process is designed to facilitate high-quality decision making that is based on a clear understanding of an action's potential for environmental consequences. It is a fundamental management-support mechanism that involves two key aspects. The first, predecision analysis, is a forecast tool that informs the decision maker and also affords the public the opportunity to provide information relevant to the pending decision. The second, postdecision management, is a requirement to measure actual performance against desired goals and objectives.

The NEPA process is accomplished by the following kinds of steps:

- Integrating other environmental requirements into NEPA analyses and decisions
- Operating on the principle of "full disclosure"
- Involving the public
- Seeking and analyzing relevant technical information using a multidisciplinary approach
- Identifying associated direct, indirect, and cumulative effects
- Appropriately documenting analyses, their results, and decisions resulting from them
- Summarizing technical information for the public and the decision maker
- Identifying a preferred course of action after considering realistic alternatives
- Designing and implementing mitigation and monitoring, where appropriate

1.4.2 Implementing Regulations and Guidance

NEPA was signed into law by President Nixon on 1 January 1970. It is a federal statute that requires the identification and analysis of potential environmental effects of certain proposed federal actions before those actions are initiated. NEPA legislated a structured approach to environmental

impact analysis in the planning of federal agency programs and projects. Specifically, it requires that for every proposal for legislation and other federal actions, federal agencies use a systematic, interdisciplinary approach that evaluates the potential environmental consequences associated with the proposed action and considers alternative courses of action.

NEPA also contains specific requirements for informing and involving the public. It is a "full disclosure" law with provisions for public access to and full participation in the federal decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions. The act is premised on the assumption that if federal proponents consider the environmental effects of proposed actions and provide information on those effects to the decision makers and the public, the quality of federal decisions will improve.

From 1973 to 1978, CEQ had guidelines in effect for the preparation of environmental impact analyses. Executive Order 11991 (*Protection and Enhancement of Environmental Quality*) directed CEQ to establish regulations for these studies. In 1978, CEQ solicited extensive public and agency input and developed the regulations in 40 CFR Parts 1500-1508. The Council's goals were to reduce paperwork, to reduce delays, and to produce better decisions based on better analyses. The regulations emphasized that agencies should clearly and concisely present only the most pertinent background information, emphasizing an analysis of real alternatives and issues.

NEPA and CEQ regulations require federal agencies to develop internal implementing procedures to ensure that environmental factors are considered in decision making by using a systematic, interdisciplinary analytical approach. Three CEQ memoranda issued in the early 1980s—*Forty Most Asked Questions*, *Scoping Guidance*, and *Guidance Regarding NEPA Regulations*—have clarified various aspects of CEQ regulations. More recently, CEQ issued a handbook on analyzing cumulative effects, entitled *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997).[3]

[3]CEQ's memoranda and recent handbook can be obtained by calling CEQ in Washington, DC, at (202) 395-5750, or by accessing CEQ web site at http://ceq.eh.doe.gov/nepa/nepanet.htm. Although the cumulative effects handbook does not represent formal CEQ guidance, it does provide useful information on methods and approaches for analyzing cumulative effects as part of the NEPA process.

The Army's implementing regulation for NEPA is AR 200-2, *Environmental Effects of Army Actions*. AR 200-2, which incorporates and implements CEQ and DoD regulations and guidance, does the following:

- Sets forth policies, responsibilities, and procedures for integrating environmental considerations into Army planning and decision making.

- Describes the Army process for preparing an EA or an environmental impact statement (EIS). (See Section 1.4.4 of this manual for an explanation of these terms.)

- Establishes criteria for determining Army actions that may be "categorically excluded" from requirements to prepare either an EA or an EIS.

1.4.3 Integration of Other Environmental Laws and Regulations

The NEPA process does not replace either the procedural or substantive requirements of other environmental statutes and regulations, nor does completing it constitute a *permit* under other laws and regulations. Rather, it addresses them in one place so that the decision maker has a concise and comprehensive view of the major environmental issues and requirements and can understand the interrelationships and potential conflicts among the environmental components of a proposed action. NEPA is the "umbrella" that facilitates project coordination by integrating compliance requirements that might otherwise proceed independently. Examples of other environmental statutes and regulations that are often integrated into the NEPA process are shown in Figure 1-1 and discussed in Appendix A of this manual. Examples of ARs that implement these other laws are AR 200-1, *Environmental Protection and Enhancement*; AR 200-3, *Natural Resources—Land, Forest and Wildlife Management*; and AR 200-4, *Cultural Resources Management.*[4]

[4]Copies of Army regulations can be obtained by accessing the U.S. Army Publishing Agency's web site at http://www.usapa.army.mil/.

National Environmental Policy Act (NEPA)

NEPA is a comprehensive process that provides for the integration of environmental compliance requirements associated with federal actions.

Fish and Wildlife Coordination Act

Endangered Species Act

Clean Water Act

Clean Air Act

National Historic Preservation Act

Resource Conservation and Recovery Act

Executive Orders

- Environmental Justice
- Protection of Children
- Federal Compliance with Pollution Standards
- Floodplain Management
- Protection of Wetlands
- Protection and Enhancement of Environmental Quality
- Protection and Enhancement of Cultural Environment

Other environmental laws and executive orders

Comprehensive Environmental Response, Compensation, and Liability Act

Noise Control Act

Figure 1-1. Integrating Other Environmental Regulatory Requirements Into the NEPA Process

According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively" (40 CFR 1500.2(c)). The purposes of integrating the NEPA process into early planning for Army activities are as follows:

- Ensuring appropriate consideration of regulatory requirements during the NEPA process.
- Eliminating delay and duplication of effort.
- Emphasizing cooperative consultation among agencies before and during development of programs and the preparation of the NEPA analysis.

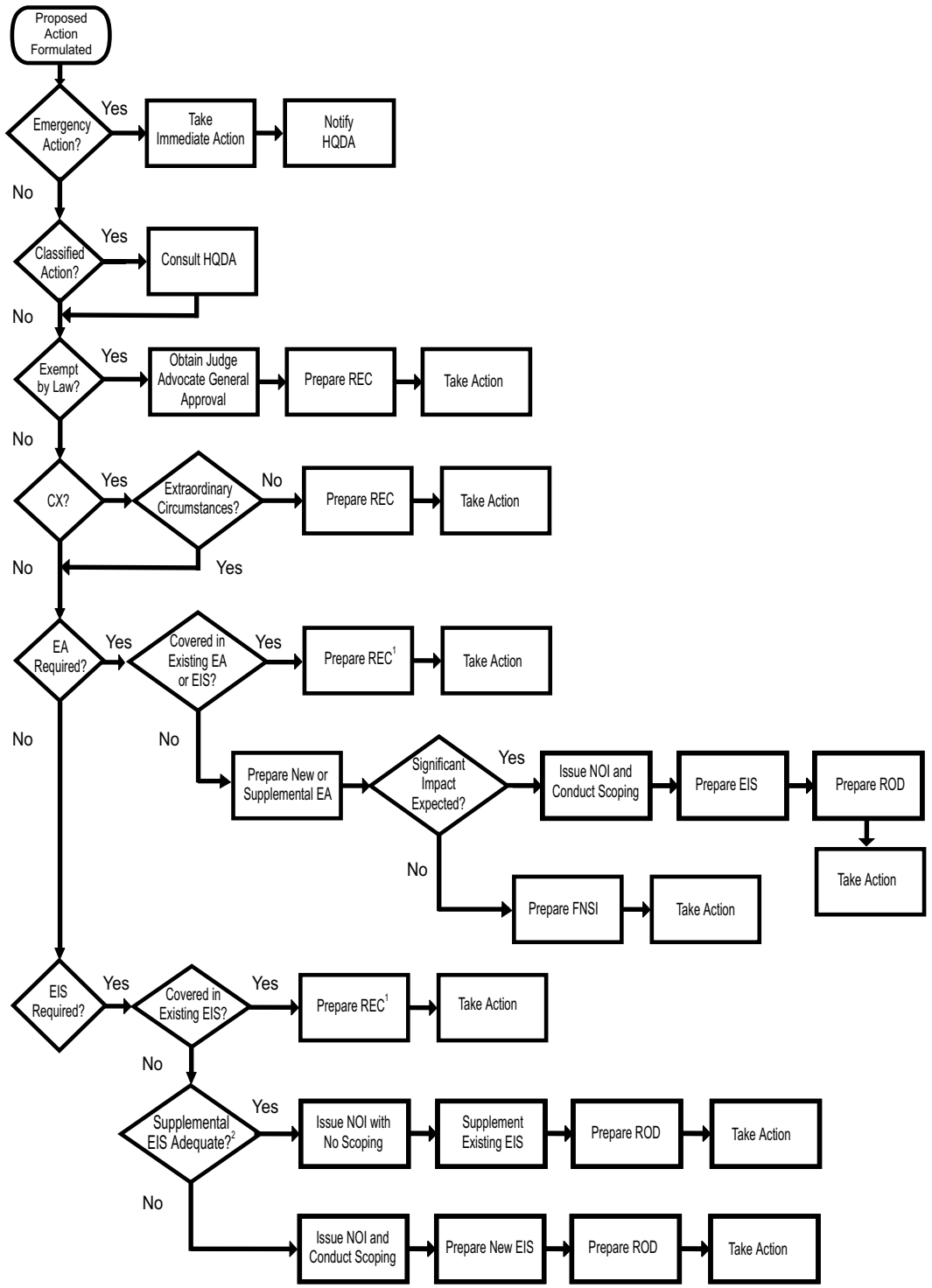
Applying an integrated NEPA process early in Army RCI planning and decision making will result in (1) better decisions, (2) an environmental analysis made more meaningful through the coordinated and focused efforts of all interested parties, and (3) the timely completion of all required environmental analyses.

1.4.4 Basic Components of the Army NEPA Process

The Army NEPA process includes various levels of environmental analysis and documentation, as shown in Figure 1-2. The type of Army action proposed, the environmental issues involved, and other considerations associated with the action determine the level of analysis and documentation required. The basic components of the process (not all of which might apply in a given situation) are summarized in the following paragraphs.

Categorical Exclusion (CX)

A categorically excluded action is an action that has been determined not to have a significant effect on the human environment, either individually or cumulatively, and it does not normally require formal environmental analysis. Every federal agency has a list of such actions. Appendix A of AR 200–2



[1]As a general rule, the existing EA or EIS may not be more than 3 years old (AR 200-2, Section 2-3(e)(1)).
[2]Existing EIS should be reexamined if more than 5 years old (CEQ *Forty Most Asked Questions,* Number 32).

Figure 1-2. Summary of the Army's NEPA Process

contains the Army's list of categorically excluded actions, along with a list of screening criteria used to determine when a CX is applicable. *All* of the screening criteria must be met for the proposed action to be categorically excluded. If any of the criteria are not satisfied, the action requires an EA or an EIS to assess potential effects. (See also Section 4-2(b) of AR 200-2 for discussion on extraordinary circumstances.)

Record of Environmental Consideration (REC)

A REC is not a NEPA document, but an official "decision document" in the Army's NEPA process. It is a written record that an action has been evaluated and falls under the Categorical Exclusion requirements specified in AR 200-2, or that the action has been appropriately analyzed and documented in another NEPA document. A REC should briefly describe the proposed action, provide its anticipated time frame, and explain why further environmental analysis is not needed.

Environmental Assessment (EA)

CEQ regulations (40 CFR 1508.9) describe an EA as a concise public document that provides sufficient analysis of an action to determine whether the action has no significant environmental effects or whether a more detailed analysis is required. Its purpose is to assist the decision maker in understanding the environmental effects of a proposed action and alternatives, and in determining whether any effects are significant and thus warrant the preparation of an EIS. An EA is the type of NEPA analysis most commonly conducted by the Army for actions that require written consideration of the environmental effects of a proposed action beyond the preparation of a REC.

An EA results in one of the following decisions: to prepare a Finding of No Significant Impact (FNSI), to initiate a Notice of Intent (NOI) that the Army intends to prepare an EIS, or to take no action on the proposal. An EA should not be initiated when significant effects are obvious or can be presumed.[5] CEQ regulations (40 CFR 1501.3) allow the Army to initiate the EIS process at any time without preparing (or completing) an EA.

[5]CEQ regulations use the terms *effects* and *impacts* synonymously and interchangeably.

Although Army regulations do not require that draft EAs be reviewed by the public, it is recommended that, except for classified actions, final EAs always be made available to the public for review and comment.

Finding of No Significant Impact (FNSI)

If an EA concludes that the effects of a proposed action would not be significant, a FNSI is prepared to document this conclusion and explain that an EIS will not be prepared. The contents of a FNSI include a brief description of the proposed action and any reasonable alternatives considered, a short discussion of environmental effects likely to result from the action, and a summary of facts leading to the FNSI. Army regulations specify that the FNSI must be made available to the public before initiating the proposed action. Section 4.9 of this manual provides detailed guidance on the preparation of a FNSI.

Notice of Intent (NOI)

The NOI is an official public notification that a formal, usually full-scale NEPA analysis (EIS) is planned for a proposed action. The NOI is published in both the *Federal Register* and local newspapers to advise the public and other entities of the Army's intent. Although normally used for EISs, NOIs can also be used for EAs, particularly those which assess actions of national interest. The required contents of an NOI are specified in CEQ's regulations (40 CFR 1508.22). Further guidance is provided in Section 4.10 of this manual.

Scoping Process

Scoping is the generally formal process of involving others in identifying the issues and resources to be considered for analysis in an EA or EIS. Good scoping is essential to a good analysis. Scoping begins by appropriately involving federal agencies, state and local governments, special interest groups, and the public in identifying issues and concerns.

The scoping process may consist of solicitation of written comments, meetings, or both. Often, the choice of how to conduct scoping depends on time, resource constraints, and the likelihood of controversial issues. Scoping can result in changes, additions, or deletions to the scope, alternatives, and focus of the analysis as initially framed. Army regulations require public scoping for an EIS. Although formal scoping is generally not required for Army EAs, at least one scoping meeting held for the general public is a requirement for EAs that analyze proposed Army RCI projects (see Section 3.2 of this manual for further guidance on conducting scoping).

Environmental Impact Statement (EIS)

An EIS is a detailed study that analyzes the environmental effects of a proposed action and its alternatives and includes an extensive public involvement process. The potential for significant environmental effects or serious public controversy associated with a proposed action is usually the basis for preparing an EIS. Like an EA, an EIS analyzes the effects of the proposed action and alternatives on the natural and socioeconomic environment. It describes the baseline (affected environment) against which effects are evaluated and then identifies potential consequences and appropriate mitigation. An EIS, however, is typically more detailed than an EA in explaining environmental issues and resulting effects. The public is given formal opportunity to comment on the Draft EIS and to review the Final EIS. Following completion of an EIS, a decision on the proposed action is documented with a Record of Decision (ROD).

Notice of Availability (NOA)

A Notice of Availability (NOA) is a formal public notification that an Army environmental document is being made available to other agencies and the public. Published in the *Federal Register,* it is intended to inform the public of the availability of a Draft EIS or the findings of a Final EIS (or of an EA/FNSI of national interest) and to initiate a formal comment or review period. Similar notices for EISs and RODs are also published in local newspapers. In most cases, public notices for EAs and FNSIs are published only in local newspapers and not in the *Federal Register*.

Record of Decision (ROD)

A ROD is a concise public document, issued at the completion of an EIS, that identifies the findings and conclusions reached by the Army in making its decision for a preferred alternative. It summarizes the major issues and considerations, describes the potential effects, documents the decision, and identifies necessary steps (mitigation measures) to lessen the effects on the environment. The ROD, or NOA of the ROD, is published in the *Federal Register*, while similar notices are published in local newspapers.

1.4.5 Other NEPA Concepts Commonly Encountered

Cumulative Effects

CEQ regulations (40 CFR 1508.7) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative effects, therefore, result from the combination of individual effects of multiple actions over time. In the preparation of NEPA documents, cumulative effects must be evaluated along with the direct effects (those which occur at approximately the same time and place as the proposed action) and indirect effects (those which occur later in time or farther removed in distance) of each alternative action. Depending on the location of the proposed action, a proper examination of cumulative effects will often require consideration of the effects from other actions and activities occurring on post as well as off post. (See Section 4.6.2.2 of this manual for further discussion on addressing cumulative effects.)

Significance Criteria

CEQ regulations specify that in determining the significance of effects, consideration must be given to both "context" and "intensity" (40 CFR 1508.27). Context refers to the significance of an effect to society as a whole (human and national), to an affected region, to affected interests, or to just the

locality. Intensity refers to the magnitude or severity of the effect, whether it is beneficial or adverse. The significance of potential direct, indirect, and cumulative effects must be determined through a systematic evaluation of the action, alternatives, and mitigation measures in terms of their effects on each individual environmental resource component (e.g., ecosystems, surface water resources, and regional air quality). Evaluation of significance is typically based on an assumption that the full effect of the predicted condition would occur all at once. In reality, the projected effects likely would be less intense than the maximum and are also more likely to happen incrementally rather than all at once. Thus, actual effects might well be less severe than those predicted and described in the NEPA analysis.

Mitigation

The intention of mitigation is to reduce the adverse effects of an action on the environment. CEQ regulations (40 CFR 1508.20) identify five ways to mitigate environmental effects—avoiding, minimizing, rectifying, reducing or eliminating, or otherwise compensating for an environmental effect. Another mitigation technique used by the Army is the "adaptive management strategy." Mitigation measures that are established in a NEPA document and committed to as part of the decision must be implemented. Depending on the mitigation commitments identified for a particular action, a monitoring and enforcement program might also be required. (Further discussion on mitigation measures and commitments to mitigation is provided in Section 4.6.2.3 of this manual.)

While conducting analyses for EAs, preparers may discover potential consequences that are "significant" and thus might normally require preparation of an EIS. Proponents may then reevaluate their actions and propose further measures to mitigate probable adverse environmental effects. If it is found that such mitigation would prevent a proposed action from having significant effects, the proponent may conclude the NEPA process with a "mitigated EA/FNSI" rather than having to prepare an EIS.

Mitigated EA/FNSI

A "mitigated EA/FNSI" may be produced when, during preparation of an EA, the preparers begin to suspect that the action might cause significant environmental effects. If the preparers can show that the potential effects would be reduced to less-than-significant levels through the addition of appropriate mitigation measures, the EA/FNSI may be completed and no EIS need be prepared. Preparation of a mitigated EA/FNSI typically requires less time and money than preparation of an EIS. For a mitigated EA/FNSI to be considered legally adequate, (1) the EA must show that a thorough analysis of environmental consequences was conducted, that the mitigation measures on which the FNSI is based are specific and project-related, and, with a high degree of certainty, that the potential effects would be reduced to insignificant levels; (2) overt steps must be taken to inform the public of the decision and its basis; and (3) the mitigation measures specified in the EA/FNSI must be fully implemented.

If a proponent cannot convincingly show in an EA that mitigation measures would reduce the effects to insignificant levels, the proponent should prepare an EIS.

Supplementation

A Supplemental EA or EIS contains additional analysis and documentation on a proposed action and alternatives. It is prepared when conditions become substantially altered from the action initially proposed or when changes in alternatives or baseline conditions occur after preparation of the initial EA or EIS. According to CEQ guidance, if such changes occur and the proposal has not yet been fully implemented, or if the original analysis addresses a program currently under way, and the EA or EIS is more than 5 years old (see Figure 1-2), the document should be reexamined to determine whether the changes are sufficient to necessitate preparation of a supplemental EA or EIS (CEQ *Forty Most Asked Questions*, Number 32). Additionally, if circumstances significantly change after public release of a Draft EA or Draft EIS, but before the Final EA or Final EIS has been circulated, supplementing the draft document might be appropriate.

Procedures for preparation, circulation, and filing of a Supplemental EA or EIS are the same as those required for the original document, with the exception that scoping might not need to be repeated for a Supplemental EIS (40 CFR 1502.9(c)(4)). Also, when preparing a supplemental document, it is

important to use those portions of the original NEPA document (through direct incorporation or incorporation by reference, rather than attaching the original document) that are still applicable and have not changed significantly. The preparer of the supplemental EA or EIS can then focus any new data collection, analysis, and documentation efforts on those proposed actions, environmental resources, and resource issues which have changed. Maximizing use of existing information simplifies the overall EA or EIS effort and helps to reduce the size of the document without degrading the adequacy of the analysis or agency/public review (40 CFR 1502.21).

Segmenting and Sequencing

CEQ regulations require that related or connected actions (i.e., actions with a common purpose, timing, effects, or location) be analyzed in a single document (40 CFR 1502.4(c) and 1508.25). Splitting an action into several smaller actions and analyzing them individually is called "segmenting." Segmenting is prohibited because the significance of the environmental effects of an action as a whole might not be evident if the action is broken into its component parts and the effects of those parts are analyzed separately. An example of segmenting would be to analyze separately the environmental effects of utility system improvements that are associated with new family housing projects.

Certain "interim" actions, on the other hand, are a form of "sequencing," which is permissible. Actions that meet all of the following conditions are considered sequencing:

- The interim action does not prejudice the ultimate decision for the program.
- The interim action does not produce an irreversible or irretrievable commitment of resources.
- The interim action is consistent with the reasonable alternatives being considered as part of the broader NEPA analysis.
- The interim action itself is covered by another NEPA analysis.

- The broader NEPA analysis evaluates the cumulative effects of the action.

Proposed interim actions must also be reviewed and the appropriate level of NEPA analysis and documentation applied (e.g., REC/CX, EA/FNSI). Interim actions that are prohibited as segmentation include any that would involve an irreversible or irretrievable commitment of resources or the foreclosure of future options.

1.5 APPLICATION OF NEPA TO THE ARMY RCI

NEPA applies to Army RCI projects. As proponents of RCI projects, installation commanders are responsible to ensure compliance with the requirements of NEPA. The following important points pertain.

- It is expected that, in the vast majority of cases, implementation of Army RCI actions will not result in significant effects on the human environment. Absent extraordinary circumstances, use of an EA for analysis of potential effects, as opposed to using an EIS, will be appropriate. This manual focuses solely on the preparation of EAs.

- Analysis and documentation efforts for the RCI EA begin after selection of the Development Partner and at the same time the CDMP process begins.

- For the purposes of NEPA, the critical decision-making juncture occurs at the time the Installation Commander and Development Partner complete a CDMP for approval by DoD. In accordance with AR 200-2, the Installation Commander may not execute the CDMP until after a FNSI has been issued (see Section 4.9 of this manual) or, if necessary, following completion of an EIS and ROD.

- It is anticipated that each RCI project will involve leasing of Army property to the Development Partner to support the CDMP. AR 405-80 (*Management of Title and Granting Use of Real Property*, dated 10 October 1997) requires that the Installation Commander prepare a Report

of Availability (ROA). Moreover, AR 405-80 requires evaluation of the environmental effects related to leasehold use of the property. Guidance contained in regulations issued by CEQ urges the integration of various documentation requirements to the maximum extent feasible. Consistent with that guidance, the Installation Commander may rely on his or her RCI EA to support the decision to make property available as proposed in the ROA.

- Although the RCI EA prepared for an installation analyzes the implementation of those actions specified in the CDMP, it is likely that over the span of the lease agreement with the Development Partner (e.g., 50 years), circumstances will occur later on that require additional and appropriate NEPA analyses to be done. For example, in order to maintain quality standards for housing over a number of years, further demolition, renovation, and construction may be required, or other ancillary facility improvements may be needed. Other factors that could potentially affect family housing later on include changes in installation mission, population, and technology. Depending on the action and the resulting impacts, a REC/CX, EA/FNSI, or EIS/ROD might be required.

1.6 RELATED RCI DOCUMENTATION ACTIONS

Implementation of an RCI project involves preparation of several documents which, for the most part, relate primarily to real estate. NEPA document preparers will often rely on these documents for information to support the analysis. Discussion on specific documents prepared as part of an RCI project is provided in the following paragraphs.

Report of Availability (ROA)

Requirements for an ROA are described in AR 405-80. The ROA identifies the parcels or improvements potentially available to the Development Partner for consideration in the CDMP. The resulting actions identified in the CDMP are then analyzed in the appropriate NEPA document. Among all the documents ultimately prepared for an RCI project, an ROA is one of the earliest to

be started. (See Appendix G for instructions on preparing an ROA. See also Section 3.1.4 for discussion on advanced planning for an ROA.)

The Installation Commander prepares the document and forwards it to the MACOM for approval. The approval action is embodied in a Determination of Availability (DOA), which is also prepared by the installation and forwarded to the MACOM with the ROA. The MACOM sends the ROA and DOA to Department of the Army, Assistant Chief of Staff for Installation Management, Plans and Operations (DAIM-MD) for review and signature of the DOA by the Deputy Assistant Secretary of the Army for Installations and Housing (DASA(I&H)).

AR 405-80 requires that an ROA be accompanied by NEPA analysis of potential environmental effects. Consistent with CEQ regulations, the NEPA analysis of implementing an RCI project can be combined with, and serve the purposes of, the ROA NEPA compliance requirement. Where the Installation Commander intends to use this approach of combined documentation, submission of the ROA to the MACOM should be annotated accordingly.

The obvious driving consideration of an ROA is the amount of land and, possibly, the array of improvements necessary to achieve the purposes of an RCI project. Where an installation has a known shortfall in adequate housing, new construction may be required. When new construction cannot be accommodated within the confines of existing housing areas (e.g., by demolition and construction at a higher density), the installation staff must determine the amount of additional land to be provided to the developer. There are three factors that make the substantive content of an ROA critical to an RCI project. They are as follows:

- *Foreshadowing of environmental issues.* The selection of parcels to support RCI actions must avoid obvious "environmental problems" that would unnecessarily increase costs to both the Army and the developer. Planning to site a new neighborhood on top of an old landfill, too close to a range, within an airfield hazard area, or generally in an area having a high probability of archeological resources only invites subsequent disapproval of the selection. In framing the choice of parcels, high consideration should be given to avoidance of having to make difficult or costly management choices later. As a general rule, property having the least history of known

presence of environmental threats is likely to provide the greatest returns in terms of resident health and safety.

- *Attractive site as a function of RCI success.* The Installation Commander and developer should share a common objective: the availability of land that, upon development, will have the greatest "draw". Maximum occupancy rates are critical to the developer's cash flow and ability to provide optimal support to the Installation Commander's overall RCI objectives.

- *Shaping land use patterns.* Consideration must be given to adjacent and future land uses. The installation Master Plan is the starting point for lease parcel selection. Conversion of land use designations is permissible but should be undertaken only upon full consideration of all ramifications to land uses across the entire installation. The typical term of RCI projects may be 50 years.

Environmental Baseline Survey

An EBS is used to record the environmental condition of Army-controlled property prior to grant of a lease. Prepared during the ROA process as a supporting document, it informs the Installation Commander and potential lessee of known environmental conditions, and it serves as the foundation for Findings of Suitability to Lease and to Transfer.

Preparation of an EBS is prescribed by AR 200-1. In light of their roles as reviewers, regulatory agencies are provided notice of the commencement of an EBS. (See Section 3.1.4 for discussion on advanced planning for an EBS.)

The central portion of an EBS is the investigation to reveal potential environmental hazards. Topics addressed routinely extend to topography, soils, geology, hydrology, medical waste, polychlorinated biphenyls, asbestos-containing materials, radon, lead (in paint, soil, or drinking water), urea-formaldehyde foam insulation, hazardous substances and wastes, solid waste, on-site above ground and underground storage tanks, storm water drainage, unexploded ordnance, noise potential, air quality, radioactive materials, wastewater treatment, and septic tanks. An EBS should address an

entire project site, the entire property proposed for use in implementing an RCI project. Thus, it should evaluate environmental conditions at both existing housing areas and parcels proposed for new construction and other RCI-related actions.

Finding of Suitability to Transfer and Finding of Suitability to Lease

The primary purpose of a Finding of Suitability to Transfer (FOST) is to document the Army's determination that specific property is environmentally suitable for transfer. The FOST process was developed to meet the statutory and regulatory requirements associated with transferring federal real estate. A FOST must demonstrate that property is either uncontaminated or that all necessary remediation has been completed or is in place and operating properly and successfully. These demonstrations are required by CERCLA section 120(h) which obligates the Army to include a covenant (promise) in the deed that all remedial action necessary to protect human health and the environment has taken place. The Army's deed must also notify the transferee of the type and quantity of hazardous substances stored, released, or disposed of on the property and a description of any remediation action taken.

The primary purpose of a Finding of Suitability to Lease (FOSL) is to document the Army's determination that property is environmentally suitable to be leased. Suitability refers to there being a use that does not pose an unacceptable risk to human health and the environment and that will not interfere with any existing or planned environmental restoration activities. The FOSL process arose when Congress directed DoD and EPA to consult on procedures to ensure that BRAC property was suitable to lease to private parties.

The FOST/FOSL process focuses on environmental contamination and resultant suitability of property for intended uses. The determinations are based on an Environmental Baseline Survey prepared specifically for the contemplated transaction. Thus, a FOST or FOSL spotlights the usual suspects: hazardous substances, petroleum products, PCBs, asbestos, lead-based paint, radiological sources or contaminants, radon, and unexploded ordnance. The FOST/FOST documents are not intended to address historic preservation, endangered species, or other non-contaminant issues typically related to the environment arena.

Each FOST and FOSL is unique because of the wide variety of circumstances that may characterize the property and its future uses. Correctly expressing the facts and Army's determinations in a FOST or FOSL requires attention to detail and consultation with legal counsel. In all instances, issues concerning the content of an installation's RCI FOST or FOSL should be directed to legal counsel for guidance.

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CHAPTER 2.0:
ROLES AND RESPONSIBILITIES

This chapter contains information on the roles and responsibilities of participants involved in the Army RCI NEPA process. It addresses execution roles and responsibilities and provides technical assistance to manual users by indicating where they can obtain guidance or specific action. It also helps put the initiative's importance in an appropriate perspective.

2.1 Proponency for RCI Projects

The Installation Commander represents the proponent for privatization of family housing at their installation. Subject to various RCI project element approvals by higher headquarters (e.g., approval of the ROA), the Installation Commander is also the ultimate decision maker for implementation of the Army RCI.

As the proponent for implementation of an RCI proposal, the Installation Commander (or his/her designee) is also responsible for preparing the requisite NEPA documentation. To support the RCI proposal, the Commander should be able to obtain the necessary NEPA analysis and documentation support from his or her own installation's Environmental Office, the MACOM's Environmental Office, or from the U.S. Army Corps of Engineers (USACE) District Office.

2.2 Key Participants at the Installation Level

Installation participation and coordination is central to the NEPA process. The Installation Commander and his/her staff hold historical data and an understanding of the environment in and around the installation, and they are aware of the critical environmental issues and public concerns. They also share responsibility for the protection of human health and the environment, for the sustainable development and use of the natural and cultural resources entrusted to them, and for working with neighboring communities on the stewardship of resources of regional importance.

Although internal Army installation organizations vary, the general structure of NEPA responsibilities at installations is as follows:

Commander. In addition to being the likely proponent for RCI projects, the Commander responsible for installation operations is typically the final decision authority for actions on his or her installation and is responsible for ensuring that all activities on the installation, as well as Army actions conducted outside the installation, are in compliance with NEPA and other environmental policies and procedures.

Installation Privatization Office. This is a special staff office established to support the Installation Commander's execution of the RCI program.

Directorate of Public Works (DPW). The DPW is the Commander's key staff directorate for the management, operation, and maintenance of housing, real property accountability, and installation master planning. The Environmental Office generally falls within the DPW Organization as does the Installation Real Property Officer, Housing Officer, and the Installation Master Planner. As such, the DPW plays a major role in the preparation of the NEPA document. The Installation Real Property Officer, in coordination with the Housing Officer in the DPW, works with the USACE Real Estate Office to prepare the ROA. The DPW conducts the review of Army-controlled real property to identify any such property which might be made available for use for new construction. The Master Planner and the DPW staff are responsible for reviewing site plans for those NEPA analyses which involve new construction or modification of existing facilities on the installation and, in some cases, for similar actions conducted off post. This responsibility includes integrating the conducting design sufficiency reviews, such as for changes to existing drainage flows at proposed RCI construction sites. Depending on project requirements, the DPW might also be responsible for implementing and/or monitoring certain mitigation measures.

Environmental Office. The installation Environmental Office acts on behalf of the Commander in ensuring that the installation satisfies all substantive and procedural environmental requirements. For RCI projects, expected NEPA-related responsibilities of the Environmental Office may include (1)

managing or supporting preparation of the RCI EA; (2) reviewing the RCI EA and other project documents for technical sufficiency and accuracy; (3) providing preparers of the RCI EA with technical information on environmental conditions at the installation; (4) representing the installation in coordination and consultation with regulatory agencies; (5) supporting the development and execution of mitigation plans, and the monitoring of mitigation efforts; (6) supporting the overall public involvement efforts, in coordination with the Public Affairs Office (PAO); and (7) coordinating installation NEPA requirements and the staffing of the RCI EA within the installation's MACOM.

Public Affairs Office (PAO). The PAO is the official spokesperson for the installation. It is not advisable for anyone outside the PAO to provide information directly to news media or the local community regarding official Army business. In support of RCI project NEPA studies, the PAO assists the Installation Commander and Environmental Office in the preparation of press releases, public notices, decision documents, reports, and other information, and also handles the dissemination of such information to local media, local officials, and citizen groups. The PAO helps in the planning, coordination, and conduct of any public meetings or hearings for the installation. The PAO is responsible for responding to queries from the public and news media about project and public meeting information. In addition, the PAO sometimes serves as the point of contact for the receipt of comments on NEPA documents.

The preparer of the RCI EA and the installation Environmental Office should work closely with the PAO to ensure that all information released to the public is accurate, appropriate, and timely. The PAO should review all draft documents. A record of all press releases, public meetings or briefings held, queries answered, and coverage in print media, as well as summaries of transcripts of electronic media reports, should be maintained by the PAO.

Staff Judge Advocate (SJA). The installation SJA Office is responsible for advising the Commander and installation staff on legal issues, and for reviewing NEPA documents for legal sufficiency. The purpose of the legal sufficiency review is to ensure that legal aspects of the NEPA process have been addressed. A legally sufficient document is one that procedurally complies with CEQ and Army regulations and published policies, and identifies and analyzes all relevant issues and

conditions. A legally sufficient NEPA document must accomplish the two goals of NEPA—to provide for informed decision making by the Army and to disclose to the public the environmental effects of the proposed action and alternatives. Legal counsel must ensure that from a legal perspective, the document clearly identifies and analyzes the proposed action; reasonable alternatives; effects associated with the proposed action and alternatives, including cumulative effects; and means to avoid or minimize adverse effects (mitigation measures).

The SJA Office also interprets NEPA and CEQ regulations and provides information on which agencies have legal jurisdiction over the proposed action or have special expertise. Specific legal issues, such as compliance with the Clean Air Act, the Endangered Species Act, and other statutes and regulations should also be addressed in coordination with the SJA Office.

Safety Office. The Safety Office (or equivalent) is responsible for reviewing environmental documentation for proposed actions to ensure public and occupational health and safety issues are accurately and adequately addressed. This office also assists in the early identification of health and safety issues, in coordination with the installation Environmental Office, and monitors their resolution.

Director of Contracting. The Director of Contracting is responsible for advising the Commander and installation staff on contracting issues related to RCI privatization.

Director of Resource Management. Director of Resource Management is responsible for advising the Commander and installation staff on program and budget resources for real property actions.

Other Installation Offices, Directorates, and Tenants. Other installation offices and directorates might be required to provide review and comment on the RCI EA. Generally, an office becomes involved when the NEPA study relates to its responsibilities as an office. For example, the Army Air Operations Directorate would be included in the NEPA process for any proposed RCI-related actions to occur within the aircraft accident potential zone. As necessary and appropriate, any other offices not previously discussed should assist in the early identification of environmental

issues related to their respective functional areas. Other organizations that might be involved include the Army Air Force Exchange and Department of Defense schools or locally operated schools located within housing areas. In addition, they should apprize the installation Environmental Office of any potential environmental compliance problems. Depending on project requirements, other installation offices might also need to participate in the implementation and/or monitoring of certain mitigation measures.

2.3 Other Key Participants

The following agencies and officials participate in executing the Army RCI. These offices provide policy, oversight, and support in executing housing privatization actions for the Army.

Assistant Chief of Staff for Installation Management (ACSIM). ACSIM is the Army Program Manager for the RCI. ACSIM has assigned RCI execution to the USACE.

Major Army Command (MACOM). MACOMs provide oversight and assistance to their subordinate installations. In conducting NEPA analyses of RCI projects, MACOMs will participate in document reviews and approvals and, in some cases, may require co-signing of final EAs. MACOMs might also have NEPA requirements different from or more specific than those defined here.

U.S. Army Corps of Engineers (USACE). USACE, at ACSIM assignment, is responsible for execution of the Army RCI. Major responsibilities carried out by USACE's Director of Military Programs include managing execution of the Army RCI; developing RCI policies; establishing and coordinating an Army RCI Management Plan; performing all USACE Washington-level program and project coordination; developing a funding plan and obtaining program funding from ACSIM; providing tasking and funding to Field RCI Teams; providing oversight and direction to Field RCI Teams; participating in project formation, solicitation development, source selection, and contract execution; providing financial expertise to RCI projects, in coordination with the Competitive Sourcing and Privatization Office (CSPO); and negotiating and insuring execution of real estate documents.

Also, as an option in supporting MACOMs and installation commanders, USACE District Offices can often perform the NEPA analysis and documentation requirements needed for a particular RCI project.

USACE Real Estate Office. A key partner in the execution of the RCI process is the USACE Real Estate organization from the Headquarters USACE Real Estate Directorate down to the District Real Estate offices. The Real Estate Office is responsible for verifying property boundaries and ownership for those NEPA analyses which involve leases or conveyances. It is also responsible for preparing and reviewing lease agreements for those NEPA analyses which involve the proposed use of Army property. These responsibilities include participating in coordination with other government or private landowners regarding planned use of their property. The Real Estate Office is the proponent for the assembly, staffing, and coordination of the ROA, which incorporates the EA as an exhibit. The ROA for RCI sites will be forwarded to the office of the DASA(I&H) for concurrence; thus, the EA must endure layers of review.

The Assistant Secretary of the Army for Installations, Logistics, and Environment (ASA(IL&E)). The ASA(IL&E) provides overall policy and program direction for housing programs and is the approval authority execution of leases and conveyance of property.

The Office of Management and Budget (OMB). OMB issues budget scoring decisions, required by the Credit Reform Act, for each housing privatization project and approves the subsidy rate and subsidy cost payments for each direct loan or loan guarantee. OMB also approves project allocations. This approval requires a 15-day notification and waiting period.

Deputy Under Secretary of Defense for Industrial Affairs and Installations (DUSD(IA&I)). DUSD(IA&I) approves all initial projects executed under the authorities provided in the 1996 Defense Authorization Act. DUSD(IA&I), in coordination with the DoD General Counsel and the Under Secretary of Defense (Comptroller), approves all solicitation documents and contracts to be executed under the authorities. DUSD(IA&I) is also responsible for the Secretary of Defense's

annual reports to Congress on the effectiveness of the housing privatization initiative. Additionally, DUSD(IA&I) issues guidance on how the capital cost of a project is determined.

Under Secretary of Defense (Comptroller) (USD(C)). USD(C) is responsible for establishing and maintaining policies and procedures for administrative control of housing privatization funds. USD(C) also administers and subdivides funds available to the Family Housing Improvement Fund (FHIF) and subsidiary accounts. Prior to each fiscal year, USD(C) enters into agreements with the Treasury on the amount of borrowing authority and associated terms for the Direct Loan and the Guaranteed Loan Financing Accounts of the FHIF. USD(C) may request additional borrowing authority if it becomes necessary during the fiscal year.

Office of the Deputy Comptroller (Program/Budget) (ODC(P/B)). The Military Construction Directorate, in the ODC(P/B), submits to the appropriate congressional subcommittees written notice and justification for the transfer of FHIF funds. ODC(P/B) also issues the Fund Authorization Documents for all approved projects.

Defense Finance and Accounting Service (DFAS). DFAS is responsible for accounting, debt management, disbursing, collecting, reporting, and other required financial services for the FHIF. DFAS also manages repayment of direct loans to the Treasury.

Competitive Sourcing and Privatization Office (CSPO). The Secretary of Defense established the CSPO (formerly known as the Housing Revitalization Support Office) in October 1995, with each Military Service having representation on the CSPO staff. CSPO is responsible for managing the FHIF, providing DoD policy and guidance on privatization, coordinating implementation of the new authorities, sponsoring projects through OSD for review and approval, and sharing information, resources, and lessons learned with each of the Services.

CSPO is responsible for preparing FHIF budget estimates and justifications as part of the requirements for annual reporting to Congress. CSPO works with ODC(P/B) to determine the amount required in direct loans for each fiscal year and the amount needed for financing direct and

guaranteed loans. Additionally, CSPO, in conjunction with ODC(P/B), obtains budget scoring decisions for each project from OMB.

CSPO acts as a facilitator and copartner with the Services in developing, soliciting, evaluating, and obtaining DUSD(IA&I) approval for privatization projects. CSPO works with the Military Services to evaluate potential privatization candidates and to ensure the new authorities are adequately tested in a variety of situations. Initially, CSPO also provides ongoing technical and financial support as a member of the solicitation and source selection team and ensures appropriate involvement of the USD(C) and DoD General Counsel.

The U.S. Congress. Congress provides oversight mainly through four committees—the Senate Appropriations Committee, the Senate Armed Services Committee, the House Appropriations Committee, and the House Arms Services Committee. Other committees may need to be involved, depending on the ancillary supporting facilities and other development derived through the RCI. These committees receive reports pertaining to pending contract solicitations and conveyance or lease of government-owned property or facilities involved in the RCI. These committees are also notified prior to FHIF transfers.

CHAPTER 3.0:
PLANNING AND INITIATING A NEPA ANALYSIS

3.1 PROJECT PLANNING

The first step in planning an Army RCI NEPA analysis is mapping out, in general terms, what activities are likely to occur and organizing resources to accomplish the work. To ensure that adequate time and resources are allocated to the analysis, an initial decision on the appropriate level of analysis and documentation must be made,[1] a well-defined description of the proposed action and alternatives (see Sections 4.4 and 4.5 of this manual, respectively) must be developed, and the scope of the analysis must be determined. Having this information, as well as the desired implementation date for the proposed Army RCI action, the Installation Commander, or his or her designee, can prepare a plan for an analysis that will support project schedules and other mission requirements.

This section identifies several major steps that occur early in the NEPA process. Familiarity with the elements of the NEPA process discussed in this section will permit those responsible for conducting the analysis to make intelligent, well-planned resource allocations, develop a workable schedule, and start the NEPA analysis process in the right direction. The material addressed in this section is only the initial part of the overall task. Data gathering, impact analysis, document preparation and review, and other management tasks must also be initiated, supervised, and completed (see Chapters 4.0, 5.0, and 6.0 of this manual for discussions on these requirements).

3.1.1 Developing a Management Plan for NEPA Analysis

Planning for analysis and document preparation usually begins with the development of some form of a process management plan. The Installation Commander will usually direct the installation

[1]Depending on the proposed action and related issues, an Army NEPA analysis can require a CX/REC, an EA, or an EIS. For purposes of this manual in supporting Army RCI actions, it is assumed that an EA will serve as the appropriate level of initial NEPA analysis at most installations. Depending on analysis results, an EIS could be required.

Environmental Office to prepare the plan, but he or she may also assign it to another office given responsibility for conducting the NEPA analysis and document preparation. A management plan can serve as a guide for the entire RCI EA process by establishing the responsibilities, methodologies, schedules, and procedures to guide the effort. As a coordination tool, it also helps to build team support with other offices and agencies involved in the effort. The suggested content of a management plan is outlined below. Whether or not a formal, written plan is developed, acquiring the information outlined is essential for the successful completion of an EA and for the avoidance of later challenges that could result in project delays.

- *Organizations, Roles, and Responsibilities.* In addition to identifying the name, address, and phone numbers for each organization's point(s) of contact, the roles of all organizations involved in the effort should be clearly defined. This would include describing their responsibilities in supporting the environmental analysis and document reviews, and identifying signatory authorities for document approval.

- *Task Description and Schedule.* A work breakdown structure (or comparable management tool) should be developed and explained. A milestone schedule, keyed to task descriptions, should display, as a minimum, time periods for data collection, agency consultation, preparation of draft and final documents, document reviews, target dates for publishing public notices, and the timing of any other public involvement activities.

- *Analysis Methodologies.* This section should present a preliminary listing of the environmental issues and other topics to be examined and a brief description of the methodologies to be employed in the analysis. If the use of specialized analytical tools (e.g., air quality, noise, or socioeconomic models) is anticipated, those tools or methodologies should be explained.

- *Public Involvement.* All public involvement, either planned or anticipated, should be discussed. This would include use of public notices and announcements (e.g., newspaper advertisements and newsletter mailings), details on any public meetings, the management and coordination of public comments, and the handling of any news media inquiries received.

- *Description of the Proposed Action and Alternatives.* One of the most critical components of the management plan is a description of the proposed action and alternatives (DOPAA), which represents much of the front-end portion of any EA. The DOPAA contains a statement of the purpose of and need for the proposed action. It also describes the proposed action and associated activities, including alternatives to the proposed action, to the extent that they are understood at this early stage of the process. Not only will the DOPAA ultimately facilitate development and preparation of the EA, but it will also help in early coordination with other Army offices and outside agencies (federal, state, and local), serving as a basis for formal or informal scoping (see Section 3.2.1 of this manual). Because the initial version of the DOPAA is almost certain to change before preparation of the first draft of the EA, consideration should be given to preparing it in draft or outline form and circulating it to selected reviewers to obtain their "buy-in" and to avoid unnecessary revisions to the document later on. In developing the DOPAA, note that it should not assume a life of its own, but should be designed for easy integration into the NEPA document. Detailed discussions on development of the individual sections of a DOPAA, specific to Army RCI actions identified in the CDMP, are provided in Sections 4.3 through 4.5 of this manual.

- *Appendices.* Other information that should be contained in the management plan includes an outline of the RCI EA to be prepared, a brief description of existing technical and environmental documentation on the project and the project location (with known or suspected relevance to the effort), and a listing of any major unresolved issues pertinent either to the DOPAA or to the analysis and document preparation effort.

In most cases, a management plan such as this will be prepared by the organization or contractor tasked to prepare the NEPA document, with considerable participation and oversight by the Installation Commander. Development of the plan would require input and assistance from the installation Environmental Office, and possibly from the MACOM Environmental Office as well.

In addition to those issues to be addressed in the management plan, other issues that must be considered in the early planning for an EA include the following:

- Personnel to accomplish the analysis and document preparation (i.e., in-house staff or contract support).

- Availability of the analysis and documentation team members and reviewers (i.e., consideration for participants being away on temporary duty, vacation, and holidays).

- Time frames dictated by the proposed action, the NEPA process, or data/model analysis requirements.

- Budgetary constraints and requirements.

3.1.2 Obtaining Analysis and Documentation Support

Environmental analyses and documentation can be prepared by any organization or team with the expertise to address all requirements adequately. They should never be prepared by a single person without input and consultation from appropriately knowledgeable persons from relevant scientific and technical disciplines. NEPA specifically requires that environmental analyses be prepared using an interdisciplinary approach that ensures integration of both the natural and social sciences (40 CFR 1502.6). The installation or MACOM environmental office and the USACE District Office will usually have the relevant expertise to conduct such analyses or have access to it. In all cases, installation Environmental Office staff should be involved in reviewing documents and participating in the public involvement process.

3.1.3 Allowing Time for Preparation

It is the Installation Commander's responsibility to allocate sufficient time to conduct the NEPA analysis for proposed RCI actions. Failure to anticipate NEPA's procedural requirements and time lines can result in delays that adversely affect the project or fiscal resources and, in some cases, force modification of the proposed action.

Differences in the nature of proposed actions, their complexity, and the availability of data often influence the amount of time required to complete analysis and documentation. The NEPA statute, CEQ regulations, and AR 200-2 impose certain mandatory steps and minimum review periods for specified aspects of the NEPA process that affect all proposed actions. For instance, a FNSI from an EA typically must be made available for public review for a minimum of 30 days. If the NEPA documentation is to be prepared by contractors, additional time might be required for completion of contract solicitation, award, and administration.

Preparation and review of documents directly affect processing time lines. Multiple document iterations and intermediate reviews can lengthen the time line. Additional time must be allocated when there are numerous reviews by internal or external offices and agencies (e.g., other DoD offices and the U.S. Fish and Wildlife Service).

Depending on the complexity of the proposed Army RCI action, the EA process may take 6 to 12 months. Army policy is to establish a schedule that will ensure completion of the document in a timely and cost-effective manner. A schedule based on an approximate 11-month time frame is provided in Table 3-1 as an example of how the process is organized. This schedule assumes that the action is not controversial. The milestone events indicated must occur regardless of the schedule.

Table 3-1
Sample Time Line for an RCI Environmental Assessment

Milestone	Calendar Days from Project Initiation
Initiate RCI EA Process	0
Hold Kickoff Meeting / Initiate Coordination for Development of the CDMP	10
Complete Working Draft Description of Proposed Action and Alternatives (DOPAA)	40
Conduct Public Scoping Meeting	60
Complete Final Draft DOPAA	100
Complete Draft EA / Begin Staffing Within Installation and MACOM	160
Complete Staffing of Draft EA Within Installation and MACOM	200
Complete Final EA and Draft FNSI (if applicable) / Begin Staffing Within Installation	230
Complete Staffing and Approval of Final EA and Draft FNSI Within Installation	270
Publish and Distribute Final EA and FNSI / Begin Public Review Period	300
End 30-Day Public Review Period	330

require review cycles and coordination times other than those shown. In addition, other factors can

In some cases, the installation's MACOM, HQDA, or other organizations outside the Army might cause a NEPA document schedule to change dramatically, including slippage in review times, lack of an available environmental baseline, and changes in elements of the DOPAA.

When the FNSI has been completed, it must be made available locally for a minimum 30-day public review period. No action, other than planning on the RCI proposal, may be taken during the public review period. Unless comments are received within the 30-day public review period, which would cause the analysis to be reopened, the proposal may proceed. Under certain circumstances specified in Section 2-6(b)(2)(b) of AR 200-2, the 30-day public review period can be reduced, with MACOM approval, to no less than 15 days.

3.1.4 Advanced Planning for Related Actions

As stated earlier in this manual (Section 1.4.3), NEPA, often referred to as the umbrella law, requires the consideration of all other relevant laws, issues, and conditions. Many of these laws and issues proceed independently of the NEPA process according to their own time line requirements but must be included in the NEPA analysis and documentation process. With proper advance planning, these issues can be incorporated and evaluated without delaying the NEPA process. Otherwise, they have the potential to become time controlling factors and could delay the entire installation RCI project.

The purpose of this section is to emphasize the need for the RCI NEPA document preparers to identify these issues early and, in coordination with other installation staff functions, to develop strategies to avoid delays. The NEPA document preparers will work closely with the RCI Project Office established by the Installation Commander to oversee and coordinate the RCI project. Highlighted below are three broad categories that present classical issues having potential to delay the RCI project. They are noted here as key examples to encourage document preparers to work with appropriate installation staff personnel to develop an advance planning strategy for the specific installation being examined.

- *Real estate actions.* Anticipating the RCI realestate requirements early on and providing this information as it becomes available will allow the NEPA process to proceed on the fastest possible track. Prepared by the Installation Commander, the ROA is the formal identification of real estate assets, including facilities and property boundaries, to be addressed in the CDMP. (See Section 1.6 for a description of the ROA. Instructions for preparing an ROA are also provided in Appendix G of this manual.) In accordance with AR 405-90 (*Disposal of Real Estate*), the Installation Commander must also prepare DA Form 337 (see Appendix F of this manual) to record the transfer of buildings and to maintain accountability of facility improvements. These documents are critical to the RCI project because they provide the foundation for determining which property and assets on an installation will be available for use by the Development Partner. Because these documents also provide focus for where and how the NEPA analysis will be conducted, they are at the heart of the NEPA process and are a key factor in controlling the RCI project timeline.

- *Property conditions.* As previously described in Section 1.6, the EBS documents the historical and current conditions of property which have been subjected to releases of hazardous substances and contaminants. Because the EBS supports preparation of the ROA, it is crucial that the Installation Commander initiate an EBS as soon as property proposed for the RCI project is identified and before a Development Partner has been selected. Even in its early draft document stages, the EBS will inform the Installation Commander and potential lessee of known environmental conditions, and support the NEPA analysis in identifying environmental issues, particularly those which may be of major concern.

- *Protection of resources.* To ensure the protection of threatened and endangered species and cultural resources, the RCI NEPA process must be integrated with the respective procedural requirements established under Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA). Satisfying these procedural requirements can often require weeks or months of interagency coordination and consultation, depending on the extent of potential impacts on such resources. By conducting early investigations to determine the presence of such resources within the project area and by initiating early

coordination with the responsible resource agency(ies), installation staff can ensure having greater opportunity to modify RCI project activities and develop appropriate mitigation plans in order to avoid or minimize potential impacts on resources or possible delays to project schedules. Specific actions required in addressing ESA Section 7 and NHPA Section 106 requirements are described in Sections 5.7 and 5.8 of this manual, respectively.

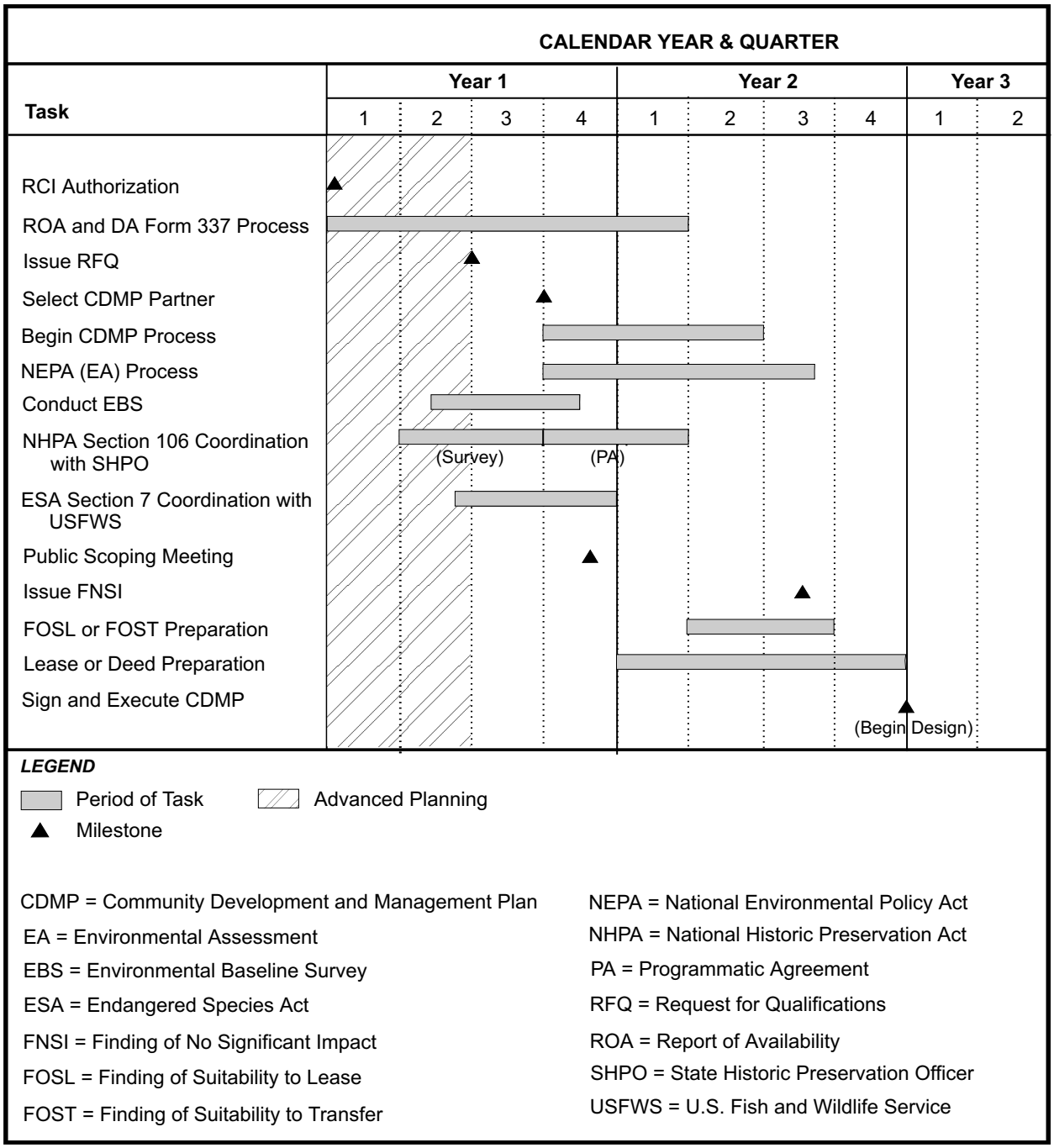
Along the continuum defining RCI project activities, two chief events are the selection of the Development Partner based on the RFQ and the completion of negotiations on the CDMP. Completion of the related activities is necessary to support both events. At a minimum, the foregoing actions should be initiated and possibly in draft form not later than the time the Installation Commander releases the RFQ, and they should be in advanced stages by the time negotiations on the CDMP begin. Completion of the related activities is also necessary to support the NEPA analysis. Thus, the NEPA document preparer must, in coordination with the RCI Project Office, take an active role in defining work to be done, identifying time lines and milestones, and monitoring the progress being made on the related actions. Figure 3-1 shows general lead times and time frames for NEPA (EA) analyses and related actions for an RCI Project that would culminate in an agreed-upon CDMP within 2 years from the time RCI project authorization is received.

3.2 SCOPING AND ISSUE IDENTIFICATION

3.2.1 Scoping Process

Scoping is an early and open process for actively and constructively bringing outside agencies (federal, state, and local), organizations, and the public into the NEPA process; determining the scope of issues to be addressed; and identifying the major issues related to a proposed action. A formal scoping process is required when preparing an EIS. Although considered optional for an EA under current Army NEPA regulations (AR 200-2), holding at least one public scoping meeting[2] for

[2]Public meetings held for scoping, for solicitation of comments, or for other purposes, can take a variety of forms, such as formal (structured) meetings/hearings where one person speaks at a time, workshops for small group discussions, and informal open house gatherings. Meetings should be held in public facilities (e.g., school and municipal building auditoriums) or other facilities in the community that are easily accessible to the general public (e.g., hotels and conference centers). Meetings should be held at a convenient time for the public to attend, such as on a weekday during the early evening and not in conflict with other major community events or holidays. Notices to advertise the meeting several days before must be provided by means of display advertisements in local newspapers. Other means for public notice can also be provided through community bulletin boards, mailing of news letters, public service announcements, and news releases to the media.



Sample RCI Project Schedule

Figure 3-1

the general public is a requirement for EAs that analyze proposed Army RCI projects. Use of a formal or informal scoping process for an EA, in many cases, has proven beneficial, particularly in conducting coordination and consultation meetings with regulatory and resource management agencies. Some form of Army internal scoping should also be used in preparing the RCI EA to ensure that the elements of the DOPAA are accurate and complete, and that any environmental issue or controversy associated with the action is identified.

Scoping may occur as individual or collective meetings with agencies, organizations, or the general public. Scoping sessions should be structured to maximize their potential benefit—identifying matters that otherwise might escape the proponent's attention. These include possible community concerns, regulatory and natural resources agency concerns, information related to impact significance, environmental justice issues, the geographic extent of the affect area, the range of actions (connected, cumulative, or similar) and alternatives, the range of resulting effects (direct, indirect, and cumulative), permit and consultation requirements, possible mitigation strategies, and appropriate levels and sequence of environmental reviews.

Document preparers seeking additional information and guidance on scoping may consult CEQ's *Guidance Regarding NEPA Regulations* (*Federal Register*, Vol. 48, p. 34263 (1983)). More detailed information about scoping appears in *Memorandum for General Counsels, NEPA Liaisons, and Participants in Scoping,* issued by CEQ's General Counsel on April 30, 1981.[3]

3.2.2 Identifying Issues for Analysis

Issues to be considered in NEPA analyses are derived from an understanding of those environmental resources which would affect and would be affected by the proposed action or an alternative if it were implemented. Such issues are based on the interrelationship between the proposed activities, the affected area, the resulting effects, receptors of the effects, criteria and regulatory standards against which effects are measured, and time. Issues can be characterized by their extent of

[3]These documents can be obtained by calling CEQ in Washington, DC, at (202) 395-5750, or by accessing the CEQ web site at http://ceq.eh.doe.gov/nepa/nepanet.htm.

geographic distribution, the duration of time over which the issues are likely to be of interest, and the level of interest or controversy they generate. Once identified, the issues can be grouped and categorized (e.g., common resources, common geography, linked to the same action, or linked to cause-effect relationships) for purposes of providing focus and direction to the scope of analysis and NEPA documentation. This approach is particularly useful in determining which resources and resource parameters should be addressed in the RCI EA.

Issues can be identified by a variety of methods, including surveys and questionnaires, coordinated discussions with outside participants (e.g., natural resource management agencies, local officials, and special interest groups), research of existing technical documents and journals, and review of published and electronic news media. The scoping process, previously described, provides an effective forum for issue identification. Issues can also be identified from cause-and-effect relationships. Figure 3-2 schematically captures the cause-and-effect relationship for a hypothetical road construction project, in which a variety of both direct and indirect effects flow from a single action or cause. It should be noted that the effects chain presented in this figure does not address the full range of natural and social science categories for this or any other project.

The eventual resolution of issues is often achieved through the development of mitigation measures where significant effects or serious controversy is anticipated. Agreements on approaches for handling issues should be reached early (e.g., during scoping) through coordination and consultation with key Army participants, technical support staff and contractors, environmental experts in other agencies, and the affected public.

3.3 RCI EA FORMAT

The RCI EA format used by the Army is based on the CEQ's regulations and guidance contained in AR 200-2. The CEQ's regulations provide for a considerable degree of agency flexibility in the EA analysis and documentation process. Although flexibility has allowed the Army to prepare or customize NEPA documents based on particular circumstances over the years, it has also resulted in the use of a variety of formats. Army participants in the NEPA process have often indicated that

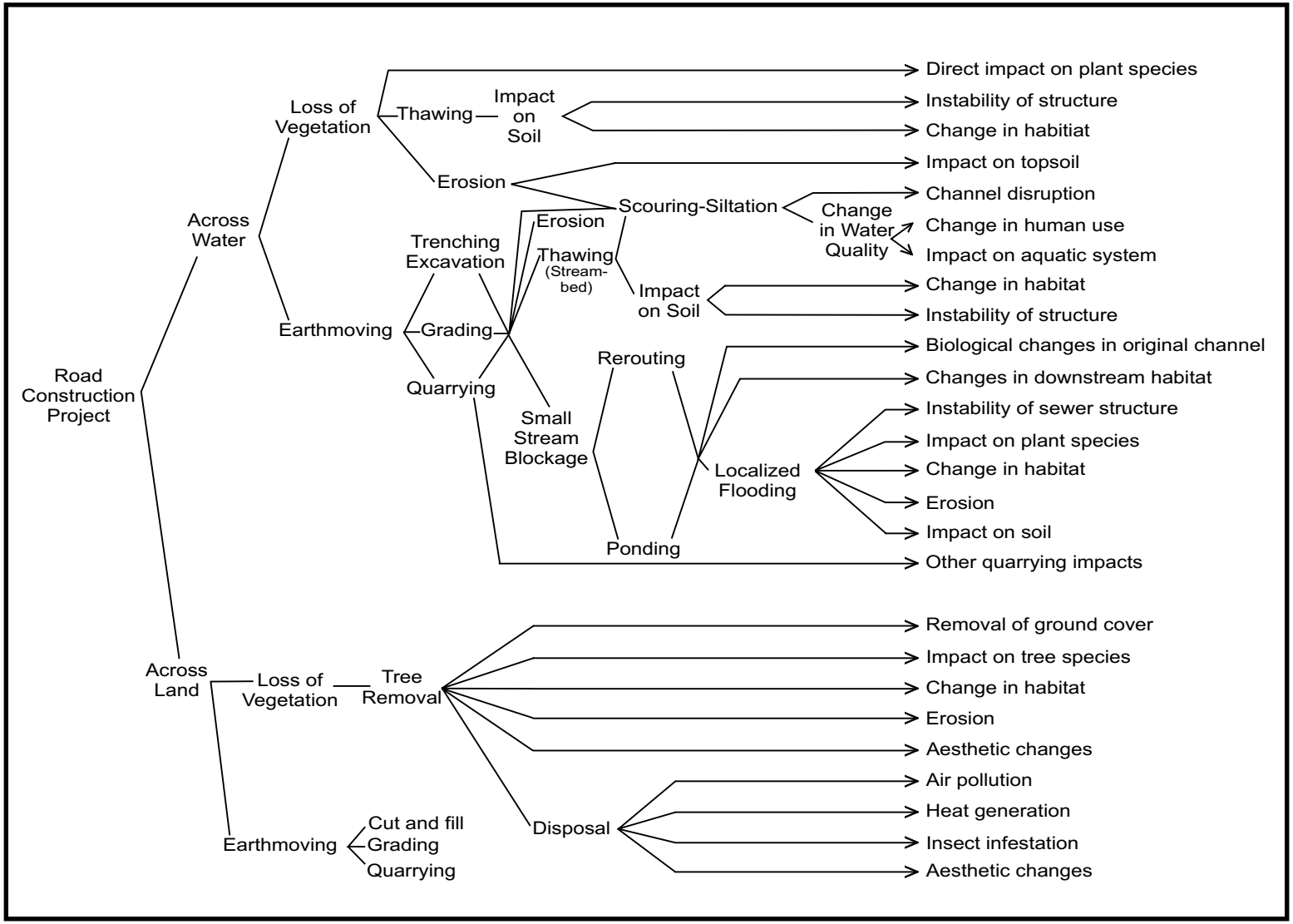


Figure 3-2. Cause-Effect Relationships for a Road Construction Project

a more structured, standardized format would greatly facilitate document preparation, training of new personnel, and, particularly, document review and approval.

Section 5-4(a) of AR 200-2 identifies seven major components of an EA: (1) purpose of and need for the proposed action; (2) proposed action; (3) alternatives considered; (4) affected environment; (5) environmental consequences; (6) conclusions or findings; and (7) listing of agencies and persons consulted. For the Army's RCI projects, the recommended format to be used in preparing EAs is outlined in Figure 3-3. Specific discussions on the preparation and contents of individual sections of an EA are provided in Chapter 4.0 of this manual.

ARMY RCI
ENVIRONMENTAL ASSESSMENT

SECTION 1.0	***PURPOSE, NEED AND SCOPE*** summarizes the purpose of and need for the proposed action, provides relevant background information, and describes the scope of the EA.
SECTION 2.0	***PROPOSED ACTION*** describes the proposed action.
SECTION 3.0	***ALTERNATIVES*** examines alternatives for implementing the proposed action.
SECTION 4.0	***AFFECTED ENVIRONMENT AND CONSEQUENCES*** describes the existing environmental and socioeconomic setting for each location considered. It also identifies potential effects of implementing the proposed action and alternatives and identifies the mitigation measures proposed.
SECTION 5.0	***FINDINGS AND CONCLUSIONS*** compares and contrasts effects resulting from the proposed action and alternatives, and summarizes the significance of individual and expected cumulative effects for the preferred alternative.
SECTION 6.0	***REFERENCES*** provides bibliographical information for cited sources.
SECTION 7.0	***LIST OF PREPARERS*** identifies persons who prepared the document and their areas of expertise.
SECTION 8.0	***PERSONS CONSULTED*** provides a listing of individuals and agencies consulted during preparation of the EA.
SECTION 9.0	***DISTRIBUTION LIST*** indicates recipients of the EA.
APPENDICES	***A*** Supporting Technical Data and Methodological Approaches ***B*** Agency Correspondence ***C*** Other Unique Regulatory Compliance and Documentation Requirements (e.g., consistency determinations)

Figure 3-3
Recommended Format for an RCI Environmental Assessment

CHAPTER 4.0:
ENVIRONMENTAL ASSESSMENT PREPARATION AND CONTENT

This chapter provides detailed guidance on how to prepare an EA for implementing the Army RCI at an installation. Section 4.1 provides general guidance on document development, while Sections 4.2 through 4.8 provide section-by-section discussion on the contents of an EA. Sections 4.9 and 4.10, respectively, provide specific information on the requirements of preparing a FNSI or an NOI. Lastly, Section 4.11 describes the documentation requirements of an Administrative Record, a part of any project involving preparation of an EA.

This manual and the accompanying REA provide several standardized text passages. The standard text may be used, with some adaptation, in preparing local NEPA analyses. Proponents are urged to use the standard text, where appropriate, to ensure uniform treatment of matters related to the Army RCI.

4.1 DOCUMENT DEVELOPMENT

The RCI EA should be well focused in each of its major components or sections. Writing style should be such that the document attains clarity and brevity, but is still legally sufficient. Army preparers should use the following guidelines:

- Write clearly, concisely, and accurately.
- Provide only relevant information.
- Be consistent across all sections of the document.

Preparers should be careful not to “mix” discussions across subject areas inadvertently, unnecessarily increasing the length of the document and obscuring the line of thought for the analysis. Each section should be pure in its presentation of the subject matter. For instance, the section describing the proposed action should *not* include a discussion of alternatives to the proposed action. Similarly, the

section describing the affected environment should focus on only baseline data (i.e., existing conditions) and should not include statements regarding potential impacts or findings. The consequences section should analyze potential effects and should not include any supporting baseline data, which are reserved for the description of the affected environment. These "crossovers" of technical sections within an EA are confusing to reviewers and decision makers and can require time-consuming and costly revisions.

EAs do not need to be detailed and lengthy if the effects are not likely to be significant. The information they contain should be presented as clearly and concisely as possible. When appropriate, existing documentation describing all or portions of the affected environment or other information applicable to describing the analysis results (e.g., technical research papers) can be incorporated by reference to help to cut down on the bulk of the EA (see also 40 CFR 1502.21). Since the audience is often not technically versed in all subject areas, the documents should be written in plain language. In addition, appropriate figures and graphics that support the text and can be easily interpreted by the public should be provided. Appendices should be used to support the main components of the EA, as appropriate. Whenever possible, technical editors should review the document to ensure accuracy, consistency, and readability.

Army policy requires that EAs be prepared on recycled paper. The recycled paper symbol should be presented on the inside of the document front cover or on the back cover. Draft and Final EAs should be printed double-sided to conserve paper.

The Army RCI EA format described in the following sections should be used as a model for document development. It is an interpretation, not a reinvention, of how Army and CEQ NEPA regulations are to be implemented. There might be situations where this format is not fully suited to addressing a particular RCI action (e.g., where unique program, public involvement, or decision-making requirements exist), in which case some variation in format is appropriate. Also, the information presented in these sections is not intended to be all-inclusive. Ultimately, it is the responsibility of the Installation Commander (or his or her designee) to identify, analyze, and document all relevant issues and effects associated with the proposed RCI action and alternatives.

4.2 PRELIMINARY PORTIONS OF AN EA

4.2.1 Cover

The document cover should contain the RCI project and installation name, the month and year of the document (updated as each version is prepared), and the Department of the Army emblem. It is helpful to use different colors for the covers of different versions of the EA (e.g., gray for preliminary draft, beige for draft, and green for final). The cover should be of a heavier paper stock than the text pages. Refer to the REA for a sample cover. If an agency outside the installation and MACOM prepared the document, or if a contractor assisted in its preparation, the outside agency's name and contractor information may also be added to the bottom of the cover.

4.2.2 Signature Page and Abstract

The signature page and abstract are usually the first one or two pages of the document. They introduce the RCI EA and present important information about the document, including lead agency; cooperating agencies (if any); name and location(s) of the action; an abstract describing the proposed action and alternatives, along with identifying the issues and environmental resources analyzed in the document; points of contact for further information; and information on the availability of the document and any formal comment or review periods. These pages also include the name, title, and office name for each key person responsible for preparing, reviewing, and approving the document. For final documents, signature lines are added for these individuals on the same page or as a separate page. If a separate signature page is prepared, it should include the name, title, office name, and signature line for each person responsible for preparing, reviewing, recommending for approval, and approving the document. A signature page is not required for draft documents. The completed signature page should be bound into the final EA as the first page following the cover. The abstract page should immediately follow the signature page. A sample abstract page and separate signature page are provided at the beginning of the REA.

4.2.3 Executive Summary

The intent of the Executive Summary is to briefly describe the proposed RCI action and then stress the major conclusions of the environmental analysis and identify any unresolved or controversial issues. The Executive Summary must also outline any mitigation (to which the MACOM is financially committed) and should list all federal permits necessary to initiate the action. Only data and key findings covered in the EA should be summarized; no new data or analysis should be presented in the Executive Summary. The Executive Summary should be kept succinct (no more than 6 pages) and should not be a word-for-word reiteration of the *Findings and Conclusions* section of the EA. The Executive Summary, an example of which is provided near the beginning of the REA, typically contains the following sections:

- *Introduction*. A paragraph that includes a statement of what the EA analyzed and a brief explanation of the requirement to prepare an EA under NEPA and its implementing regulations.

- *Background*. A brief description of the geographic location and setting of the installation where the proposed action is being considered.

- *Proposed Action and Alternatives.* A description of the proposed action, including a brief explanation of its purpose and need, with information about the action that is significant to the environmental analysis being performed. Alternatives to the proposed action (the preferred alternative) should also be identified.

- *Environmental Consequences*. A summary of key findings of the environmental analysis presented in the EA, including any controversial or unresolved issues. The main effects of each alternative should be stated. It is also useful to provide a table or matrix summarizing the effects if appropriate.

- *Mitigation Responsibility and Permits Requirements*. A brief description of mitigation measures, including responsible parties, recommended in the EA. Expected permit requirements for the preferred alternative should also be stated.

4.2.4 Table of Contents

The Table of Contents for an EA should provide the section number and exact title of each document section (beginning with the Table of Contents itself through to the very end of the document), along with its corresponding page number. The List of Appendices, List of Tables, and List of Figures should be identified as separate sections in the Table of Contents. Anything in the document that precedes the Table of Contents (signature page, abstract page, and Executive Summary) should not be included. A sample Table of Contents is provided in the REA.

4.2.5 Acronyms and Abbreviations

A list of the acronyms and abbreviations used throughout the EA should be provided following the Table of Contents. The first time an acronym or abbreviation is used in the document, it should be spelled out with the acronym or abbreviation immediately following in parenthesis; for example National Environmental Policy Act (NEPA). An acronym and abbreviations list is provided in the REA following the Table of Contents.

4.3 PURPOSE, NEED, AND SCOPE (RCI EA SECTION 1.0)

Consistent with CEQ regulations and AR 200-2, the first major section of an EA should present the purpose of and need for a proponent's proposed action. Preparers normally use the first section of an EA to introduce the basis for the documentation effort and to describe the scope of the documentation. Some preparers also include a few paragraphs about public and agency involvement, a key element of NEPA. Finally, a limited number of preparers provide information on what is

referred to as the "framework for analysis." All these matters are discussed in the following sections, in the sequence in which they normally appear in an EA's first section.

4.3.1 Background

The first question often asked by a person reading an EA is *"What's this all about?"* Preparers should try to answer that question broadly in a background section. A few well-crafted paragraphs can quickly set the context for the action and orient the reader to NEPA and the information in the remainder of the EA.

Ample source material about the Army RCI is available for adaptation to a background section. One useful approach to writing a background section is to provide discussion on both the broad picture (the whole Army) and the installation-specific housing situation. This is the approach taken in REA Section 1.1. Note that the sample text in REA Section 1.1 moves from the general to the specific. In using REA Section 1.1 as a template, note that some of the information will have to be tailored to each particular installation.

4.3.2 Statement of Purpose of and Need for Proposed Action

The purpose and need statements represent the proponent's first opportunity to inform interested parties of the conditions prompting the proposed action and what objectives the action is intended to satisfy.

Expressing accurately the purpose of and need for a proposed action is critical to identifying the range of reasonable alternatives to be considered in the NEPA analysis. Alternatives that meet the purpose of and need for a proposed action normally are required to be examined in the EA; alternatives that do not meet the purpose of and need for a proposed action need not be examined. If the purpose and need statements define the range too broadly, the number of alternatives requiring analysis could be virtually limitless. If the purpose and need statements define the range too

narrowly, only a single alternative might be analyzed, resulting in the potential exclusion of worthy alternatives.

Purpose Statements

Purpose statements that merely recite the preferred alternative do not meet the intent of CEQ and Army regulations. Thus, a purpose and need section that states "The purpose of the proposed action is to transfer existing housing and to lease installation property for construction of 750 new housing units to be owned and managed by a developer" merely reiterates the proposed action and, as such, would be inappropriate. Purpose statements that refer to the NEPA effort or the document itself similarly do not meet the intent of CEQ and Army regulations. Thus, a statement that "the purpose is to comply with NEPA" would be insufficient.

A statement of the purpose of an action should refer to the action. State the reason for taking action in terms of what is sought to be done. In the context of the Army RCI, the purpose of the Installation Commander's activity is to lease installation property for construction of housing and to transfer existing housing at the installation.

REA Section 1.2 contains sample text that may be used to express the purpose of the proposed action. This sample text may be used verbatim. To ensure consistency among installation RCI EAs, use of the standard language in REA Section 1.2 is strongly urged.

Need Statements

The statement of the need for a proposed action should reflect the proponent's underlying mission goals and the objectives to be achieved by use of the statutory authority under which the action would be taken.

Every Installation Commander shares responsibility for the Army's achievement of its objectives with respect to family housing. That is, the principal goal (in NEPA practice, called the "need") is to

provide soldiers and their dependents affordable, quality housing. Where such housing does not exist because it is inadequate (not up to standards) or because there is a deficit (not enough housing available), the Installation Commander has a need to take action.

REA Section 1.2 contains sample text that may be used to express the need for the proposed action. Use of this language is strongly encouraged to attain accuracy and consistency among all installations' approach to NEPA documentation. If an installation has sufficient housing inventory, then the goal of "eliminating the family housing deficit" would not be included.

Additional information concerning the need for the proposed action should be provided based on site-specific circumstances. For instance, it would be appropriate to note the number of housing units not meeting current military family housing standards. It would also be appropriate to indicate the size of the family housing deficit as determined by recent studies or as shown by the number of families on the waiting list. REA Section 1.2 demonstrates how these additional need factors can be expressed.

4.3.3 Scope of Analysis

This section describes the basis for preparation of the EA in accordance with NEPA, CEQ regulations (40 CFR Parts 1500-1508), and AR 200-2. It should contain a brief overview of the matters addressed (i.e., proposed action and site[s] analyzed) and analysis approach. Major issues identified during the scoping process may also be summarized here. REA Section 1.3 contains sample text for this section.

4.3.4 Description of Public Involvement

This section provides a brief description of public involvement opportunities and procedures offered during the NEPA process. Many NEPA document preparers prefer to include brief recitation of public involvement opportunities. In the case of RCI project EAs, it should include a summary of the scoping process and meeting, and public review of the EA and FNSI. Doing so reaffirms the Army's

intentions to deal with the public in good faith and to achieve and maintain open lines of communication with the community. Only a few paragraphs are needed to get these points across to the readership. REA Section 1.4 contains sample text.

4.3.5 Framework for Analysis

Numerous statutes, regulations, and Executive Orders guide Army actions as they relate to the Army's overarching environmental stewardship obligations. To help the public understand the statutory and regulatory framework in which Army decisions occur, it is appropriate to identify all or some of the key laws and other authorities affecting the proposed action and the decisions to be made. Doing so provides assurance to the public that the Army acts in accordance with the law and is mindful of the breadth of authorities pertaining to the environment. Including this information in an EA is entirely optional. REA Section 1.5 contains text that may be used.

4.4 DESCRIPTION OF THE PROPOSED ACTION (RCI EA SECTION 2.0)

The purpose of Section 2.0 of an RCI EA is to inform the public of the proposed action. Sufficient details should be provided to enable understanding of all relevant aspects of the proposed action and to support analysis of potential environmental effects on the affected environment.

The introductory portion of this section should contain a summary statement of the proposed action. It should also orient the reader to the information presented in the section by indicating the content of major subsections. REA Section 2.0 provides sample text of this. The remaining subsections provide a description of the Army RCI process and legislative authorities and a description of how implementation would occur at the installation in accordance with the local CDMP. These subsections are discussed below.

4.4.1 Army RCI Procedures and Legislative Authorities

Army RCI projects are complex. To orient the public and interested agencies to an installation's specific proposal, it is appropriate to provide a moderate amount of information about how the Army RCI generally works.

Program Procedures

The MHPI grants DoD and the Services new authorities for obtaining family housing and ancillary supporting facilities. The authorities comprehensively allow access to private sector financial and management resources for the improvement, construction, and operation and maintenance of family housing. The Army RCI, which implements the MHPI, is carried out through projects at individual installations or clusters of nearby installations. The size, financial stakes, and number of participants make implementation of an RCI project a complex undertaking. An RCI project typically addresses an installation's entire inventory of family housing, as well as ancillary support facilities.

An RCI project has eight major steps as described in the following:

(1) *Decision to Participate in the Army RCI.* The initial decision whether an installation will participate in the Army RCI rests with the Installation Commander. The decision may be driven by any of several considerations, such as the general condition and availability of family housing for soldiers assigned to the installation, the number of personnel on waiting lists for family housing, the length of time required to obtain family housing, and private sector housing costs near the installation. A Commander's decision to participate in the initiative does not necessarily mean that an RCI project will ultimately occur, rather it means that planning for the project may proceed.

(2) *Preliminary Determination of Requirements.* The four most visible components of an RCI project are construction of new housing, demolition of existing housing that is obsolete or beyond economical repair or rehabilitation, renovation of housing, and provision of ancillary support

facilities. Upon an installation's entry into the Army RCI, information to support decisions about requirements for each of these must be gathered and verified. Also, suitable locations must be identified for siting new housing or ancillary support facilities, if required.

As discussed earlier in Section 3.1.4, the Installation Commander initiates several studies and reports. Among these are an ROA (identification of areas that might be leased to a private sector entity, referred to as the Development Partner), an Environmental Baseline Survey (examination of potential contamination at a potential lease site), and DA Form 337 (identification of buildings and improvements that might be conveyed to the Development Partner as part of the CDMP). The Installation Commander begins analysis of potential environmental effects at this stage of the proceedings.[1] Other studies that might be initiated include a Housing Market Analysis and engineering studies pertaining to utilities capacity, soil testing, and boundary delineations. When family housing eligible for the National Register of Historic Places may be involved in an RCI project, the Installation Commander should take steps to initiate consultation under Section 106 of the National Historic Preservation Act. In all cases, early coordination with local school districts is imperative to ensure the ability of local officials' abilities to plan for and accommodate children's educational needs.

(3) *Concept Approval.* Headquarters, Department of the Army approval is required prior to the issuance of a Request for Qualifications (RFQ) seeking a Development Partner for the RCI project.

(4) *Selection of Development Partner.* Through the USACE division or district office, the Installation Commander issues an RFQ. Based on Statements of Qualifications responding to the RFQ, one Development Partner is selected. Evaluation factors or criteria for selection of the Development Partner include past performance on similar large-scale, multi-use projects;

[1]The immensely important connection between the ROA and EA should be recognized at the outset of the RCI project. Identification of parcels to support the RCI project should proceed based on screening criteria similar to those typically demonstrated in a NEPA analysis. For more information on appropriate screening criteria on which to base the selection of parcels for RCI use, refer to "Where?" in Section 4.4.2 of this manual.

preliminary concept for a workable plan and its likelihood to succeed; financial capabilities and institutional relationships to obtain financing for the project; and organizational capabilities with expertise to manage all of the disciplines including business planning, master planning, public approvals, community relations, construction, marketing, sales, rentals, and ongoing management of property.

(5) *Negotiation of the CDMP.* Requirements for new construction, demolition, renovation, and ancillary supporting facilities, as well as future operation and maintenance of family housing, are identified and agreed upon through negotiations between an installation and its Development Partner. It is during this planning and negotiating process that a variety of options or alternatives for family housing (e.g., housing sites and housing densities) and ancillary supporting facilities (e.g., types of facilities and possible locations) are considered and some dismissed for cost, financial, or other reasons. During this time, the NEPA analysis is conducted and coordinated with development of the CDMP. Through this coordination, some potential alternatives are also dismissed because of environmental concerns, while any remaining environmental issues are considered and appropriate mitigation measures identified.

Also during negotiations, the Army will evaluate the Development Partner's approaches to various issues the Army holds important in its environmental stewardship role, including matters affecting potential savings with regard to energy conservation, recycling (both during demolition/construction and during later home ownership), natural landscaping and vegetative cover, and similar "smart" building and operational practices. The resulting CDMP contains all the details of the RCI project, including all work to be done, financing arrangements, and schedules.

(6) *Approval of the CDMP.* The Installation Commander submits the negotiated CDMP through command channels to Headquarters, Department of the Army for concurrence. The CDMP is then submitted to DoD for approval, with notification provided to Congressional committees responsible for MHPI oversight.. The approval process authorizes the installation's access to the Family Housing Improvement Fund, a revolving fund established for the MHPI, as well as the installation's use of the MHPI's authorities as set forth in the negotiated CDMP.

(7) *Ratification of the CDMP.* Based on DoD approval of use of statutory authorities and the revolving fund, the Army[2] and the Development Partner execute (sign) the CDMP. Analysis of potential environmental effects in accordance with the NEPA must be completed prior to execution of the CDMP.

(8) *Implementation of the CDMP.* The CDMP is implemented in accordance with its terms.

Legislative Authorities

The "scope" of an RCI project refers to the extent of actions needed to achieve adequate housing in sufficient quantity to support soldiers and their families at a particular location. The adequacy and availability of family housing vary among Army installations. So, too, the scope of RCI projects will vary. Each installation will have unique requirements for appropriate amounts of new construction, demolition, renovation, and creation of ancillary support facilities.

The authorities contained in the MHPI grant the Army exceptional flexibility to negotiate transactions to meet the specific needs of each installation. It is appropriate to inform the public of the variety and utility of these authorities. They are summarized as follows:

- *Direct Loans.* The Army may make direct loans to persons in the private sector to provide funds for the acquisition or construction of housing suitable for use as military family housing. (10 U.S.C. 2873(a)(1))

- *Loan Guarantees.* The Army may guarantee a loan to any person in the private sector if the proceeds of the loan are used to acquire or construct housing units suitable for use as military family housing. (10 U.S.C. 2873(b))

[2]Identification of the official responsible for signature of the CDMP remains to be determined. Candidates include the Installation Commander, a contracting officer at the installation or the USACE District Office, or an official at MACOM or higher levels.

- *Investment in Nongovernmental Entities.* The Army may make investments in nongovernmental entities carrying out projects for the acquisition or construction of housing units suitable for use as military family housing. Such an investment may include a limited partnership interest, a purchase of stock or other equity instruments, a purchase of bonds or other debt instruments, or any combination of such forms of investment. (10 U.S.C. 2875(a) and (b)).

- *Differential Lease Payments.* Pursuant to an agreement to lease military family housing, the Army may pay the lessor an amount in addition to the rental payments made by military occupants to encourage the lessor to make the housing available to military members. (10 U.S.C. 2877)

- *Conveyance or Lease of Existing Property and Facilities.* The Army may convey or lease property or facilities, including ancillary support facilities, to private persons for the purposes of using the proceeds to carry out activities under the initiative. (10 U.S.C. 2878)

- *Interim Leases.* Pending completion of a project under the initiative, the Army may provide for the interim lease of completed units. The term of the lease may not extend beyond the project's completion date. (10 U.S.C. 2879)

- *Conformity with Similar Local Housing Units.* The Army will ensure that the room patterns and floor areas of military family housing units acquired or constructed under the initiative are generally comparable to the room patterns and floor areas of similar housing units in the locality concerned. Space limitations by pay grade on military family housing units provided in other legislation will not apply to housing acquired under the initiative. (10 U.S.C. 2880(a) and (b))

- *Ancillary Supporting Facilities.* Any project for the acquisition or construction of military family housing under the initiative may include the acquisition or construction of ancillary supporting facilities. (10 U.S.C. 2881)

- *Lease Payments Through Pay Allotments.* The Army may require soldiers who lease housing acquired or constructed under the initiative to make lease payments by allotments from their pay. (10 U.S.C. 2882(c))

The Army RCI allows Installation Commanders and their Development Partners to exercise substantial business judgment and discretion in formulating the local RCI project. The CDMP proposed by the Development Partner (and likely modified as a result of negotiations with the Army) will identify the roles of the foregoing authorities.

REA Section 2.1 demonstrates how the above information can be presented. Inclusion of REA Section 2.1 text in a local RCI EA should not require significant alteration.

4.4.2 Implementation of the Proposed Action

Accurate and complete description of the proposed action is critical. Externally, the public will want to know details about the impending RCI project. Internally, analysts evaluating the proposed action for its potential effects must have sufficient understanding of what will occur. Without that knowledge, complete identification of consequences is at risk.

Proponents should provide information on all relevant *who*, *what*, *when*, *where*, and *how* questions related to new construction, demolition, renovation, and creation of both family housing and ancillary supporting facilities. Of these questions, clearly the most important two pertain to parameters of the proposed deal (the *what*) and the proposed location of any new housing and/or ancillary supporting facilities (the *where*). Guidance on how to approach these matters is presented below.

Who?

The Installation Commander is responsible for oversight of the installation's RCI project.[3] He is assisted by various functions within the USACE District Office (contracting, accounting, real estate, etc).

What?

Implementation of the Army RCI at an installation consists of competitive selection of a development partner and joint creation of a CDMP. The CDMP, created by the Development Partner and the installation, sets out requirements for all new construction, demolition, renovation, and creation of ancillary support facilities. It also identifies performance schedules, performance standards, types of documentation used to record the transaction (real estate documents, reports, and the like), the legislative authorities and their application to the RCI project (direct loans, loan guarantees, investments, interim leases, occupancy guarantees, etc.), and the respective roles and responsibilities of the parties to the agreement.

Salient matters of the CDMP must be provided in describing the proposed action. Proposed actions, such as construction, should be quantified and otherwise described so that the potential for environmental effects can be assessed. Elements of the CDMP not having potential for environmental effects (e.g., the Army's requirement that soldiers use allotments to pay their rent) may be described in order to display the Development Partner's and the Army's thorough considerations given to the project during negotiations. Where known to a reasonable degree of certainty, "life after implementation" should also be described.

[3]This assignment of responsibilities is assumed. Additional ACSIM and USACE publication of policies and further guidance is pending.

When?

Current Army guidance indicates that implementation of RCI projects will occur over several years.[4] Each installation's schedule for RCI will vary.

Site-specific schedule matters should be addressed. Description of the proposed action may indicate the tentative date planned for entry into the CDMP, which will not have been signed, of course, prior to completion of the NEPA analysis. The description should indicate the proposed schedules for major events for the duration of the CDMP. In particular, it should recite the time frames for tranfer of existing structures, new construction, demolition, renovation, and creation of ancillary supporting facilities. These time frames, and the extent to which they may overlap, are useful to evaluating resource areas such as air quality (e.g., quantifying fugitive dust emissions) and water quality (e.g., duration of sedimentation and siltation episodes).

Where?

An RCI EA should not have to evaluate the relative merits of multiple or alternative locations for siting for new family housing or ancillary support facilities. The ROA, prepared in accordance with AR 405-80 in advance of any proposed lease of Army property, is to be used to identify the minimal amount of property needed to be leased to support the RCI project. The Installation Commander's selection of property for leasing will be based on screening criteria tailored to the particulars of the proposed lease. Parcels of property proposed in a ROA for leasing to a private developer can be recited in the RCI EA as the proposed lease and, therefore, construction sites. If other sites are identified during creation of the CDMP, evaluation of additional parcels beyond those selected in the ROA might occur in a supplemental EA and ROA.

[4]Title 10 U.S.C. Section 2885 provides that authority to enter into contracts under the new legislation will expire 5 years after enactment of the 1996 Defense Authorization Act. The 5-year period runs from the date the act was signed into law, 10 February 1996. The Army's current schedule for initiation of RCI projects assumes approval by the Congress of an extension of the period during which such contracts may be entered into.

The alternatives examined in an RCI EA pertain to the various ways the Army can satisfy its objective of obtaining affordable, quality housing for soldiers. A description of the alternatives need not, and should not, get into the fine details of comparing the merits of one site against another. Ultimately, the goals of NEPA will remain fulfilled, since the RCI EA will expose the environmental considerations applicable to particular sites nominated in the ROA.

Thus, where alternatives for new housing sites are concerned, the NEPA process begins when the Installation Commander selects potential lease parcels. It is essential at that juncture to use screening criteria, and that the criteria identified to screen parcels for leasing must be reflected in the RCI EA. In most instances, application of well-drawn criteria will lead to one site available for leasing.

Numerous criteria may be developed. Depending on installation-specific circumstances, the following representative criteria may be adapted to identify parcels suitable for use for construction of family housing and ancillary support facilities.

- *Proximity to existing housing.* New family housing and ancillary support facilities should be located near existing family housing. This allows for maintaining consistency in adjacent land uses within larger general areas. It helps in reducing costs by permitting use of existing utility corridors. It also results in residents' being close to existing support facilities (e.g., commissary, post exchange, and the like).

- *Sufficient size.* Parcels for siting of new family housing units and ancillary support facilities must provide an adequate amount of acreage. Lack of adequate acreage—or too great a building density—could adversely affect planning flexibility on the part of design and layout engineers and could reduce an overall pleasing atmosphere for residents. As a very general rule, construction of four to six dwelling units per acre reflects medium density. This density strikes an appropriate balance between the residents' desires for space and an appropriate allocation of land resources at an installation.

- *Developable property.* Any site for potential family housing use must be developable. To control land clearing and construction costs, and to minimize environmental disturbance, property should not be located on steep terrain, heavily incised by watercourses, or located within any stream buffers or floodplains.

- *Compatible land use.* Siting of family housing should not result in creation of incompatible land uses. Examples of incompatible siting include placement of housing within clear zones or accident potential zones of runways, or where noise exceeds A-weighted day-night noise levels greater than 75 decibels or C-weighted day-night noise levels greater than 70 decibels. (See the Environmental Noise Management Program's definition of Zone III in AR 200-1.)

- *Minimal loss of natural and ecological resources.* Siting of family housing should minimize loss of or adverse effects on natural and ecological resources. These resources include such things as wetlands, listed or sensitive species and their habitat, and wildlife species travel corridors. Consistent with Army policy for ecosystem-based management of natural resources, layout of family housing neighborhoods should seek to avoid ecological unit fragmentation. Also, planning for siting of family housing should seek to preserve aesthetic values.

- *Military security.* Parcels must be located so as not to enable or encourage residents to interfere with military security requirements or pose risk of breach of military security. Housing areas must not be located near sites supporting sensitive activities.

- *Operational safety.* Parcels must be located away from operational areas to avoid potential safety risks to residents. Parcels for siting of family housing also should be located so that residents would not be required to travel past or through training areas while transiting to off-base locations.

- *Contamination.* Parcels must have no known environmental contamination that would preclude or unreasonably delay use for family housing purposes.

Other criteria may be developed to meet an installation's particular mission requirements or unique circumstances.

How?

Implementation of an installation's RCI project will be in accordance with the CDMP created by the Development Partner and the installation.

REA Section 2.2 demonstrates a recommended way to present the description of implementation of an RCI proposed action. It also contains sample text showing how to incorporate the ROA screening criteria to explain the lease parcel selection process.

4.5 IDENTIFICATION OF ALTERNATIVES (RCI EA SECTION 3.0)

Alternatives represent the various ways a proponent can meet the purpose of and need for a proposed action. The statement of a proposed action normally reflects only one of several means to an end. Thorough preparation of a description of a proposed action often leads to identification of reasonable alternatives, usually in terms of location or action, that should be explored. Once selected as appropriate for analysis, alternatives must be addressed throughout the document.

CEQ regulations require that a proponent consider all reasonable alternatives that would fulfill a proposed action's purpose and need. Reasonable alternatives include those which are practical or feasible from a technical and economic standpoint, support the underlying purpose of and need for the proposed action, and are ready for decision. Use of screening criteria (budget constraints, time constraints, and specific mission requirements) can help in narrowing the range of reasonable alternatives. When such criteria are applied, they should be described in the EA. An alternative may be considered reasonable even if it is outside the proponent's implementation authority or ability. For some proposals, there may be a very large number of reasonable alternatives. In such a situation, the EA need evaluate only those which are representative of the full range of alternatives.

The Army has identified five potential alternatives for addressing the condition and deficit of family housing and for obtaining affordable, quality housing for soldiers and their families. These are (1) to implement the Army RCI project, (2) privatization of only a portion of the family housing, (3) to terminate all housing programs in favor of soldiers' total reliance on the private sector for family housing, (4) leasing housing space off post, and (5) the no action alternative. These five alternatives should appear in every RCI EA. More information on each of these alternatives is provided in the following sections.

REA Section 3.0 provides an example of the organization of the Alternatives section.

4.5.1 The Army RCI Alternative

One alternative to achieve the purpose of and need for the proposed action would be to implement the Army RCI, using authorities contained in Section 2801 of Public Law 104-106 (10 U.S.C. 2871-85). These authorities pertain to direct loans, loan guarantees, build and lease, investment in nongovernmental entities, rental guarantees, differential lease payments, conveyance or lease of existing property and facilities, interim leases, conformity with similar local housing units, ancillary support facilities, assignment of soldiers to housing units, and lease payments through pay allotments (see Section 4.4.1 of this manual). Used in whatever combination best fits an installation's specific requirements, these authorities are tools with which an Installation Commander can raise family housing standards, eliminate a deficit of housing, and provide for quality, affordable housing. This alternative is most likely going to be the installation's preferred alternative.

Section 3.1 of the RCI EA should include a full description of the RCI project particulars. REA Section 3.1 contains sample text for these purposes.

4.5.2 The Partial Privatization Alternative

A second alternative for the proposed action would be to subject only a portion of family housing to the RCI. Family housing in good condition (i.e., not needing demolition or renovation) could remain subject to Army management for maintenance and operational control.

Privatization of only a portion of the family housing inventory would have three substantial drawbacks. First, the condition of the family housing changes over time, resulting in a need for its renovation or replacement. Failure to include the entire inventory of housing in the RCI would only delay action to provide adequate housing for soldiers and their dependents. Second, two management regimes (the Army's and the Development Partner's) would not be as cost efficient as one. Having one housing program enables the Development Partner optimal opportunities for cash flow for construction, provision of ancillary supporting facilities, repairs, and operational and management functions. From the Development Partner's perspective, maximum potential cash flow is important also to support development and operation of ancillary supporting facilities desired by an installation, activities which traditionally do not provide independent sources of revenues for their sustainment. Finally, partial privatization would not fully meet the Army's purpose of and need for the proposed action. Together, these factors render consideration of partial privatization as not feasible and, therefore, does not require further analysis in an EA.

4.5.3 The Private Sector Reliance Alternative

A third alternative for improving family housing for soldiers would be to rely solely on the private sector to provide all needed housing. This alternative would involve the Army's termination of all its family housing programs and cessation of use of federal funds for construction, maintenance, and repair of present family housing. Under this alternative, the Army would dispose of existing family housing units and convert the land now supporting housing areas to other uses. The alternative is premised, in part, on the view that competitive marketplace forces would lead to the creation of sufficient affordable family housing.

Various consequences would flow from complete reliance on the private sector for family housing. Surveys show that soldiers and their families living off base must cover between 15 and 20 percent of their costs out-of-pocket. Personnel formerly residing on base would likely also face such increased costs. Overall, there would also be increased commuting costs. Until the private sector could develop sufficient housing near a base, commuting costs could be substantial since personnel would have to live farther from an installation. The Army and soldiers would also lose intangible benefits associated with on-base family housing. These include camaraderie among personnel, soldiers' proximity to the workplace and the capability for immediate recall (when required), and soldiers' knowledge of their dependents' safety and well-being while on deployment or temporary duty at other locations. Dispersion of soldiers among the private sector could adversely affect unit cohesiveness and, ultimately, could affect retention/reenlistment rates. At present, most unmarried soldiers are required to live in unaccompanied personnel housing (barracks) on base. Assuming continuation of this policy, there would develop a dual standard: single soldiers on base, married soldiers off base. It is possible that this could adversely affect morale.

The manner in which base housing would be terminated would also prove difficult. If all family housing programs were stopped immediately, it is unlikely the private sector could provide the requisite amount of quality affordable housing (and schools, shopping, roads, and other amenities) on short notice. If on-base housing were to be terminated over a period of years, the abrupt termination of maintenance and repair funding would accelerate the deterioration of housing. Residents would find themselves living in increasingly abandoned neighborhoods.

Termination of family housing programs would involve abandonment of immense investments in facilities. Notwithstanding various consequences of reliance on the private sector or the management difficulties of effecting termination of family housing on base, disregard for the considerable investments (Army-wide amounting to 90,000 units within the continental United States) would be viewed as fiscally irresponsible.

Examination of the private sector reliance alternative reveals several cogent reasons for its rejection. Where an alternative is not reasonable, its detailed evaluation in the EA is not required.

REA Section 3.3 provides sample text for description and evaluation of this alternative and its elimination from further study.

4.5.4 The Off-Post Leasing Alternative

Statutory authorities exist for an installation to ensure availability of adequate, affordable housing through use of long-term leases of off-post housing for military family use. Key aspects of the two laws providing these authorities are summarized below.

- *Long-term leasing of military family housing to be constructed.* Family housing obtained through use of this authority, which appears at Title 10 U.S.C. Section 2835, is most often referred to as "Section 801 Housing." Under this authority, the Army may, through competitive contract procedures, have a developer build or renovate (to residential use) family housing units near an installation. Housing units under this authority must meet DoD specifications. The Army may then lease the units for use as family housing for a period of not more than 20 years. At the end of the lease term, the Army has a right of first refusal to purchase the housing units from the private developer. The Section 801 housing program is limited to off-base housing.

- *Military housing rental guarantee program.* Family housing obtained through use of this authority, which appears at Title 10 U.S.C. Section 2836, is most often referred to as "Section 802 Housing." Under this authority, the Army may award a competitive contract to a private developer or a state or local housing authority to construct or rehabilitate housing on or near an installation having a shortage of housing for personnel with or without accompanying dependents. Under the contract, the Army guarantees occupancy levels of the housing units, at rental rates comparable to those for similar units in the same general market. Housing units under this authority must comply with DoD specifications or, in the discretion of the Service secretary, local building codes. A rental guarantee agreement may not exceed 25 years in duration; it may be renewed only for housing that is located on government-owned land. The agreement may provide that utilities, trash collection, snow removal, and entomological services be furnished by

the Army at no cost to the occupant to the same extent such services are provided to occupants of base housing.

There has been only limited experience with either of the foregoing authorities. An important drawback affecting both programs concerns what is known as budget "scoring," the method of accounting for federal government obligations as required by the Budget Enforcement Act of 1990. Scoring ensures that all government obligations are accounted for when long-term liability is incurred (i.e., during the first year of a project). Scoring guidelines issued by the Office of Management and Budget require that a project must be fully funded with sufficient budget authority in its first year to cover the government's long-term commitment. In other words, all potential costs associated with long-term leasing or rental guarantee programs must be recognized in the first year, and they must be considered as part of the Army's total obligational authority (the total monies appropriated by Congress for use by the Army in a given year). For some privatization projects, such as military leased housing, the Army's obligations for scoring purposes amount to the net present value of the total rent under the lease. These amounts can be nearly as great as the sums required under traditional military construction financing for Army-initiated construction of similar facilities.

The Section 801 housing program and Section 802 rental guarantee program only partially address the Army's purpose and need for the proposed action. Due to the scoring guidelines, the Army would obtain either very little or no leverage benefit.

Enactment of new authorities in the MHPI suggests Congress's recognition that Section 801's and Section 802's drawbacks outweigh potential benefits to the Army. Although use of either or both of Section 801 and Section 802 authorities may be feasible, their use would not be reasonable when compared to the far greater advantages offered by the new authorities to the Army and to soldiers' families. Accordingly, further analysis of this alternative in an EA is not required.

4.5.5 The No Action Alternative

Under the no action alternative, proposed RCI project actions would not be implemented. The installation would continue to provide for the family housing needs of its personnel through use of traditional military maintenance and construction procedures. The Army would continue to obtain funding for family housing through the congressional authorization and appropriations process. Any major changes to or construction of new housing would require that appropriate NEPA analyses be completed prior to implementing such actions.

The no action alternative is prescribed by CEQ and Army regulations and, therefore, it must be included and evaluated in each RCI EA. The no action alternative serves as a benchmark against which the proposed action and alternatives can be compared. REA Section 3.4 provides an example of text showing the basis for inclusion of the no action alternative in an EA.

4.6 AFFECTED ENVIRONMENT AND CONSEQUENCES (RCI EA SECTION 4.0)

The affected environment section of an EA contains a description of the current environmental conditions of the area(s) that would be affected if the proposed action (or alternative) were implemented. It represents the "as is" or "before the action" conditions (sometimes referred to as "baseline conditions") at the installation or on other affected property. The consequences section of an EA forms the scientific and analytic basis for the comparison of alternatives. It identifies the direct, indirect, and cumulative effects of the proposed action and alternatives on each of the environmental resources described under the affected environment.

Traditionally, in the preparation of Army EAs, these two sections have been totally separate; a thorough description of each resource topic under the affected environment (typically numbered as Section 4.0) followed by a separate discussion on just consequences for each of the same resources (typically numbered as Section 5.0). In preparing RCI EAs, the recommended format to be used combines both the affected environment and consequences discussions into one main section (Section 4.0). Under each environmental resource topic, the affected environment is first described, and is

then followed immediately by a discussion on consequences for that same resource. Separately numbered subsections are used to present effects discussions for the proposed action and each individual alternative analyzed, including the no action alternative. This particular organization for an EA can be seen in Sections 4.1 through 4.14 of the REA.

4.6.1 Affected Environment

Once the environmental issues have been identified (see Section 3.2.2 of this manual), the description of the affected environment (consisting of those portions of the environmental baseline relevant to the decision to be made) can be prepared for the area(s) that could potentially be affected by the Army's proposed RCI action and alternative actions.

4.6.1.1 Determining Study Area Boundaries

In order to describe the affected environment, a geographic area (or region of influence[5] [ROI]), within which effects are likely to occur, must first be established. The ROI should reflect the full reach of possible effects (both direct and indirect) within the particular resource being considered. Each resource may have its own distinct ROI, which can be explained in text or delineated on a map.

For most environmental resource topics, the ROI for RCI actions will consist of the immediate RCI project area, adjacent land areas, off-site construction support areas (e.g. building material/equipment storage and staging sites), and other areas of temporary activities (e.g., fill/borrow areas and traffic detours).[6] However, an option for describing several of the more common resource areas (e.g., land use, soils, and vegetation) is to develop a composite ROI (e.g., parcel boundaries or a designated circle around the RCI project area) that encompasses the potential effects for *all* of them. This

[5]Although the term ROI is often exclusively associated with *socioeconomic* impact assessment (see Section 5.9 of this manual), it can be applied to other environmental resources as long as use of the term and its geographic extent for different resources are clearly explained. Otherwise, another similarly applicable and consistently applied term should be used for other resources (e.g., *zone of influence* or *area of potential effect*).

[6]If large portions of the installation are not involved or anticipated to be affected by the RCI action, then these areas need not be included in the affected environment description.

approach can help to simplify the process of delineating individual ROIs, particularly in the early stages of the analysis when the definition of the proposed action and alternatives might still be evolving, and can also provide a common frame of reference for discussion and for the presentation of data on maps or other visual aids used in the NEPA document. Some resource topics, such as socioeconomics and air quality, will typically have ROIs much larger in area (e.g., a metropolitan area or regional airshed) than those for other resources because of the factors used in measuring effects on them. The geographic scope of potential cumulative effects on various resources can also require much larger areas of study (see Section 4.6.2.2 of this manual).

By establishing an ROI early on for each resource topic, limits can be placed on the amount of data collection and documentation needed for preparation of the EA.

4.6.1.2 Describing Existing Conditions

When describing the Affected Environment, it is imperative that the most current and accurate data available, or other data that closely represent current conditions, be used. If existing data do not accurately represent current conditions, new data might need to be obtained through field surveys or by other means.[7] All too often, NEPA documents are completed using insufficient information for evaluating effects on environmental baseline conditions. In some cases, expensive and time-consuming field data collection is necessary, but the specific project for which the data are needed has insufficient funds and/or time for data collection and analysis efforts. In other cases, data might be available, but are not in a form that can be easily integrated with other information or analysis techniques. To help prevent such problems from occurring, early planning is necessary to determine resource issues and associated baseline data requirements (see also Section 3.1.4 on advanced planning for RCI projects). Much of the existing baseline data can usually be obtained through coordination with the installation Environmental Office, other Army offices, and outside agencies.

[7]In cases of incomplete or unavailable data, refer to CEQ regulations under 40 CFR 1502.22.

Only those environmental resources and resource parameters which could potentially be affected by the RCI action, or are of public concern, should be included in the affected environment description and analyzed under the consequences. Resource topics that should be considered for evaluation in EAs that address RCI actions are (1) land use, (2) aesthetics and visual resources, (3) air quality, (4) noise, (5) geology and soils, (6) water resources, (7) biological resources and wetlands, (8) cultural resources, (9) socioeconomics, (10) transportation, (11) utilities, and (12) hazardous and toxic substances.

CEQ regulations (40 CFR 1502.15) require that affected environment descriptions presented for each resource be succinct and no longer than is necessary to understand the resulting effects. In addition, the level of detail to be applied to each particular resource topic should be commensurate with the level of importance and concern for that resource and the issues it presents. Less important material should be summarized, consolidated, or simply referenced. If a particular environmental resource(s) is to be excluded from discussion altogether, an explanation for why it was excluded (e.g., it was not affected by the proposed action or alternatives, or it is covered by prior NEPA reviews) should be provided in the introductory paragraphs of the affected environment section (see 40 CFR 1501.7(a)(3) for further discussion on this topic).

A brief overview of the 12 resource topics typically described in the EA affected environment section is provided in the following paragraphs. Detailed discussions on each resource can be found in Chapter 5.0 of this manual.

Land Use

The purpose of this section is to describe the land use and land cover conditions at the affected site. It should also include a general overview of the environmental setting. The following information should be described, as appropriate:

- Overview of the geographic location, general landscape, and climatic conditions
- Land use/land cover within the installation or on other affected property
- Building function and general architecture
- Relevant location of local communities
- Land use management plans (e.g., local government comprehensive plans and state coastal zone management plans)
- Local zoning
- Property ownership, leasing, and other property agreements
- Local/regional development plans/programs that may contribute to cumulative effects (see Section 4.6.2.2 of this manual)

Detailed discussions on this resource topic can be found in Section 5.1 of this manual. See also Section 4.1 of the REA for sample text.

Aesthetics and Visual Resources

Information in this section should describe the following, as appropriate:

- Landscape character
- Unique natural and man-made features of the landscape
- Location of public lands, federally protected areas, and other visually sensitive areas
- Local plans and policies regulating visual resources

Detailed discussions on this resource topic can be found in Section 5.2 of this manual. See also Section 4.2 of the REA for sample text.

Air Quality

The following air quality factors in the project area should be described, as appropriate:

- Ambient air quality conditions
- Existing air emission sources
- Air pollution source permits
- Federal and state air pollution control regulations and standards
- Criteria for attainment/nonattainment areas
- Sensitive receptors on and off the installation
- Compliance with Federal and State Implementation Plans
- Basis of air conformity determination or Record of Non-Applicability (RONA)

- Local or regional meteorological conditions, as they relate to pollutant dispersion (e.g., wind speed, wind direction, and mixing height)

Detailed discussions on this resource topic can be found in Section 5.3 of this manual. See also Section 4.3 of the REA for sample text.

Noise

Information in this section should describe the following, as appropriate:

- Stationary noise sources (e.g., airfield operations, ordnance demolition, firing ranges, maintenance facilities, and construction)
- Mobile noise sources (e.g., vehicular traffic and aircraft)
- Sensitive receptors on and off the installation
- Noise monitoring results
- Federal, state, and local noise standards
- Land use compatibility

Detailed discussions on this resource topic can be found in Section 5.4 of this manual. See also Section 4.4 of the REA for sample text.

Geology and Soils

Information in this section should describe the following, as appropriate:

- Topographic conditions
- Geologic bedrock types and any unique concerns (e.g., subsidence)
- Seismic conditions and fault features
- Mineral resources and mineral rights
- Soil types and any unique concerns (e.g., potential for erosion and expansive clays)
- Prime and unique farmlands
- Paleontological resources

Detailed discussions on this resource topic can be found in Section 5.5 of this manual. See also Section 4.5 of the REA for sample text.

Water Resources

This section should describe the following for surface water and groundwater conditions, as appropriate:

- Hydrology
- Water quality and quantity
- Storm water management
- Point and nonpoint sources of pollution

- Floodplain areas for 100-year floods

- Water resource districts and other water rights

Detailed discussions on this resource topic can be found in Section 5.6 of this manual. See also Section 4.6 of the REA for sample text.

Biological Resources

This section should include appropriate information on local fauna, flora, and habitats, including:

- Species commonly found on the installation or on other affected property

- Occurrence of sensitive species (federally or state listed threatened, endangered, or candidate species, and rare or unique species) on or in the vicinity of the installation or other affected property

- Aquatic and terrestrial ecosystem types (e.g., forests, wetlands, and fields) found on the installation, or on other affected property, and their regional importance (if any)

- Special habitat areas (e.g., used by nesting or overwintering species)

- Vegetation and wildlife management plans and practices (e.g., wildfire suppression)

- Coordination with the appropriate state office for environmental resources, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service

Detailed discussions on this resource topic can be found in Section 5.7 of this manual. See also Section 4.7 of the REA for sample text.

Cultural Resources

This section should provide a brief discussion of the area's prehistory and a summary of the status of the cultural resources inventory for the project area, including the following:

- Sites, buildings, and other structures of historical significance, including significant prehistoric sites and those from the Cold War era
- Resources eligible for listing on the National Register of Historic Places
- Archeological resources
- Coordination with the State Historic Preservation Officer
- Programmatic agreements with the state

Detailed discussions on this resource topic can be found in Section 5.8 of this manual. See also Section 4.8 of the REA for sample text.

Socioeconomics

To describe baseline sociological and economic conditions, the following elements should be discussed, as appropriate:

- Demographics
- Regional employment and economic activity
- Installation salaries and local expenditures

- Housing
- Schools
- Shops and services
- Recreation facilities
- Environmental justice (For specific information on addressing this issue, see Section 5.9.4 of this manual.)
- Public health and safety including availability of medical facilities
- Protection of children (For specific information on addressing this issue, see Section 5.9.5 of this manual.)

Detailed discussions on this resource topic can be found in Section 5.9 of this manual. See also Section 4.9 of the REA for sample text.

Transportation

This section describes the surface transportation elements associated with the affected location. Applicable information that normally should be described includes the following:

- Roadways
- Traffic congestion and levels of service (LOS)
- Parking availability

- Public transportation

Detailed discussions on this resource topic can be found in Section 5.10 of this manual. See also Section 4.10 of the REA for sample text.

Utilities

Specific utilities that normally should be described, including information on both supply capacities and available capacities, are as follows.

- Potable water supply
- Sewer
- Stormwater collection
- Energy sources, including electrical power, natural gas, fuel oil, coal, and steam generation
- Communications
- Solid waste management, including construction wastes
- Army Utilities Privatization Program

Detailed discussions on this resource topic can be found in Section 5.11 of this manual. See also Section 4.11 of the REA for sample text.

Hazardous and Toxic Substances

Information in this section should describe the following, as appropriate:

- Federal Facilities Agreement (if one exists)
- Whether or not the installation is a National Priorities List (NPL) site
- Storage and handling areas
- Waste disposal methods and sites
- Installation Restoration Program
- Hazardous and toxic materials and wastes present (e.g., pesticides, polychlorinated biphenyls [PCBs], and solvents) and other "special hazards" (e.g., asbestos, lead-based paint, and radon)
- Aboveground and underground storage tanks
- Pollution prevention programs and plans

Detailed discussions on this resource topic can be found in Section 5.12 of this manual. See also Section 4.12 of the REA for sample text describing this information.

4.6.2 Consequences

4.6.2.1 Describing Environmental Effects

The consequences section for each environmental resource topic must describe both beneficial and adverse effects on the environment that would result from implementation of each of the alternatives analyzed, including the no action alternative.[8] If no effects are identified for a particular resource,

[8]When evaluating the no action alternative, it is important to remember that beneficial and adverse effects sometimes do occur under this alternative.

that fact should be mentioned. When describing direct and indirect effects, it is not necessary to separate one from the other. Cumulative effects, however, are best broken out in a separate discussion covering all of the applicable resources, near the end of the affected environment and consequences section (see Section 4.6.2.2 of this manual).

Along with describing the effects, measures planned to mitigate adverse effects (e.g., management of construction areas to prevent accelerated erosion, protection of trees from damage by construction equipment, and the installation of perimeter fences around building demolition sites) and the likely results of their implementation should be discussed in the same section that describes the adverse effects. Agency consultation results that were instrumental in resolving impact and mitigation issues (e.g., preserving endangered species habitat or historic sites) should be discussed and referenced. (Further discussions on identifying mitigation measures and monitoring their effectiveness are presented in Section 4.6.2.3 of this manual and in Appendix F of AR 200-2.) In addition, any federal permits, licenses, and other entitlements that would be necessary to implement the proposal should be identified where applicable.

In describing potential effects that might result from implementation of the Army's proposed RCI action, the following guidelines should be considered:

- Quantify effects as much as possible using appropriate units of measure (e.g., acres of habitat lost and tons of sediment entering a stream). If an effect is obviously negligible (e.g., the effects of housing construction on the ozone layer), it should be ignored unless a specific public comment demands an answer.

- When only impact trends can be indicated (e.g., low, moderate, high, etc.), provide careful explanation and interpretation of qualifiers (e.g., numerical range or list of possible site conditions that would represent each qualifier used).

- Although determining the significance of effects can in many cases be subjective, significance can be quantified in such terms as the number of people affected, the proportion of resources

degraded, the rate at which conditions will become worse, key linkages to other more quantifiable resources at risk, and the level or extent of irreversibility of or recoverability from an impact.[9] Determining significance is not, however, subjective in cases where an established regulatory threshold is broken; such cases are usually presumed to be significant.

- Be cautious in using the word *significant* or *significantly*. If such words are used, explain them in terms of context and intensity. In an EIS, use of *significant* or *significantly* is a proper indication for disclosing significant effects (the main purpose for preparing an EIS). In an EA, however, use of *significant* or *significantly* for even a single resource, and even when not discussing adverse effects, can create a perception, in a legal context, that the EA should have been an EIS.[10] *Significant* and *significantly* should, however, be appropriately used in the FNSI.

- Address environmental effects or controversy in proportion to their potential significance. That is, focus the analysis and discussion on those issues and associated effects identified through scoping as being most relevant to the proposed action and of greatest concern to the public.

- Identify and explain where there are instances of incomplete or unavailable data, or where confidence levels are extremely low. Give an honest and realistic appraisal of the effects on all resources.[11] The CEQ regulations (40 CFR 1502.22) provide further guidance on this issue.

- Do not use regional, national, or global comparisons of effects to trivialize the significance of a local effect. On the other hand, do not use local significance to give undue weight to trivial matters.

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[9]R.A. Carpenter, "Cumulative Effects Analysis (CEA) in the NEPA Process," 1995. Presented at the Department of Energy/CEQ Conference Commemorating the 25th Anniversary of NEPA.

[10]L.H. Freeman, *How to Write Quality EISs and EAs—Guidelines for NEPA Documents*, Shipley Associates, Bountiful, Utah, 1992.

[11]Ibid.

- Conduct impact analyses to discriminate among individual alternatives. Do not present a single maximum potential effects estimate that obscures differences between alternatives.

- Avoid describing effects that are severe without also describing the likelihood (probability or level of risk) of their occurrence.

Resource-specific guidance on identifying and describing effects that may potentially result from the implementation of Army RCI actions is included under each resource section contained in Chapter 5.0 of this manual. Sample text describing environmental and socioeconomic consequences for each resource topic is also presented in Section 4.0 of the REA.

4.6.2.2 Cumulative Effects

This section of the EA summarizes the relevant cumulative effects on those environmental resources affected by the proposed action and alternatives. A cumulative effect produces an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impact analysis captures the effects that result from the action in combination with the effects of other actions taken during the duration of the proposed action in the same geographic area. NEPA requires analysis of the cumulative environmental effects of a proposed action and other actions not only at the project site but also in the region, recognizing that effects on traffic congestion, air quality, noise, biological resources, socioeconomic conditions, utility system capacities, and other resources might often be manifested only at that level. Because of extensive outside influences, cumulative effects are the most difficult to analyze, and the analysis is frequently more subjective than objective. For more specific information on addressing cumulative effects, see the following subsections. A sample cumulative effects discussion is provided in Section 4.13 of the REA.

Cumulative Effects Analysis: Concepts and Applicability

Historically, there has been little specific guidance on how to treat cumulative effects analysis in the NEPA process. The CEQ, reacting to the current state of environmental science and requests from practitioners for better guidance, has prepared a handbook entitled *Considering Cumulative Effects Under the National Environmental Policy Act* (1997).[12] Incorporating some of the concepts identified in CEQ's handbook, the following discussion focuses on some of the important issues and themes that relate to cumulative effects analysis.

CEQ regulations on the scoping process (40 CFR 1508.25) make it clear that one function of scoping is to discover potential cumulative actions and effects. Connected and similar actions should be analyzed and recorded in the same document. The scoping process is one very important way to identify other prior, current, or planned actions on the installation and in the geographic area. Moreover, scoping for cumulative effects must include consideration of other federal and nonfederal actions that take place within the spatial and temporal boundaries identified.

The effects of individual minor disturbances and other changes to the environment by humans accumulate when the frequency of disturbances is so high that the ecosystem has not fully rebounded before another stressful event is introduced. The spatial and temporal crowding of such disturbances can result in cumulative effects. Preparers of NEPA documents must obtain data on the status of significant environmental and socioeconomic resources with an understanding of not only how the proposed action might affect these resources directly or indirectly, but also what other remote disturbances might occur as a result of the proposed action.

[12]CEQ's handbook entitled *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997), a report in excess of 100 pages in length, can be obtained by calling CEQ in Washington, DC, at (202) 395-5750, or by accessing the CEQ web site at http://ceq.eh.doe.gov/nepa/nepanet.htm. Although the handbook does not represent formal CEQ guidance, it does provide useful information on methods and approaches for analyzing cumulative effects as part of the NEPA process.

Scoping for Cumulative Effects

Scoping not only provides information to decision makers, but also helps to build public confidence. Both of these factors are critical to the defensibility of NEPA analysis generally and cumulative effects analysis specifically. In addition to using their own expertise, preparers should seek input from others during the scoping process to determine the possible spatial and temporal scope of direct, indirect, and cumulative effects. Preparers can begin to identify cumulative effects issues by pursuing answers to the following general questions:

- Is the proposed action one of several similar past, present, or future actions with similar impacts either on the installation or within the same geographic area? Note that information on other local/regional development plans/programs is usually first identified in the *land use* portion of the affected environment section of an EA (see REA Section 4.1.1 for sample text on this topic).

- In what way do the activities of others in the region have environmental effects similar to those of the proposed action?

- Will the proposed action, in combination with other planning activities, affect any natural resources, cultural resources, social or economic units, ecosystems, or pollutants of regional, natural, or global public concern?

- Have any recent NEPA analyses or ongoing NEPA analyses (or similar actions in the nation or any other actions in the region) identified important adverse or beneficial cumulative effects issues?

- Have effects been historically significant or controversial, such that the importance of a resource is defined by past loss, past gain, and investments to restore resources to adequate levels or conditions?

Preparers should also consider whether the proposed action potentially affects any of the following issues, which typically should be assessed in a cumulative manner:

- Public health and safety beyond the site area
- Air quality parameters of regional significance
- Waterborne pollutants in a regionally important water body or watershed
- Wastes that are candidates for disposal in regional, state, or federal disposal or storage facilities
- Wetlands
- Coastal zone management program
- Migratory populations or habitats of fish and wildlife
- Historic, cultural, or archeological resources
- Federal and state listed threatened and endangered species, or federally designated critical habitat

Preparers are encouraged to pursue the assessment of cumulative effects on other resources as they may be identified for a proposed action. Methods of determining the scope of the affected environment and the type of impact analysis needed should begin to emerge during consideration of the questions and issues raised in this section.

Of the three general temporal frames of reference (past, present, and reasonably foreseeable future), determining what actions are reasonably foreseeable in the future tends to prove most difficult. One way to overcome the uncertainty related to future actions is to focus attention on resources and

actions that are discussed in public planning documents; for example, by surveying state, regional, and local comprehensive plans related to urban and regional growth management and public works. These include regional resource management plans, ecosystem management plans, and land management planning documents. Preparers should solicit public input to help determine the appropriate scope for past, present, and reasonably foreseeable future effects. (See also Section 5.1.1 of this manual.)

Geographic scope will be determined by the types of issues and resources with which the proponent is concerned and by the extent of area affected by the proposed action. Table 4-1 contains a sample listing of possible geographic area boundaries and the affected resources to which they relate.

Table 4-1
Sample Geographic Scope

Affected Resource	Geographic Area Boundary
Air quality	Metropolitan area, airshed, global atmosphere
Water quality	Stream, river basin, estuary, or parts thereof
Vegetative resources	Watershed, forest type, ecosystem
Resident wildlife	Habitat, ecosystem
Migratory wildlife	Breeding grounds, migration route, wintering areas, or total range of affected population units
Fishery resource	Stream, river basin, estuary, or parts thereof; spawning area and migration route
Cultural resources	Boundaries of historic properties or districts, and historic or prehistoric cultural areas
Land use	Community, region, state, or county
Coastal zone	Region or state
Recreation	River, lake, geographic area, or land management unit
Socioeconomic resources	Community, metropolitan area, state, or county

A goal of the scoping process should be to obtain a list of cumulative effects issues to be addressed, a time frame and geographic boundary assigned for each resource, and a list of other actions, if possible, that contribute to each cumulative effects issue.

Performing Cumulative Effects Analysis and Determining Significance: Methods, Techniques, and Tools

The analysis of cumulative effects should be viewed as an extension of the analysis performed to determine the significance of direct and indirect project-specific effects. In performing cumulative effects analysis, the following steps should be taken:

- Identify the environmentally important resources to be included in the analysis of the proposed action, reasonable alternatives to the proposed action, and the no action alternative.

- Identify the important cause-and-effect relationships between the alternatives and the environmentally important resources.

- Identify the spatial and temporal boundaries of each alternative scenario.

- Identify the relevant past, present, and reasonably foreseeable future actions in the region that could cumulatively affect each scenario.

- Determine the magnitude and significance of the cumulative effects.

- Determine the magnitude and significance of the cumulative effects with mitigation; develop a strategy to eliminate, avoid, or reduce cumulative effects.

Some of the methods, techniques, and tools (in broad, general categories) that can be employed to analyze cumulative effects include, but are not limited to, the following:

- Information-gathering techniques such as surveys, interviews, and public meetings
- Checklists
- Network and system diagrams
- Trend analysis
- Map overlay techniques
- Tables
- Matrices
- Mathematical modeling and simulation
- Carrying capacity analysis
- Ecosystem analysis
- Synoptic landscape approach
- Economic effect models
- Social impact assessment
- Geographic information systems
- Remote sensing

These tools are familiar to preparers of NEPA analyses. Their use to address cumulative effects will require some adjustment to account for availability of data, the geographic and temporal scale of the analysis, and other uncertainties.

4.6.2.3 Mitigation Summary

Mitigation measures are steps required for the specific purpose of reducing the significant environmental effects of implementing a proposed action or alternative. Mitigation measures should be identified wherever possible throughout the impact analysis in each resource area. Only those mitigation measures which can be reasonably accomplished should be identified in environmental documentation (i.e., EA with FNSI, or EIS and ROD). Several mitigation approaches are listed below.

- *Avoidance.* This mitigation technique avoids effects altogether by not performing certain activities or by restricting where they may be performed.

- *Limitation of Action.* This mitigation technique limits the degree or magnitude of an activity and, hence, its effects.

- *Restoration.* This technique restores or enhances existing environmental conditions. The effectiveness of and required commitment to such measures should be closely scrutinized.

- *Protection and Maintenance.* This technique changes the design of the action to include engineered systems or management actions that preclude the emission of pollutants (e.g., erosion control devices or oil/water separators). This technique is often a long-term, continuing procedure that can be expensive to install and maintain. As with restoration, this technique, without commitment, might not be completely effective.

- *Replacement/Compensation.* This technique attempts to replace or otherwise compensate for resources destroyed by the action. Replacement can be an expensive and controversial mitigation technique, such as is sometimes applied to losses of wetland areas. Early commitment and timely budgeting are essential.

- *Adaptive Management Strategy.* This is a technique used by the Army in which, during implementation, actions are modified as environmental conditions change to maintain effects within acceptable parameters. For example, during building demolition activities, meteorological conditions could be monitored to determine whether changing wind conditions might cause fugitive dust to enter occupied housing areas. If changing wind conditions were to cause dust to enter such housing areas, demolition activities could be immediately modified or halted to control the levels of effects on local residents.

Mitigation measures or programs must be clearly identified in a NEPA document (EA/FNSI or EIS/ROD) for the decision maker to understand and approve. Such measures become Army

commitments that must be funded and accomplished within a reasonable and specified time frame. If the necessary mitigation measures will not be ready for a long period of time, this fact should be recognized in the NEPA document. Descriptions of mitigation costs should take into account "scoring" issues consistent with OMB guidelines for evaluation of liabilities to be covered by appropriate funds.

An EA can specify mitigation measures that, if implemented, would prevent significant effects that would otherwise require an EIS. In such cases, it is recommended that the measures be clearly described in the EA as *part* of the selected action (preferred alternative). In accordance with Section 2-7(b) of AR 200-2, the mitigation measures to be implemented with the selected action must also be identified in the accompanying FNSI. Mitigation measures are enforceable only if they are adopted as part of the decision, not merely discussed in the analysis.

Implementation of a mitigation plan is the responsibility of the proponent. The proponent is also responsible for *monitoring* mitigation measures for completion and effectiveness. The proponent must make available to the public, upon request, the status and results of mitigation measures associated with the proposed action or preferred alternative (40 CFR 1505.3). Failure to properly implement mitigation measures can lead to litigation, project delays, monetary fines, and possible imprisonment for proponents and project managers. (See Section 2-7 of AR 200-2 for further discussion on mitigation commitments. Appendix F of the regulation provides guidance and procedures for implementing a mitigation monitoring program.)

Each of the individual resource topics evaluated in the consequences section of the EA should discuss mitigation options (e.g., use of berms and silt fences to minimize erosion and stream sedimentation, and operation of noise-producing equipment during nonsensitive daylight hours) and their likely effectiveness where adverse impacts have been identified. This section of the EA, mitigation summary, then summarizes the mitigation measures discussed in the various resource sections. It is sometimes useful to present the mitigation measures summary in a table format. A sample mitigation summary is provided in Section 4.14 of the REA.

4.7 FINDINGS AND CONCLUSIONS (RCI EA SECTION 5.0)

4.7.1 Findings

The purpose of the section is to briefly summarize the potential environmental effects resulting from implementation of the proposed action and alternatives. Typically this section discusses only those resources which would be affected, either adversely or beneficially. It should identify whether the expected effects would be short- or long-term in duration, adverse or beneficial, and minor or significant in nature. To help compare and contrast the environmental effects of the alternatives, a summary table or matrix that shows the overall effects for each alternative analyzed in the EA should be included. Sample text for this section, including a summary table, is provided in Section 5.1 of the REA.

4.7.2 Conclusions

The conclusions should state whether any significant impacts would be expected from implementation of the Army's proposed action and whether a FNSI is appropriate. If significant impacts were identified in the EA, the conclusion should state that an NOI to prepare an EIS will be issued. Sample text for this section is provided in Section 5.2 of the REA.

4.8 CLOSING SECTIONS OF AN EA

4.8.1 References (RCI EA Section 6.0)

The References section should provide bibliographical information for sources cited in the text of the EA. Draft documents should be cited only if the documents have attained relatively high review or approval within the issuing organization. Normally, only those references which are reasonably obtainable by the public are to be cited. A sample reference list is provided in Section 6.0 of the REA.

4.8.2 List of Preparers (RCI EA Section 7.0)

The list of preparers typically provides the name, level of education (B.S., M.S., Ph.D.) and major, and years of experience for each person who participated in preparing the EA. The preparers selected should be diverse enough to ensure a multidisciplinary approach to the environmental and socioeconomic analysis. The format for listing the preparers is provided in Section 7.0 of the REA.

4.8.3 Persons Consulted (RCI EA Section 8.0)

This section should list the names and agencies or organizations (if any) of persons who were contacted for data and information used in support of the analysis and preparation of the EA, whether or not a response was received. The date or dates of contact may also be provided. Normally, only persons outside the Army are listed here. Section 8.0 of the REA provides a sample layout of this information.

4.8.4 Distribution List (RCI EA Section 9.0)

This section should include a list of all persons and agencies or organizations who are to receive copies of the final EA. For Army RCI EAs, this list will normally consist of federal, state, and local regulatory agencies, elected officials, and libraries (or other facilities where the public may have access to review the document). Distribution of the Final EA should also include all parties who have provided comments on earlier drafts or who have specifically requested a copy of the document. The distribution list does not typically include Army recipients of the EA. A sample distribution list is provided in Section 9.0 of the REA.

4.8.5 Appendices to an RCI EA

Appendices should be used to support the content and conclusions contained in the main body of the EA, when necessary. Types of appendices usually included in an EA are as follows:

- Supporting technical data and methodological approaches (e.g., air emissions monitoring data, archeological survey results, and unique socioeconomic modeling applications).

- Official correspondence to and from outside agencies (e.g., U.S. Fish and Wildlife Service and State Historic Preservation Officer) that pertain to environmentally sensitive resources, cultural resources, and related issues.

- Other unique regulatory compliance and documentation requirements, such as a Coastal Zone Management Act consistency determination, a record of non-applicability (RONA) for air emissions, and a Farmland Conversion Impact Rating Form AD-1006 for prime farmland. (See Sections 5.1.2, 5.3, and 5.5.2 of this manual, respectively, for specific discussions on these topics.)

4.9 FINDING OF NO SIGNIFICANT IMPACT

4.9.1 Substantive Content

The FNSI is a separate, brief document (usually no longer than two pages) that presents the reasons why the proposed action would not significantly affect the human environment. It documents the decision that an EIS is not required. A sample FNSI is presented in the front of the REA. As specified in Sections 2-7(b) and 5-5(a) of AR 200-2, the FNSI must contain the following:

- Name of the action.

- Brief description of the selected action (preferred alternative),[13] including any other alternatives considered.

[13]The action selected in the FNSI can be the proponent's original proposed action, one of the alternative actions, or a mix of the alternatives analyzed in the EA.

- Brief discussion of likely environmental effects.
- Reasoning behind the determination of no significant effects.
- Identification of those mitigation measures to be implemented, when applicable.
- Deadline and point of contact for receipt of comments or requests for further information.

4.9.2 Public Notification and Involvement

In accordance with Sections 2-6(b)(2) and 5-5(c) and (d) of AR 200-2, the public must be given at least 30 days to review and comment on the FNSI before the proposed action may be initiated. Notification for the public review period is usually initiated by means of a display advertisement and/or legal notice published in at least one local newspaper of general circulation (see also Section 6.3 of this manual). Although the requirement for enclosing the Final EA with the FNSI for public review applies in only some cases (i.e., when the proposed action is one of national concern, is unprecedented, or normally requires an EIS), it is recommended that the Final EA always be made available to the public. The Final EA and FNSI can be distributed to interested parties upon request.[14] The Final EA, FNSI, and any important reference documents (e.g., documents incorporated into the EA by reference) can also be made available to the public at a local facility(ies) near the installation (and/or other affected property) that is open beyond normal work hours (e.g., community library). Specific information on the availability of the document should also be included in the newspaper advertisement. Refer to Chapter 6.0 of this manual for guidance on processing an EA and FNSI.

As previously discussed, AR 200-2 does allow the normal 30-day public review period to be reduced to a minimum of 15 days in such cases where (1) waiting until the end of the 30-day period jeopardizes the project; (2) the additional comment period provides no public benefit; and (3) the

[14]When distributing the FNSI with the Final EA for public review, it is recommended that the FNSI always be either attached or bound near the front of the EA, usually before or just after the signature and abstract page(s).

proposed action is not one of national concern, is not unprecedented, and does not normally require an EIS. Reducing the 30-day period requires MACOM approval.

The proponent is not required to respond to public comments on the Final EA and FNSI, but it is advisable to provide some form of response (by means of a letter, phone call, or meeting) for substantive comments made. Unless comments received convince the decision maker that further analysis and documentation are required, the proposed action may be initiated. Substantive public controversy on the effects of the proposed action could suggest the need to prepare an EIS to resolve issues (see 40 CFR 1508.27(b)(4)).

If a FNSI cannot be supported by the analysis, the proponent may choose to modify or terminate the proposal or proceed to an EIS. If the proponent proposes to proceed to an EIS, the installation Environmental Office should contact the MACOM Environmental Office to coordinate initiation of the EIS process.

4.10 NOTICE OF INTENT

4.10.1 Substantive Content

An NOI is a public notification announcing that an EIS will be prepared and considered. The decision to prepare an EIS can be made at the onset of planning for an RCI project, if significant effects are expected, or later in the NEPA analysis if such affects are identified during preparation of an EA.[15] The required contents of an NOI specified in the CEQ's regulations (40 CFR 1508.22) are as follows:

- A brief description of the proposed action and alternatives. The purpose and need statement should also be included.

[15]If potentially significant effects could occur but can be adequately mitigated to less-than-significant levels, preparation of a "mitigated EA/FNSI" might be appropriate (refer to Section 1.4.5 of this manual); otherwise, an EIS should be prepared.

- A brief description of the Army's scoping process, including the time, date, and location of any scoping meeting(s) planned, as well as an address to which comments may be mailed and/or sent electronically. (If the location and time for scoping meetings has not yet been determined, add a statement to the NOI informing the public that such information will be announced later in local newspapers.)

- The name and address of the point of contact within the Army who can address questions on the proposal and the EIS process. (It is recommended that a phone number for the point of contact also be included.)

The NOI should also include information on the availability of project-related documents or supporting information on the proposal that the public can view. Such documents can be placed in a community library or other easily accessible government office, preferably one that is open beyond normal work hours.

Some readers of an NOI might not be familiar with the proposed action or the project location. It is therefore prudent to include sufficient background information in the NOI to help readers to understand what the proposal is about and why it is needed. Giving readers sufficient information minimizes confusion and helps to generate more meaningful comments. Depending on the extent of non-English-speaking persons in the affected community, making appropriate translations of the NOI available to the general public might also be prudent. A sample NOI is provided as Appendix B in this manual.

4.10.2 Public Notification

The NOI is published in the *Federal Register* to formally announce the preparation of an EIS on a proposed action, and to solicit comments from the public as part of scoping. Publication of the NOI initiates the public scoping period, which is typically 30 to 90 days in length. Separate notification for scoping and any scoping meetings must also be published in local newspapers, usually in the form of display advertisements and/or legal notices.

If for some reason work on an EIS stops or is postponed indefinitely, a cancellation notice should be published in the *Federal Register*. The cancellation notice refers to the original NOI and gives the rationale for ceasing work.[16]

4.11 ADMINISTRATIVE RECORD

The Administrative Record is the entirety of the information and data relied on to prepare the EA. The record includes all data, information, and analysis either generated by other sources or obtained from other sources used to support the analyses and documentation. It is essentially the Army's file as it relates to the action, and it can become the backup data used in court proceedings to validate the NEPA process and support the Army's decision.

The preparer should organize the data and information composing the record as a current, accessible file, indexed by topic, to the extent practicable. A sample project file/administrative record index is provided as Appendix C in this manual. A complete Administrative Record should include project-related information in the possession of the installation and/or lead agency (and any contractor) and should identify any other reference materials used in preparing the document but available only from outside sources (e.g., copyrighted documents at public libraries). Communications of all types (e.g., memoranda, internal notes, telephone conversation records, letters, and minutes of meetings) are typically included, along with public outreach materials, such as newsletters, newspaper advertisements (including affidavits of publication), and other public notices. Data sources that should be part of the Administrative Record include maps (e.g., wetlands, endangered species ranges, habitat, surface water, geology, topography, and land use), drawings (e.g., "as-builts" for roadways and for drainage, water, sewerage, and electrical systems), studies, reports, documents, appraisals, special data compilations, modeling results, correspondence from subject matter experts, or other types of written information that were relied on during the environmental analysis and decision-making process. All references cited in the NEPA document should be traceable to the Administrative Record.

[16] Although there is no written legal requirement, CEQ highly recommends that EIS cancellation notices be published in the *Federal Register* as a means of keeping the public well informed.

The Administrative Record should be compiled in conjunction with the EA and retained by the installation Environmental Office and/or lead agency for a reasonable time following completion of the proposed action and all mitigation measures, which can take up to several years (e.g., out-year phases of construction).

Should the legal sufficiency of a NEPA document be challenged, the time allowed for assembling and providing the Administrative Record for review is usually quite short.

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CHAPTER 5.0
ENVIRONMENTAL RESOURCE TOPICS

Discussed in the following sections are a number of environmental resource topics that typically require attention during the NEPA analysis process for Army RCI actions. Several infrequently encountered topics are also described. These topics and the subsections in which they are discussed are listed below:

- Section 5.1 — Land Use
- Section 5.2 — Aesthetics and Visual Resources
- Section 5.3 — Air Quality
- Section 5.4 — Noise
- Section 5.5 — Geology and Soils
- Section 5.6 — Water Resources
- Section 5.7 — Biological Resources and Wetlands
- Section 5.8 — Cultural Resources
- Section 5.9 — Socioeconomics
- Section 5.10 — Transportation
- Section 5.11 — Utilities
- Section 5.12 — Hazardous and Toxic Substances
- Section 5.13 — Infrequently Encountered Topics

Included in the discussion is a definition of each resource, its relevance to Army RCI actions, an overview of the statutory and regulatory setting, unique compliance and documentation requirements (if any), tips for describing existing conditions (EA sections on the affected environment) and potential effects (EA sections on consequences), approaches to analysis, significance thresholds for determining whether an environmental impact statement (EIS) is required, examples of mitigation measures, and data sources. Although each of the resource topics described in this chapter may be addressed in a NEPA analysis, not all require coverage in every NEPA analysis or to the same

degree. Some resources that frequently receive detailed attention can, in certain cases, be determined not to affect or to be affected by the proposed action or its alternatives. In such cases, in-depth treatment of these topic(s) would not be warranted, and they would require only minimal reference in the NEPA document. (Refer to Section 3.2 of this manual for discussions on scoping and issue identification.)

In addressing these topics in an EA as compared to an EIS, preparers should keep in mind that the same general thought process is used in the preparation of both types of documents. An EA, however, typically contains less detailed information, although the information and analysis must be sufficient for the document reader to understand how the conclusion was reached that an action has no significant environmental effects and that a more detailed analysis (EIS) is not required.

5.1 LAND USE

Land use is interconnected with most, if not all, the other resource areas considered in a NEPA document. Its analysis is important because land use can cause or be affected by impacts on air, water, geology, soil, noise, flora and fauna, transportation, or socioeconomics. The assessment of potential effects on land use, therefore, should be as comprehensive as the particular characteristics of the project warrant.

5.1.1 Land Use and Property Ownership

Resource Definition

Land use refers to human use of the land for economic production; for residential, religious, recreational, or other purposes; and for natural resource protection. Land uses are frequently regulated by management plans, policies, zoning ordinances, and regulations that determine the types of uses allowable or protect specially designated or environmentally sensitive uses.

Under AR 210-20 (*Master Planning for Army Installations*), land use planning for Army installations is based on providing facilities that support an overall quality environment for military forces (trained personnel, equipment, and supplies) needed to maintain national security. In contrast with the wide variety of land use and zoning classifications typically used by local jurisdictions, Army planning relies on 12 land use classifications—airfields, maintenance, industrial, supply/storage, administration, training/ranges, unaccompanied personnel housing, family housing, community facilities, medical, outdoor recreation, and open space.

Related to land use is the issue of property ownership. Depending on the use, location, and ownership of a particular land parcel, that parcel could be subject to regulation by federal, state, or local government entities, or any combination of entities. Leasing of property, easements, and other property agreements may also limit or control how land can be used.

Relevance to RCI

Army RCI actions may potentially change the land use of a site, particularly if new housing is constructed in an area where housing didn't exist. Housing densities can change and the number of housing units on the installation can also increase or decrease. Add to this a variety of new or modified ancillary facilities, roads, and other infrastructure, and the potential exists for major changes in the local landscape.

Such changes in land use can raise a number of issues and concerns, such as whether the RCI housing and ancillary facilities will be compatible with adjoining land uses on and off post. Specific concerns include noise and visual intrusion, exposure to health and safety hazards, increased traffic congestion, changes in property values, community cohesiveness, and protection of environmentally sensitive areas. The implementation of RCI actions should be consistent with the installation Master Plan; otherwise, the RCI process could be viewed as a legitimate method for amending the Master Plan.

Secondary growth-inducing or reducing effects can also occur in the local community, depending on changes in housing availability on and off post, as well as the addition and variety of ancillary facilities and services offered to families living on the installation. The potential exists for Army actions like those of RCI projects to ultimately affect land use patterns within the community.

Statutory and Regulatory Setting

Land uses are regulated by all levels of government through zoning restrictions; conditional use permits; and a variety of federal, state, regional, and local policies. Laws and regulations governing land use are often highly site-specific. Outside Army property, the most immediate general-purpose governmental jurisdiction (e.g., city or county) is most likely to control land uses. In some instances, a particular project may be located within one or more special use areas where additional land use restrictions may apply (e.g., coastal zone management areas and floodplains; see Sections 5.1.2 and 5.6.3 of this manual, respectively).

Under the doctrine of federal supremacy, the federal government, including the Army, is not subject to state or local land use or zoning regulations unless specifically consented to by Congress. The federal government does take land use and zoning policies into consideration and cooperates with state and local agencies to avoid conflicts when possible. The federal government will not, however, formally apply for conditional use permits or similar land use approvals for actions related to local zoning ordinances and land use plans. The federal government is subject to federal and state regulations controlling environmental impacts and the management of federal lands.

Under land use and property ownership, specific Army and other federal laws and regulations that may apply to RCI actions are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 210-20, *Master Planning for Army Installations*
- AR 405-80, *Management of Title and Granting Use of Real Property*
- AR 405-90, *Disposal of Real Estate*

- Federal Land Policy and Management Act (FLPMA) of 1976
- Executive Order 12372, *Intergovernmental Review of Federal Programs*

Content and Organization

Describing Existing Conditions (Affected Environment). The affected environment section of the
EA should provide a description of the types of land use and land cover found within and around the project area. It should also indicate property ownership and associated land use agreements (if any) within this same area.

The ROI for land use (see also Section 4.6.1.1 of this manual) is primarily based on the size and extent of the proposed RCI project. It will normally consist of the immediate project area (i.e., buildings, facilities, and land parcels directly affected by the action, including any construction or other activities that are temporary in nature), and those areas within the immediate vicinity of the project area that could be influenced by or cause influence to RCI actions. Because of the potential for secondary or indirect land use effects to occur on or off post, some consideration may need to be given to describing an even broader area, depending on the scope of the RCI project. This is particularly true when determining the potential for cumulative effects from other development plans and programs in the region.

To give the reader of the EA an overall perspective of the environmental setting, the discussion of the land use affected environment should first give an overview of the installation in terms of geographic location, the general landscape of the region, and basic climatic conditions (i.e., ranges in temperature, annual precipitation, and general wind conditions). Any “location” or “site” maps presented earlier in the EA, usually in Section 2.0 (Proposed Action), should also be referred to here.

Although the bounds of the ROI will vary at each installation, depending on the scope and location of the RCI project, the description of land use conditions will usually include information on existing land use within the installation project area, existing land use within adjacent off-post areas, and any

future land development plans or programs in the area. For each of these subtopics, the following information should be described, as appropriate.

- *Installation land use.* This section should describe the current on-post land use(s) within and adjacent to the project area using the 12 standard land use categories defined in AR 210-20. Any areas with special use designations, such as aircraft accident potential zones or areas of unexploded ordnance (UXO) (see Sections 5.13.2 and 5.13.7 of this manual, respectively, for specific discussions on these topics) should be identified. Relevant information on number of buildings, building or facility functions, general architecture, and total square footage should be described. Any lease agreements, easements, or right-of-ways should also be included.

  It is important to note that land use for the entire installation need not be described. The focus for this discussion should be on those areas within the designated ROI for land use.

- S*urrounding land use.* This section primarily describes off-post land use areas that are part of or adjacent to the project area (areas within the ROI). The description should include any pertinent zoning restrictions that may apply. This section should also provide a general description of regional land uses and should give the relative location and distance from surrounding communities and any key landmarks (e.g., national parks and monuments). If any major water bodies (navigable waters, harbor areas, etc.) exist in the vicinity of the installation, their relative location and use may also need to be described.

- *Future development.* This section should identify any long-range development plans/programs that are proposed to occur on post and within the region. Such plans may include other residential development projects, Army force restructuring actions, business parks, and any other large construction projects. Of particular importance are those development plans or programs that could cause direct or indirect impacts that are similar in nature *and* overlapping in time and place with those impacts caused by the proposed RCI project. This particular information is vital in determining cumulative effects associated with the RCI project (see Section 4.6.2.2 of this manual).

A map showing land use categories should be included and referred to in this section. This map or other maps contained in the EA should also show locations of buildings and other major infrastructure (e.g., roads) found within the ROI. Sample text and a figure showing land use can be found in Section 4.1.1 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on land use should be addressed as follows:

- *Analysis*. Determining potential impacts on land use requires an assessment of the current land use within the ROI compared to proposed changes in land use. The proposed land use must also be compared to approved uses that are specified in the installation Master Plan, other pertinent installation environmental management plans (e.g., Integrated Natural Resources Management Plan), and, if applicable, state and local land use plans and policies (e.g., county or city comprehensive plans and local zoning ordinances).[1] The objective is to identify whether there are any conflicts (incompatibilities) or inconsistencies with existing land uses or with adopted land use plans and policies.

  To help in determining land use impacts, preparers of the EA should closely coordinate with installation environmental, planning, and real property staff, along with other Army offices and directorates as necessary. When it is expected that land use impacts might occur off post, coordination and consultation with local or regional planning agencies and officials are strongly recommended, particularly if some level of public opposition exists.

- *Description of Effects*. It is expected that RCI actions will likely result in some changes to existing and future land uses as a result of creating new housing areas, increasing or decreasing housing densities, placing use restrictions on property through leasing and easements, adding or deleting ancillary facilities, taking actions leading to induced growth in the local community, and causing changes in local road networks and other infrastructure. These changes in land use must

[1]For determining inconsistencies with coastal zone management programs, see Section 5.1.2 of this manual.

be described in the EA "Consequences" section and evaluated to determine the extent of change and resulting impacts. Any conflicts (incompatibilities) with neighboring land uses or inconsistencies with Army or other government land use plans and policies must be identified and explained.

- *Significance Thresholds*. Significance of the impacts is based on whether the proposed action conflicts with established land uses in the area, disrupts or divides established land use configurations, represents a substantial change in existing land uses, or is inconsistent with adopted land use plans. These can be somewhat subjective, and the EA preparer needs to make a judgement on how much of a change in land use would constitute a potential for a significant impact.

  As an example, locating housing areas near UXO contaminated fields or next to industrial operations would represent an incompatibility of land uses because residents of the new housing area might be exposed to various health and safety risks. Another example might be the relocation of military families from their current residence locations off-post to new housing areas on-post. If the relocation of a substantial number of families were to result in a decrease in land development within the local community, a significant indirect effect might result.

- *Mitigation*. Proposed mitigation measures for changes in land use might include moving the proposed action (whether it be new housing, a street alignment, or ancillary facilities) to a different location in order to avoid conflicts with adjacent land uses, obtaining a land use plan change where the proposed action is inconsistent with existing land use or zoning maps, and creating open space or other physical buffers at the periphery to reduce perceived conflicts.

Sample text describing the consequences section for land use can be found in Section 4.1.2 of the REA.

Data Sources

On-post land use and real property information can usually be obtained from installation environmental, planning, and real property staff. Off-post land use information is typically available from local and regional planning agencies and departments. Specific sources include the following:

- *Installation Master Plan.* The installation's Master Plan describes existing conditions on the installation and future development projects. The Master Plan is updated every several years, and allows the Commander to prioritize installation development projects.

- *Integrated Natural Resources Management Plan (INRMP).* A number of Army installations have developed INRMPs for the purpose of providing better management of natural/biological resources on post.

- *Integrated Cultural Resources Management Plan (ICRMP).* A number of Army installations have developed ICRMPs for the purpose of protection and management of cultural resources on post.

- *Integrated Training Area Management (ITAM) Program Plan.* If an ITAM has been prepared for the installation, it can serve as a valuable source of land use and other resource information for range and training land areas on post.

- *Geographic information systems (GIS).* Some Army installations and local planning agencies have developed GIS spatial databases for a variety of planning and analysis purposes. In some cases, these databases may have land use/land cover data layers created specifically for land use management plans.

- *Recent NEPA documents.* EAs and EISs recently prepared by the installation or by other government agencies can often provide valuable data on local land use and other resource topics.

These can usually be obtained from the installation Environmental Office, local planning departments, and other state and federal agencies.

- *Site investigations.* A visit to the project site is invaluable and highly recommended. A walk or drive of the property and adjacent areas provides a visual means of collecting data on land use, land cover, and other resource topics.

- *Land use and zoning maps*. Land use and zoning maps parcelize properties according to their land use and/or zoning. These maps are essential for determining inconsistencies between the proposed project and existing or future land uses of the surrounding properties.

- *Topographic maps.* Depending on the production date of U.S. Geological Survey (USGS) 7.5 minute topographic maps, they can offer valuable information on land use, land cover, and delineation of public lands.

- *Aerial photographs.* Aerial photographs serve as an excellent tool for identifying land use and land cover, particularly over large areas. They can usually be obtained from local aerial photographic businesses, the local planning department, and other local and state agencies.

- *Tax assessor maps.* Tax maps often provide information on current and previous property ownership. They are available from the local tax office.

- *City/county comprehensive plan.* A city or county comprehensive plan, or general plan, is a long-term development plan for the area. It typically describes land use, transportation, socioeconomics, and other factors relevant to the area's future development and economic growth. Zoning maps, land use maps, and other graphics are an essential part of the plan. They can usually be obtained from the local planning department.

- *Future land use plans or programs*. On post, this information can also be obtained through interviews with environmental, planning, range management, and public works staff. Off post,

such information usually comes from city, county, or regional planning and transportation departments and local chambers of commerce.

5.1.2 Coastal Zone Management

Resource Definition

The Coastal Zone Management Act (CZMA), 16 U.S.C. Section 1451 et seq., establishes a policy to: preserve, protect, develop and where possible, restore and enhance the resources of the Nation's coastal zone for current and future generations; and to encourage and assist states in their responsibilities in the coastal zone through development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values, as well as the needs for compatible economic development (16 U.S.C. 1452).

CZMA encourages the management of coastal zone areas and provides grants to be used in maintaining coastal areas. It requires that federal agency activities be consistent with the enforceable policies of state coastal zone management programs when such activities effect a coastal zone. It is intended to ensure that federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones. As defined in the Act, the coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines and land extending inward to the extent necessary to control shorelines. The coastal zone includes islands, beaches, transitional and intertidal areas, salt marshes, etc.

Relevance to RCI

The CZMA requires that federal agencies conducting or supporting activities affecting the coastal zone conduct or support those activities in a manner that is consistent with approved state coastal zone programs.

Federal agencies proposing activities or development projects including civil works activities, whether within or outside of the coastal zone, that are reasonably likely to affect any land or water use or natural resource of the coastal zone, to assure that those activities or projects are consistent, to the maximum extent practicable, with the approved state programs. If an activity would affect the coastal zone, the federal agency must review the state coastal zone management plan to determine whether the activity would be consistent with the plan and then notify the state of its determination. Federal agencies must prepare a written consistency determination which includes: a detailed description of the action, its associative facilities, and coastal zone effects; a brief statement on how the activity would be consistent with the state coastal zone management plan; and data to support the consistency determination.

Statutory and Regulatory Setting

In addition to the CZMA of 1972, other applicable federal laws that apply to this resource area are listed below and discussed in Appendix A of this manual.

- Coastal Zone Management Improvement Act of 1980
- Coastal Zone Act Reauthorization Amendments (CZARA) of 1990

Compliance and Documentation Steps

If there is a potential for environmental effects to occur within defined coastal zone areas, then a CZMA consistency determination is required. Procedures may vary from state to state, but the general steps are as follows:

1) Coordinate with applicable state agency officials on requirements for a CZMA consistency determination. If state officials agree that none is required, then document coordination results in the final NEPA document; no further steps are required.

2) If required, prepare CZMA consistency determination documentation or complete necessary state application forms (if any).

3) Submit documentation/application to the applicable state agency.

4) Hold consultation meetings with agency officials, as necessary, to resolve issues.

5) Summarize results of agency reviews of the CZMA consistency determination in the final NEPA document. A copy of the CZMA consistency determination documentation or application, and any applicable correspondence, should also be included in the NEPA document appendices.

Content and Organization

Describing Existing Conditions (Affected Environment). The effected environment section for coastal zone management should describe the ROI with respect to coastal resources as prescribed in the coastal management program. The ROI for coastal resources depends on the project, but is generally contiguous with the project boundaries within the coastal influence zone, but can include adjacent areas in the case of aesthetics, recreational use, and land use for example.

The description of the effected environment should also discuss the proposed projects proximity to special management zones such as resource protection or resource management areas. Discussions of individual resource areas (e.g., wetlands) should be discussed under the appropriate resource section of the environmental assessment.

Sample text for this is provided in Section 4.1.1.4 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. The approach to analysis for coastal zone management should involve a review of the proposed action in the context of its potential impacts to coastal resources. Evaluation of potential impacts should consider the proposed projects effects on: public access to and

recreational use of the coast, in a manner consistent with private rights and environmental protection; protection of marine and land resources including wetlands, rare and endangered habitat areas, tidal pools and stream channels; the maintenance of productive coastal agricultural lands; the direction of new housing and other development to urbanized areas with adequate services rather than allowing scattered sprawling, wasteful patterns of subdivision; and the protection of the scenic beauty of the coastal landscape.

- *Description of Effects*. Typical types of activities that could impact coastal resources if not properly planned, sited, or mitigated include:

  – Construction, modification or removal of public works, facilities, or other structures within the coastal zone.

  – The acquisition, utilization, or disposal of land or water resources within the coastal zone.

  – Road construction in the coastal watershed.

  – Waste discharge in the coastal zone.

  – Activities affecting or altering surface runoff (quality or quantity) in the coastal watershed.

  – Dredging or filling, construction, or waste discharge in coastal waters.

  Examples of direct impacts to coastal resources would include limiting public access to a coastal resource or filling wetlands for construction. Indirect impacts might include impacts to local coastal recreational resources resulting from increased use due to project development or the effects of increased runoff resulting from development on the water quality of a nearby tidal stream.

- *Significance Thresholds.* Guidelines presented in state or territory coastal management plans or permits determine overall thresholds for a project. Individual resource thresholds are considered under the appropriate resource sections in the environmental assessment.

- *Mitigation.* Mitigation measures may include downsizing a project to meet local planning guidelines or relocating or reorientating design plans to minimize impacts. Most mitigation measures will include land use changes to insure that the project is consistent with the coastal management plan and other specific local land use planning guidelines. Mitigation of impacts to specific resources in the proposed project area should be addressed in the appropriate resource area of the environmental assessment.

Sample text addressing this is provided in Section 4.1.2 of the REA.

Data Sources

- *Topographic maps*. USGS 7.5 minute topographic maps are useful in determining a proposed sites location within the landscape and its proximity to, or location in, a coastal zone. USGS topographic maps are also useful for evaluating potential impacts of a proposed project to surrounding resource areas.

- *Aerial photographs.* Aerial photographs provide useful information on site conditions such as habitats, existing structures, surficial conditions and, where historical photos are available, past land uses. They can usually be obtained from local aerial photographic businesses, the local planning department, and other local and state agencies.

- *State or territorial coastal management program documents.* These documents should provide information on the extent of the coastal management area, areas affected by special area management plans (SAMPs), coastal management area consistency requirements, etc.

- *State or county bay or estuarine preservation act and regulation documents*. These documents should provide information on the extent of preservation areas and requirements for special management and zoning in designated coastal and adjacent areas.

5.2 AESTHETICS AND VISUAL RESOURCES

Aesthetic and visual resources are closely interconnected with land use and are assessed to help determine whether proposed actions would be compatible with the affected setting or would noticeably contrast with it. The importance of visual resources to an affected population is highly variable and strongly influenced by social considerations, including the current land use of the affected setting. Both the description of the affected environment and assessment of the consequences should be performed as objectively as possible, although visual and aesthetic resource impact analyses are by nature subjective.

Resource Definition

Aesthetic and visual resources refer to the natural and man-made features of the installation landscape and include cultural and historic landmarks, landforms of particular beauty or significance, water surfaces, and vegetation. Together, these features form the overall impression that a viewer receives of an area or its landscape character.

The value of the affected setting is highly dependent on existing land use. An area that is primarily used for recreational and tourist activities is likely to be more visually sensitive than an area used for industrial purposes. The construction of housing in a setting used primarily for hiking and picnicking is far more likely to elicit adverse reaction than construction of housing in an urban area. Accordingly, a project could have very different impacts on aesthetic and visual resources depending on where it is to be conducted. Visual resources and impacts should be described and assessed in the context of both the surrounding physical environment and current human activities.

Relevance to RCI

Army RCI actions can potentially affect the aesthetic value of the proposed site and surrounding area, particularly if new housing or ancillary facilities are constructed where none existed before. Specifically, an RCI action could alter building densities and lead to modifications in roads and other infrastructure. These actions could result in potential changes in the local landscape. Physical changes to the affected setting should be consistent with current land uses and congruent with existing comprehensive plans that establish policies, directives, or regulations pertaining to visual resources.

Statutory and Regulatory Setting

Viewsheds might be regulated by federal, state, and local land use and zoning codes. For example, local jurisdictions may independently designate scenic highways that are of local importance. Federal laws governing this resource are listed below and discussed in Appendix A of this manual

- National Wild and Scenic Rivers Act
- National Trails Systems Act
- Federal Land Policy and Management Act (FLPMA) of 1976

Content and Organization

Describe Existing Conditions (Affected Environment). This section should describe factors that contribute to the visual characteristics of the project site and surrounding area. The ROI for this resource is defined by the proposed project's viewshed, or the area from which the site is visible and those areas visible from the site. The location and nature of the surrounding built and natural area will determine the ROI. Factors used in determining the ROI can include views from primary and secondary highways; lakes, streams, and coastal areas; hills or mountain areas; vegetation cover; and types of residential or industrial areas surrounding the site.

The description of the ROI's visual resources should encompass such features as architectural styles of existing buildings, extent and characterization of undeveloped and historic areas, and an overview of the landscape characteristics. The section should also describe important views from the project site, particularly for housing and recreation areas. Any federal, state, or local plans and policies that address the protection or importance of visual resources applicable to the area should be noted.

Information in this section should describe, as appropriate:

- *Landscape character.* Provide an overview of the visual characteristics of the project site and adjacent areas. This would include such features as lakes, streams, coastal areas, hills, mountains, vegetation, types of buildings/facilities, architectural styles, open and undeveloped areas, and important viewsheds.

- *Unique natural and man-made features of the landscape*. This would include unique features and well-known landmarks (e.g., waterfalls, unusual rock outcrops, monuments, and historic buildings).

- *Sensitive areas*. Location of public lands, federally protected areas, and other visually sensitive areas.

- *Plans and policies*. Local and regional plans and policies regulating visual resources.

When controversy or major concerns exist over particular aesthetic and visual resources, the inclusion of photographs or maps showing the exact location of significant sites or viewsheds provides a better means of understanding the problem. A topographic map or cross section can also be useful in showing how a visual site can be seen from other areas, even far away.

Sample text is found in Section 4.2.1 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in effects on aesthetics and visual resources within the project area should be addressed as follows:

- *Analysis*. Identifying significance criteria for visual and aesthetic resources can be subjective. Significant impacts would occur if the results of the action or alternatives are visually incompatible or obtrusive to the existing visual setting and landscape. Significance can also be determined for proposed developments that are incompatible with state or local policies for protection of visual resources. A determination must be made of the degree to which the proposed action would modify the visual setting and if the contrast is substantial enough to be a significant impact. Within the ROI, the analysis should identify impacts that could occur from any modifications and new construction that would be visible from adjacent housing areas and off-post communities. It should describe impacts on views from primary and secondary roads into the installation, and any other unique visual resources within the ROI. Consideration should also be given for new residents of RCI housing project areas with regard to the visual quality of their new or modified surroundings. Any impacts described should be based on the baseline information presented in the affected environment description.

  Should some particular agency methodology or approach be used in the analysis of visual resources, the specific approach should be briefly explained and referenced in the affected environment discussion .[2]

- *Description of Effects.* Impacts on visual resources might include

  – Unsightly structures. Large or unusual structures, building materials, or colors can determine whether a structure is "unsightly." This determination is very subjective, but can be better judged if comparisons are made to adopted architectural guidelines and policies established by the installation or local community.

[2]An example of a particular methodology would be the Bureau of Land Management's Visual Resources Management Program for public lands.

- Changing views of landscapes, landmarks, and other aesthetically important sites. The effects of new construction that blocks or alters important viewpoints should be described.

- Significant alterations to the landscape. Drastic changes to the landscape or skyline could occur if large development projects are initiated, if wooded areas are removed, or if extensive demolition of existing buildings occurs. In the case of demolition, the landscape could be beneficially affected if scenic views are uncovered. Another example is that some large overhead lights can create light pollution, changing the viewshed in the evening hours.

- *Significance Thresholds.* Significant visual impacts might result from projects that would

  - Involve structures or land alterations visually incompatible or obtrusive to the existing visual setting and landscape.

  - Noticeably increase visual contrast and reduce the scenic quality rating from any high-sensitivity foreground or middle ground viewpoint.

  - Block or disrupt existing views or reduce public opportunities to view scenic resources.

  - Conflict with existing regulations and policies governing aesthetics and visual resources.

- *Mitigation.* Mitigation measures can include the following:

  - Use building designs, construction materials and colors, and landscaping that blend with existing structures and surroundings.

  - Design structures to comply with installation policies or other local regulations regarding architectural requirements.

  - Implement lighting systems and designs that minimize light pollution at night.

- Minimize the removal of trees and other vegetation, and revegetate areas disturbed during construction.

- Create building setbacks, install tree lines, or create elevated earthen walls to form buffers separating visually conflicting areas.

Sample text for this section is provided in Section 4.2.2 of the REA.

Data Sources

Baseline information on visual resources can be collected by a variety of methods. Field surveys and photographs are good methods to determine the overall visual character of the area. Views should be taken from both inside and outside the project area. Areas visible from primary and secondary roads should be noted, with particular attention to any features that could be considered unique for the area.

State and local planning and parks departments should be contacted for adopted regulations and policies pertaining to aesthetics and visual resources. Local schools, universities, and astronomy clubs may also be a source of information on identifying locations of observatories and other areas used for star gazing where light pollution may be a concern.

5.3 AIR QUALITY

Resource Definition

For the purposes of conducting NEPA analysis, air quality is defined as the quality of outside air relative to pollutant concentrations in that air. Indoor air quality, particularly as related to the source(s) and effects of radon and airborne lead associated with lead-based paint (LBP), is discussed in Section 5.12 of this manual. The most frequently analyzed pollutants are referred to the six criteria air pollutants. Those pollutants are carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_X), ozone

(O_3), particulate matter with aerodynamic size less than or equal to 10 micrometers (PM_{10}), and sulfur dioxide (SO_2).[3] Levels of ozone are normally assessed relative to the production of volatile organic compounds (VOCs) and/or NO_X. Air emissions of criteria pollutants are generated from stationary and mobile sources. Examples of stationary sources could include boilers, landfills, incinerators, wastewater treatment plants, gas stations, and construction/land-clearing activities. Examples of mobile sources include motorized vehicles, aircraft, and marine craft and ships in operation. The problems associated with the pollutants CO and inhalable particulate matter are usually related to localized conditions, such as congested traffic intersections or construction activities. The other criteria pollutants are associated with more regionalized problems that result from the interaction of pollutants from a great number of widely dispersed sources (e.g., a large city containing many stationary and mobile sources).

Other air emissions that may be required to be addressed are referred to as hazardous air pollutants (HAPs). There are 189 HAPs, and a list can be found at 40 CFR Part 63. Examples of proposed activities that could require addressing HAPs include construction of a gas station or dry cleaners or expansion of a wastewater treatment plant.

The factors that affect pollutant concentrations are emission rates, emission parameters, topographic features, the cumulative effect of other emission sources, chemical reactions, and meteorological conditions. The meteorological parameters that have the greatest effect on pollutant dispersion are wind speed, wind direction, atmospheric stability, mixing height, temperature, and relative humidity.

Relevance to RCI

Implementing RCI could result in demolition, construction, and renovation of Army family housing and other support facilities as previously described. Additionally, new facilities may be the source of a new stationary air emission source, such as a fossil fuel-fired boiler. Pollutants resulting from

[3]EPA has proposed changing the PM standard from 10 microns to 2.5 microns. Should such a change be approved, treatment of air quality issues related to PM will alter. Practitioners need to consult with air quality experts on this matter to assure reliance on use of the correct standard.

demolition, construction, and renovation and occupation of new housing may affect air quality. Localized short-term emissions could occur from various sources such as heavy equipment (bulldozers, scrapers, and graders) and vehicular traffic, as well as wind-borne particulate from exposed soils. An RCI EA must consider the additional strain on air quality and discuss the relevant issues to ensure that there are no foreseeable adverse effects.

The ROI appropriate for air quality issues varies according to the type of air pollution being considered. Primary pollutants such as CO have a localized ROI generally restricted to the areas in the immediate vicinity of the source. Secondary pollutants such as ozone have an ROI that includes the project region.

Statutory and Regulatory Setting

The Clean Air Act (CAA), as amended, subjects all new and existing sources of air pollution to ambient air quality regulation, through source-specific emission limits contained in state implementation plans (SIPs). New sources are also subject to more stringent control technology and permitting requirements.

The CAA sets national ambient air quality standards (NAAQS) for six "criteria" pollutants and HAPs as previously described. Proposed federal (Army) actions would require assessment of how the proposed action would affect the attainment and maintenance of the NAAQS. See Table 5-1 for the NAAQS. In much of the United States and territories, the enforcement of these standards has been delegated to the states or other local governmental entity. Areas that fail to meet the NAAQS are designated as "non-attainment areas" and are potentially subject to regulatory enforcement as set forth in a SIP.

Table 5-1
National Ambient Air Quality Standards (NAAQS)

Contaminant	Standard (Fg/m³) Primary	Secondary
Ozone		
1-hour average	235	---
Carbon monoxide		
8-hour average	10,000	10,000
1-hour average	40,000	40,000
Nitrogen dioxide		
annual average	100	100
Sulfur dioxide		
annual average	80	
24-hour average	365	
3-hour average	1,300	
TSP		
annual geometric mean	75	60
24-hour average	260	150
Lead		
3 months	1.5	1.5

CAA sections 107 and 110 give each state primary responsibility for ensuring air quality within its borders. The SIPs establish source-specific requirements for primary air qualiry standards (federally enforceable standards required by CAA) and secondary air quality standards (recommended criteria that are not federally enforceable). In addition to SIPs, states may have additional relevant legislation, such as the California Clean Air Act, that applies.

CAA section 112 provides guidance on HAPs.

AR 200-1 addresses the Army's air quality program. Under AR 200-1, Army activities must minimize the procurement, use, and emissions of ozone-depleting chemicals (ODCs).

The NAAQS are usually provided in units of µg/m³. New ozone 8-hr standard should be included. Total suspended particulates (TSP) is no longer at federal standard although many states still retain TSP standards.

Compliance and Documentation Steps

In addition to NEPA, compliance with General Conformity under the Clean Air Act will be required for RCI projects. In order to ensure that federal activities do not hamper local efforts to control air pollution, Section 176c of the Clean Air Act prohibits federal agencies, including the Army, from initiating any action which does not conform to an approved local, state, or federal implementation plan (LIP, SIP, or FIP, respectively). Conformity means conforming to a LIP, SIP, or FIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving attainment of such standards. The Army established policy and guidance for general conformity under the Clean Air Act in a memo: HQDA (ACSIM), 27 June 1995, subject: General Conformity Under the Clean Air Act—Policy and Guidance (see Appendix I in this manual).[4] This policy memo also established the requirement to prepare documentation to certify compliance with the General Conformity rule. Either a Record of Non-applicability (RONA) or a Conformity Determination must be prepared. This applies only if the installation is located in nonattainment, maintenance, or ozone transport areas.

In order for an action to proceed in a nonattainment, maintenance, or ozone transport area, the review of the action must result in a determination of one of the following:

1) The action is addressed by the Transportation Conformity Rule. Examples include road construction projects that are part of a conforming transportation plan and subject to approval or funding under the Federal Transit Act. (This is generally not applicable to Army actions.)

2) The action is specifically exempted by the rule. Most exemptions cover administrative type actions; however, recurring activities, emergencies, certain research and development activities are also exempted.

[4]Although not included in this manual, the HQDA (ACSIM) memorandum makes reference to a second enclosure entitled *Department of the Army Guide for Compliance with the General Conformity Rule Under the Clean Air Act*, dated 15 June 1995. This enclosure is approximately 50 pages in length and is available through the Internet from the Defense Environmental Network and Information eXchange (DENIX).

3) The total direct and indirect emissions caused by the action will be less than the de minimis levels established in the rule. These levels are generally the same as those for major source determinations and vary depending on the severity of the nonattainment status of the area. (This would be the most applicable situation for RCI projects.)

4) A conformity determination has been made that the action conforms to applicable LIP, SIP, or FIP. A conformity determination may involve modeling analysis, installing additional pollution controls, or trading the ability to perform one activity for another. The Conformity Rule requires public notice and opportunity for comment in making conformity determinations.

Details on exemptions and *de minimis* levels can be found in the *Department of the Army Guide for Compliance with the General Conformity Rule Under the Clean Air Act*, dated 15 June 1995;[5] or in 40 CFR 51 section 51.850-860, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*.

The Army policy requires:

- If the action review results in a determination, as previously described in paragraphs 1, 2, or 3, then a RONA must be prepared and signed by the installation environmental coordinator. A RONA consists of a description of the project and adequate documentation to support the decision not to prepare a conformity determination, as previously described in paragraph 4.

- If the action requires a conformity determination, a Draft Conformity Determination must be forwarded to the U.S. Army Environmental Center (USAEC) for review and comment. The USAEC comments must be addressed prior to public release of the conformity determination. After public comments have been addressed, the Final Conformity Determination, along with public comments and Army responses, will be forwarded through command channels for

[5]Refer to prior footnote.

signature by the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health)

- All RONAs, Final Conformity Determinations, and supporting documentation will be retained at the installation level for a period of six years after completion of the conformity review or, for construction projects, six years after completion of the project.

Content and Organization

Describing Existing Conditions (Affected Environment). The following air quality factors in the project area should be described, as appropriate:

- Ambient air quality conditions
- Existing air emission sources, both on and off post (if available)
- Air pollution source permits
- Federal and state air pollution control regulations and standards
- Criteria for attainment/nonattainment areas. (Provide criteria as they apply to your specific situation; avoid tutorial language.)
- Sensitive receptors on and off the installation
- Compliance with federal and state implementation plans
- Basis of air conformity determination or Record of Non-Applicability (RONA)
- Local or regional meteorological conditions, as they relate to pollutant dispersion (e.g., wind speed, wind direction, and mixing height)

See Section 4.3.1 of the REA for sample text illustrating this information.

This section should include a description of air quality conditions present at the installation. The description should include a discussion on local (installation) and regional air quality conditions and local (installation) air pollutant emissions, as well as the attainment status for all criteria pollutants for the air quality region. Also, air pollution sources that have permits should be identified. In

addition, any available information relative to the general air quality of the area should be included (i.e., ambient monitoring results).

- *Local and regional air quality conditions.* This section of the document should describe the existing climate and air quality in and around the installation or other proposed RCI site. The compliance status with NAAQS for each criteria pollutant must be identified. In nonattainment areas, significant emissions and pollutant control measures should be given, including the duration of time that a pollutant has been out of attainment. Monitoring information, e.g., the location and recordings of monitoring stations used for air regional sampling, should be mentioned. The name and geography of the air region that the RCI activity is within should be identified.

  Regional variables such as topographic features and meteorological conditions can affect air quality in the region and should be discussed. Meteorological parameters that could be included are wind speed, wind direction, atmospheric stability, mixing height, temperature, and relative humidity.

- *Local air pollutant emissions*. This section should include a discussion of local emission sources (mobile and stationary), applicable pollution regulations, and local air quality management programs in progress. A listing of Title V permits, if the installation has any, should also be included. Attention should be given to NAAQS criteria pollutant source emissions in and around the RCI site, including installation emissions, mobile emissions from traffic, and pollutants resulting from construction and demolition actions (if relevant).

Stationary local emission sources may include fossil-fueled power plants, incinerators, boilers, wastewater treatment plants, and landfills. Mobile emission sources may include automobiles, airplanes, or helicopters. The bulk of NAAQS criteria pollutant sources should be addressed. There is no need to specify an individual discharge unless it is of an unusually significant level. However mobile and stationary sources should be divided.

State and local regulations exist, usually providing additional requirements on problematic pollutants. When a source is not in compliance with federal, state, or local regulations, it should be identified in the text. SIPs include air quality management programs to correct problematic pollutants and achieve compliance with all relevant regulations. Air quality management programs should be mentioned only if the region is not in compliance for an NAAQS criteria pollutant. Furthermore, the EA should ensure that air quality in the affected environment is acceptable for human occupation and long-term exposure.

Tables should be used to summarize existing criteria pollutant emissions for all sources at the installation. Tables should represent relevant NAAQS permits issued, mobile source emissions, and stationary source emissions. A table such as 5-1 should be included to allow quick reference for the NAAQS.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Analysis of potential effects on air quality must proceed along two lines. First, there is a requirement to evaluate air quality in light of the General Conformity Rule. Second, and notwithstanding the conclusions drawn under the conformity analysis, there is the long-standing requirement to evaluate air quality from a holistic perspective.

  Instruction on conformity procedure are described in the memorandum, HQDA (ACSIM), dated 27 June 1995, subject: General Conformity Under the Clean Air Act—Policy and Guidance (Appendix I). This same Army policy requires preparation of a RONA for actions proposed to occur in nonattainment or maintenance areas (and ozone transport areas). The RONA typically documents the basis for exemption from the General Conformity Rule (e.g., property disposal, de minimis emissions). The RONA relies on criteria and thresholds in the General Conformity Rule.

  Separate from the General Conformity Rule is “traditional” air quality analysis. Criteria from the General Conformity Rule are not generally applied to determination of environmental effects.

Rather, analysis of the reasonably foreseeable consequences is based on criteria cited below. Significance is evaluated in accordance with Section 1508.27 of the CEQ regulations. Thresholds established for the purpose of the General Conformity Rule (e.g., 100 tons of CO in a nonattainment area) are not binding on the Army's determination of significance. Instead, and as has been done traditionally under CEQ regulations, significance depends on context and intensity. In fact, levels of air emissions far below the thresholds of the General Conformity Rule could be deemed significant. For instance, generation by a new manufacturing plant of a moderate amount of a criteria pollutant immediately adjacent to a school or hospital would likely be considered significant, even though under the General Conformity Rule such an amount of air emissions would not be deemed significant. Additionally, the criteria established in a Federal Implementation Plan (FIP) or SIP may be based on a standard different from that provided in the General Conformity Rule. For example in Salt Lake City the NAAQS for CO is 9 ppm (10,000 Fg/m^3) on an 8-hour average or 35 ppm (40,000 Fg/m^3) on a 1-hour averaging period. These values may be exceeded only once in a given year at any given location in order for EPA to consider that location to be in compliance with the standard. The arbitrary thresholds established in the General Conformity Rule are useful in their context, but do not use them as significance criteria outside their assigned relevance.

- *Description of Effects*. This section should discuss all changes to local air quality that could reasonably be expected to occur as a result of implementing a proposed alternative. Some examples of possible environmental consequences include

  – Changes in the type or amount of air emissions due to changes in the operation of current air pollution sources or the addition of sources.

  – Changes in air emissions due to construction activities (i.e., vehicular emissions and fugitive dust).

  – Changes in local/regional ambient air quality due to changes in emissions.

- Potential exposure to asbestos and LBP during building demolition/renovation (if asbestos and LBP have not been removed prior to demolition/renovation).

- Changes in public opinion (favorable or adverse) due to projected changes in air quality (especially for incinerator projects).

- Impact on compliance status due to construction or modification of air emission sources.

- Effects on the timely attainment or maintenance of the NAAQS or any air quality standard or milestone contained in the SIP or FIP.

- *Significance Thresholds*. The environmental effects described should be compared to all applicable federal, state, and local regulations. These regulations provide an indication of the significance of various air quality parameters. Examples of significance criteria include

  - Source-specific emission limits.
  - Permitting and licensing requirements.
  - NAAQS.
  - State or local ambient air quality standards.
  - SIPs/FIPs.
  - Exposure of sensitive populations to pollutants.
  - Any other applicable regulations or standards.

- *Mitigation*. Establish a policy encouraging the use of flexitime, public transportation systems, and car pools to minimize adverse effects on air quality resulting from the increased number of employees operating privately owned vehicles.

  Include contract clauses in demolition, construction, and renovation contracts requiring that the following conditions be included to minimize adverse effects on air quality:

- Properly maintain construction equipment to reduce air emissions.

- Moisturize site and minimize bare ground areas to prevent dust and particulate during periods where winds speeds exceed 5 miles per hour.

- Properly maintain equipment. Keep machinery idling to a minimum to minimize emissions.

Data Sources

The USAEC is an excellent source of air quality information. USAEC has a Technical Information Center (TIC) that archives environmental documents (RCS 1383, EAs, EISs, Master Plans) for many installations. USAEC has copies of all the CAA amendments and offers CAA compliance assistance. USAEC can be contacted at (410) 671-2427 or at (800) USA-EVHL.

The U.S. Army Environmental Hygiene Agency (USAEHA) keeps information on air pollution. Documents include air pollution emissions assessments, air pollution management studies, ambient air quality surveys and studies, environmental audits, and various other environmental reports.

On-base offices such as the Environmental Office have helpful information. They will have copies of EAs, EISs, and FNSIs for earlier projects. The current Air Emissions Inventory of criteria air pollutant sources is also available.

Locally, Regional Air Quality Management Districts or Air Pollution Control Districts are potential sources. Information is available on SIPs, attainment status for the NAAQS criteria pollutants, and any planned initiatives to improve air quality on a state or local level. These agencies also provide details on what permits are required or will be required for existing and future operations. Historical air quality data can be found at the local planning office or chamber of commerce.

5.4 NOISE

Resource Definition

Noise is unwanted sound heard by people or wildlife in proximity to activities involving theconstruction, repair, demolition or occupation of RCI housing.

Noise may be intermittent or continuous, steady or impulsive. Human response to noise is extremely diverse and varies according to the type of noise source, the sensitivity and expectations of the receptor, the time of day, and the distance between the source and the receptor.

The decibel (dB) is the accepted unit of measurement for noise level. The A-scale decibel (dBA) is an adjusted dB that corresponds to the range of normal human hearing.

Relevance to RCI

Excessive noise resulting from RCI activities has the potential to cause noise compatibility zoning issues. Noise should be addressed to ensure additions to the noise environment result in the lowest amount of perceived annoyance possible. Also, to avoid noise zone incompatibility, existing noise environments need to be considered before creating or expanding living areas to avoid noise zone incompatibility.

Statutory and Regulatory Setting

Laws and regulations pertaining to noise are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- Noise Control Act of 1972

Content and Organization

Describe Existing Conditions (Affected Environment). The EA should describe the existing noise conditions on the installation with a focus on the project site(s) and locations with noise-sensitive resources that are likely to be affected by the proposed action. The noise section should include a description of existing land use compatibility. Noise discussions describe present noise environment, identifying the more prominent noise-producing components; threatened and endangered species that are sensitive to noise; and compliance with applicable federal, state, and local noise regulations.

Special noise environments should be mentioned. If the base has airfield operations, ordnance demolition, firing ranges, maintenance facilities, or construction, they should be discussed. Also include any noise-diminishing factors such as sound walls.

Including a graphic showing noise contours and/or a table describing noise zone limits would be useful in depicting potential areas of concern for noise sensitive resources. Table 5-2 is an example table.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis.* Determine the levels (intensity) and extent of potential new noise sources that could result from implementing the proposed action. Determine if these noises are long-term or short-term. Compare the levels to land use criteria compatibility guidelines (noise contour maps depicting noise zone limits if available) and locate noise-sensitive resources. Compare the levels against significance thresholds to determine impact. Examples of direct and indirect impacts for RCI could include exposure to noise generated from construction equipment and traffic noise.

  Cumulative impacts are generally limited to noise from cumulative traffic conditions in the project vicinity, since noise levels drop rapidly with increasing distance from the noise source.

- *Description of Effects*. Describe in terms of direct, indirect, and cumulative effects on noise sensitive resources. Provide noise levels resulting from the proposed action and describe the

Table 5-2
Noise Zone Limits

Noise Zone	Population Highly Annoyed	Transportation ADNL	Impulsive CDNL	Small Arms ADNL
I	<15%	<65 dBA	<62 dBC	<65 dBA
II	15% - 39%	65 - 75 dBA	62 - 70 dBC	65 - 75 dBA
II	>39%	>75 dBA	>70 dBC	>75 dBA

Explanation: dBA = decibels, A-weighted

dBC = decibels, C-weighted

location of noise-sensitive resources with respect to the project area. State whether implementing the proposed action would be incompatible with land use compatibility criteria.

- *Significance Thresholds*. Noise impact criteria are partly based on land use criteria compatibility guidelines and partly related to the duration and magnitude of noise level changes. Annoyance effects are the primary consideration for most noise impact assessments Because the reaction to noise level changes involves both physiological and psychological factors, the magnitude of a noise level change can be as important as the resulting overall noise level. A readily noticeable increase in noise levels would often be considered a significant effect by local residents even if the overall noise level were still within land use compatibility guidelines. Some potentially significant thresholds include the following:

  – An incremental noise level decrease would be a considered a beneficial impact even if the overall noise level would remain above land use compatibility criteria.

  – A project-related noise level increase of 3 dB or more would be considered a significant impact if noise-sensitive resources would be affected and if the noise level would be within 5 dB of the land use compatibility criteria.

- A project-related noise level increase of 1 dB or more would be considered a significant impact if noise-sensitive resources would be affected and if the noise level would be 5 dB or more above the applicable land use compatibility criteria.

- Temporary noise sources such as construction and demolition restricted to daytime hours would be considered significant only if they would result in noise levels 10 dB or more above land use compatibility criteria.

- *Mitigation.* Include contract clauses in construction contracts requiring measures to minimize noise levels from construction equipment during daylight hours and to prohibit excessive noise-producing activities during evening hours. Also, establish truck transport routes away from noise-sensitive resources.

Data Sources

Many sources are available to provide the data necessary to identify existing noise conditions. Traffic data is available from the Master Plans Office and Range Control Office. For off-base traffic data, the city planning office or the chamber of commerce can be contacted. For information on land use zoning see the ICUZ Study and/or Master Planning Office. ICUZ analysis is still acceptable information under the new ENMP. Data on the impact of noise on wildlife is available from the USAEHA, Bio-Acoustics Division. Information on range data (Range Control Office and Ammunition Supply Point) and aircraft data (Airfield Operations Office) are available where relevant.

The U.S. Army Construction Engineering Research Laboratories (USACERL) and the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM) can also provide assistance in developing noise contours and providing noise criteria. USACHPPM can be contacted at (410) 671-3500.

5.5 GEOLOGY AND SOILS

5.5.1 Geologic, Soil, and Topographic Conditions

Resource Definition

The geologic resources of an area comprise all soils and bedrock materials. Environmental aspects to be considered include stratigraphy, topography, soils and sediments, engineering properties of the materials, seismic hazards, slope stability, earthworks, mineral resources, unique landforms, and geological conditions that may limit development or that influence contaminant distribution and migration or influence ground water resources.

Soil refers to the upper layer of unconsolidated material on the surface of the earth that is capable of supporting plant life. For mapping purposes, soils are typically described as series, associations, or complexes. Soil series represent the lowest category of the U.S. system of soil taxonomy. Soil series are commonly used to name the dominant or codominant soils represented on detailed soil maps and provide the most readily available detailed characterization of a soil. Soil associations and complexes consist of two or more kinds of component soils or soils and miscellaneous areas plus allowable inclusions. Components of soil associations are large enough to be delineated individually at a scale of 1:24,000, and soil complexes consist of components that are too small to be individually delineated at that scale. Soil surveys present a systematic examination, description, classification, and mapping of soils in an area. Soil surveys are classified according to the kind and intensity of field examination. The National Cooperative Soil Survey is responsible for developing and implementing standards for describing, classifying, mapping, writing, and publishing information about the soils of a specific area and for presenting this information in soil surveys.

Relevance to RCI

An RCI project has the potential to affect and be affected by the geologic environment and soil conditions. Major potential geologic constraints to the project include seismic activity, weak geologic structure, topography, and soil conditions. Geology has the greatest influence on design and structural engineering of new buildings. The underlying bedrock may provide an excellent foundation, or it may present enormous difficulties if excavation is required. If the area has been mined for mineral resources, or if there are caves, sinkholes, or other karstic features, the risk of ground subsidence must be determined. Project costs can vary considerably between structures that are constructed on poured footings and those which require construction on pilings due to poor surface/subsurface conditions. Topography may make construction costs prohibitive due to uneven terrain and/or steep slopes. If an area is seismically active, site-specific studies to establish seismic risk at new building locations would be required before construction, and the buildings would be required to meet Seismic Zone building codes for that area.

The project's potential impacts on the geologic environment include loss of or damage to mineral resources; erosion of disturbed soils; loss of or damage to paleontologic resources; loss of or damage to agricultural resources, particularly prime farmland (see Section 5.5.2 of this manual); and changes to microtopography through the leveling and grading of the surface for the construction of new buildings.

Any new construction will disturb soils on the installation through ground-breaking excavation, removal of vegetation, and leveling and grading of the surface. The exposed soil would be exposed to erosion that could lead to deposition of sediment in nearby water bodies if proper management measures are not implemented. If topsoil is removed, it should be covered or stabilized with vegetation to prevent wind and water erosion. The soil must be replaced as the top ground cover; otherwise, there will be no material to support vegetation, creating a barren surface and the potential for severe erosion.

Certain soils have characteristics that could make them unsuitable for construction. A high acidic level can lead to corrosion of underground pipes and storage tanks. Soils exhibiting high plasticity may also be unsuitable for supporting structures such as buildings, parking lots, and roads due to their high shrink-swell potential.

The construction of new buildings, roads, and parking lots will also increase the amount of impervious surface in the ROI. The effect may be an increase in storm water runoff resulting in erosion and associated sedimentation. Increased sediment loads in runoff can affect nearby water bodies and affect water quality.

Statutory and Regulatory Setting

Applicable Army and other federal regulations for geologic and soil resources are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-3, *Natural Resources—Land, Forest and Wildlife Management*
- Farmland Protection Policy Act (FPPA) of 1981
- Soil Conservation and Domestic Allotment Act
- Executive Order 11207 - Coordination of Federal Programs Affecting Agricultural and Rural Area Development

Other applicable laws and regulations may include:

- Building codes that set the minimum standards that vary with the type of structure, its size, shape, and intended use.

- Federal and state laws protecting mineral rights.

- State and local laws regarding protection of geologic resources (considered on a case-by-case basis).

- Applicable state storm water management and erosion regulations.

- Federal and state laws protecting wetlands (hydric soils).

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment section should accomplish the following objectives.

- *Geology*. The section should describe the topography of the site as well as the surrounding area, creating an image of the surface relief. The preparer should address the physiographic province the installation is in, as well as the elevation, slope, and major landforms on the installation itself.

  Discuss the surficial and general geology of the ROI. Include the name, age, thickness, and slope of the layers composing the underlying structure in order of oldest to youngest, if the information is available. Describe the engineering/structural properties of the material, pointing out any weaknesses such as the presence of karstic features. If there are petroleum or mineral resources present, determine if they have ever been extracted or if there are plans to do so in the future. It is possible that development may not be economically feasible at this time, but it does not mean it will not become feasible in the future.

  Describe the location of faults within the ROI, if any. List the Earthquake Hazard Zone rating for the area, the date of the last recorded earthquake, the frequency and magnitude of the earthquakes (if any), and building code standards. It is important to bring out any possibility of harm to human life should an earthquake occur.

  The characterization of the geology of the area should bring out any features that might affect the establishment of new housing or the expansion of existing housing relevant to the RCI project.

- *Soils.* The section should state all of the soil mapping units that occur on the installation with a description of the soil, its limitations, and slope. It is recommended that the mapping units be presented in a table and a map showing their locations if the list of soils is extensive or they have characteristics that would limit proposed uses. This will provide a good general characterization of soil conditions on the site and is a useful tool in determining use and management. If a table is included, it should present the soil series name, map unit number, texture/parent material, drainage class, hydric soil classification, limitations of the soil (including the USDA's Land Use Classification System rating), and the landscape position.

  Any limitations of the soil that would affect the RCI project should be discussed. These include but are not limited to erosion hazards, poor drainage conditions, hydric soil classification, shrink/swell characteristics, steep or severe slopes, and shallow to rock conditions.

  If a soil is classified as hydric, there is a high probability that jurisdictional wetlands occur on the site. The presence of hydric soils is one of the three criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) used to determine the presence of U.S. Army Corps of Engineers (USACE) jurisdictional wetlands. See Section 5.7.2 for further information on wetlands.

  The section should state whether any of the mapped soil units are prime farmland soils. If so, they may be protected under the FPPA (see Section 5.5.2).

  If available information is so lacking that the soil characteristics cannot be described, it is recommended that an on-site investigation to determine site-specific characteristics take place.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis.* Assessing the proposed project's potential impacts on geology and soils and the impacts of geology and soils on the proposed project requires careful consideration of a broad spectrum of possible effects and relies on the accuracy of the data and how specific it is to the

site of the project. Having detailed, site-specific geologic and soil information for a construction project such as RCI is not only recommended, but may be required by state or local regulation.

For each alternative, the environmental consequences section for geology and soils should accomplish the following objectives:

– Indicate areas where subsurface geology is not suitable for a foundation for buildings, parking lots, and homes due to possible subsidence, seismic activity, or high shrink-swell potential.

– If the area is seismically active, indicate the Seismic Zone building code rating that would need to be met to reduce any potential harm to human life.

– Indicate areas where soils would be disturbed, especially areas with a severe erosion potential, and what management measures would be applied to control/reduce erosion.

- *Description of Effects*. Effects can be divided into two types—effects of the project on the geology of the site and effects of the geology of the site on the project. Effects of the proposed project on geology and soils could include

  – Erosion. Any construction activity that alters the microtopography through gradation, leveling, and excavation leaves the soil exposed and subject to wind and water erosion by removing vegetative cover. An increase in suspended dust due to trucks and other construction vehicles driving over the exposed ground surface can also be expected.

  – Sediment deposition. Soil disturbance can contribute to sedimentation in adjacent water bodies through erosion and dust suspension. Sedimentation can smother vegetation, alter the flow of water, and ultimately decrease water quality.

- Increase in impervious surfaces**.** Construction of new buildings and the parking lots and roads that service them increases the acreage of impervious surfaces. This leads to increased storm water runoff and may affect water quality.

- Loss of mineral resources. Building of new housing units over mineral deposits would result in the loss of access to those resources, and therefore a possible economic loss to the ROI.

Effects of geology and soils on the proposed project could include

- Subsidence. Ground subsidence due to caves, sinkholes, and other karstic features or underground mines could result in severe structural damage.

- Seismic activity**.** Earthquake activity could result in structural damage and harm to human life.

- Shrink-Swell. Soils with a high shrink-swell potential could result in damage to the foundation of buildings, as well as to roads and parking lots.

The best way to prevent the effects listed above is to perform site-specific geotechnical and soil characterizations before the proposed project begins to determine if the site is a suitable location to support housing development.

- *Significance Thresholds*. If the proposed project were to be built in an area where the geologic or soil conditions exhibit such severe engineering limitations that could result in significant adverse impacts to structural integrity, the situation could potentially lead to the preparation of an EIS. Such limitations could include the presence of soils with a high shrink-swell potential and the potential for ground subsidence.

- *Mitigation***.** Avoidance and mitigation measures for geology and soils include

- Development and implementation of a sediment and erosion control plan for the construction site, with regular maintenance to ensure continued proper functioning of the Best Management Practices (BMPs) implemented by the plan.

- Development and implementation of a storm water management plan for the construction site, with regular maintenance to ensure continued proper functioning of the BMPs implemented by the plan.

Some examples of BMPs for the construction site include silt fences to retain sediment on the site and prevent deposition in nearby water bodies; straw mulches, hay bales, and temporary vegetative cover to help prevent erosion; and a water truck to control suspended dust.

Data Sources

Several standard sources should be consulted as an initial step in characterizing geologic and soil conditions on a site. These include the following:

- *Topographic maps*. The most widely used scale is the 7.5-minute quadrangles at 1:24,000, but other scales are available. Topographic maps make it possible to identify and measure the steepness of slope of mountains, hills, or dunes, as well as to identify other features such as water bodies, woodlands, and existing structures. Maps are available from the USGS.

- *USGS geologic maps and generalized cross sections*. Geologic maps and cross sections depict surface geology, underlying strata (by name and age), and depth to bedrock. These maps are also available from the USGS.

- *State geological survey maps and publications*. The geologic survey agencies of each state also are a source for maps and publications on geologic conditions within the state. A list of maps and publications available to order can usually be obtained by calling the Division of Mineral Resources.

- *Aerial photographs*. Some installations have been mapped using aerial photointerpretation. These maps should be available as a GIS layer from the installation's environmental directorate. Aerial photographs, as well as mapping tools developed from their interpretation, often provide a good source for characterization of topography, geologic features, potential problem areas, and existing structures on a site.

- *Seismic activity information*. To obtain information on the Earthquake Hazard Zone rating for the ROI, as well as the Seismic Zone rating for building codes, contact the state geologist at the state Geological Survey or the state Division of Mineral Resources. Other sources are the USGS and the Federal Emergency Management Agency (FEMA).

- *Petroleum or mineral resources*. USGS geologic maps may indicate the presence of mineral deposits. The state Division of Mineral Resources or base personnel should be consulted to determine if the resources were or are being mined, or if there are plans for future exploitation.

- *Soil surveys*. The U.S. Department of Agriculture (USDA) NRCS has published soil surveys for most of the counties in the United States. If a soil survey is not available, soil characterizations may be obtainable through the local NRCS, the Soil Water Conservation District (SWCD), the local cooperative extension office, or possibly the Environmental Division for the installation.

- *Hydric soils and prime farmland soils list*. Lists of hydric and prime farmland soils are also available from the NRCS, and should be requested when obtaining the soil survey book. Compare the lists to the soils mapped on the installation. Hydric soils are an indicator that wetlands may be present, and prime farmland soils indicate areas that may be highly suitable for agricultural production. Prime farmland soils are protected under the FPPA.

- *Soil boring surveys*. These surveys may have been done by the installation for a previous study. They may provide information on the soil characteristics on the site, as well as the underlying strata, and may provide the depth to bedrock.

Most of the sources of geologic and soils information listed above give a generalization of site conditions due to scale and mapping techniques. Because of this, these resources do not provide the site-specific information necessary for projects involving construction. A geotechnical evaluation of site-specific conditions and a soil characterization should be conducted prior to implementation of the project. Depending on the proposed project, this information may be necessary prior to completion of the EA.

Preparers should also consult with natural resource management or environmental division staff at the installation. They may already have the necessary maps, photographs, and copies of previous studies done at the site that may provide needed information. Previous studies include environmental assessments, environmental impact statements, remedial investigation/feasibility studies, and cultural resource surveys. Verify this information whenever possible with NRCS soil surveys and USGS and state geological survey sources.

5.5.2 Prime Farmland

Resource Definition

As defined by the FPPA of 1981 (Title 7 of the CFR, Part 658, Section 2; revised as of 1 January 1999), "Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide or local importance."

Relevance to RCI

The demolition and construction of family housing for RCI projects would have a direct effect on soil and therefore on any existing prime farmland. Ground-breaking, leveling, and grading of the surface would result in the temporary removal or permanent loss of prime farmland.

Statutory and Regulatory Setting

Section 4201(b) of the FPPA states that the purpose of the act is to "minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland." Section 4208(b) of the act also states that none of the provisions or other requirements of the act shall apply to "the acquisition or use of farmland for national defense purposes during a national emergency." Because Army RCI project actions do not fall under a declaration of national emergency by the President, they must comply with the provisions of the FPPA.

In compliance with the FPPA, Army RCI project actions that would convert farmland (as defined by the FPPA and its implementing regulations) to nonfarmable conditions must complete the Farmland Conversion Impact Rating Form AD-1006 to determine whether the site is farmland subject to the act. A copy of the form is provided in Appendix D of this manual.

Content and Organization

Describe Existing Conditions (Affected Environment). The text should state if any of the mapped soil units are prime farmland. If they are, they may be protected under the FPPA. An on-site investigation would be needed to determine prime farmland classification. Frequently there is a soil designated as a prime farmland soil present on the installation, but because of previous disturbance of the soil and/or the built-up condition of the site, the soil is no longer viable for agricultural production. According to the FPPA (7 CFR Part 658 section 2), "'Farmland' does not include land already in or committed to urban development or water storage. Farmland already in urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland 'already in' urban development also includes lands identified as 'urbanized area' on the Census Bureau Map, or as urban area mapped with a 'tint overprint' on the USGS topographical

maps, or as 'urban-built-up' on the USDA Important Farmland Maps. Areas shown as white on the USDA Important Farmland Maps are not 'farmland' and, therefore, are not subject to the Act."

The following sample text is for a site where prime farmland is present, but further action under the FPPA is not required:

> The Memphis silt loam, 2 to 5 percent slopes and the Falaya silt loam are considered to be prime farmland soils. Prime farmland soils are defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. The soil qualities, growing season, and moisture supply are those needed for a well managed soil to produce a sustained high yield of crops in an economic manner. The land could be used for cropland, pasture, or rangeland.
>
> Prime farmland soils are protected under the FPPA of 1981 (7 CFR Part 658. NRCS Final Rule, Farmland Policy, revised as of 1 January 1998). The intent of the act is to minimize the extent to which federal programs contribute to the unnecessary or irreversible conversion of farmland soils to nonagricultural uses. The act also ensures that federal programs are administered in a manner that, to the extent practicable, will be compatible with private, state, and local government programs and policies to protect farmland. The NRCS is responsible for overseeing compliance with the FPPA and has developed the rules and regulations for implementation of the act. EPA has also established policy to protect environmentally significant agricultural lands through its Office of Federal Activities.
>
> The FPPA's and NRCS's implementing procedures require federal agencies to evaluate the adverse effects (direct and indirect) of their activities on prime and unique farmland, as well as farmland of statewide and local importance, and to consider alternative actions that could avoid adverse effects. Criteria established by the NRCS should be used to select among alternative farmland sites.

The installation is currently in a built-up condition. For the most part, areas where the Memphis silt loam, 2 to 5 percent slopes, and the Falaya silt loam occur have been disturbed or are currently in a built-up condition. None of the areas where these soil series occur on site are currently farmland. Reversion of these areas back to agricultural land would not be feasible. Therefore, no further action is required under the FPPA of 1981 (Title 7 of the *Code of Federal Regulations* [CFR], Part 658; The Natural Resources Conservation Service [NRCS] Final Rule, Farmland Policy, revised 1 January 1998).

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Indicate what areas could experience a temporary or permanent loss of prime farmland, if completion of a Farmland Conversion Impact Rating would be necessary, and if the farmland was to be restored when and how it would be done.

- *Description of Effects*. If prime farmland areas would be impacted by the proposed action or alternatives, identify the acreage and location on a map. The Farmland Conversion Impact Rating form (Appendix D in this manual), if completed, should be included in the NEPA document as an appendix. If no prime farmland is affected, then make this statement in the NEPA document.

- *Significance Thresholds*. If there was to be an extensive loss of prime farmland acreage relative to the total amount of prime farmland in the region, a significant impact may result.

- *Mitigation*. Avoidance of development on prime farmland represents the best mitigation approach.

Data Sources

Several standard sources include the following:

- *Soil surveys*. The USDA NRCS publishes soil surveys for most counties. If a soil survey is not available, soil characterizations may be obtainable through the local Water Resources and Soil Conservation Office, the local cooperative extension office, or possibly the Environmental Division for the installation.

- *Prime farmland list*. A list of prime farmland soils is also available from the NRCS and should be requested when obtaining the soil survey book. Compare the lists to the soils mapped on the installation. Prime farmland soils are highly suitable for agricultural production.

5.6 WATER RESOURCES

5.6.1 Surface Water

Resource Definition

The term *surface water resources* is a catchall used to describe various bodies of water residing or flowing in basins, channels, and other various natural and artificial landforms found on the earth's surface. Rivers, streams, lakes, reservoirs, ponds, and estuaries are examples of surface waters. These resources have many beneficial uses including drinking water supply, primary contact recreation (e.g., swimming), and aquatic life support.

Associated with surface water bodies are their drainage basins, or watersheds. A drainage basin is the area of land that drains water to a common outlet along a channel. The boundary of a drainage basin is called the drainage divide. Contained within the drainage basin is a hierarchal network of channels whose size increases as water moves downstream from the upper to lower end of the

drainage basin. The direction, form, and pattern of this drainage is determined by topography and geologic structure.

The interaction between ground water and surface water plays an important role in determining the amount of surface water flow or levels, especially during dry conditions. Streams that flow continuously in both wet and dry times are known as perennial streams. Baseflow of these streams is dependably supplied by a continual movement of groundwater into the channel. Intermittent streams, on the other hand, flow only certain times of the year, usually during the wet season when water tables are high enough to discharge groundwater into the channel. A third category of streams is called ephemeral streams. They do not usually have a source of groundwater seepage and therefore flow only during or immediately after periods of precipitation.

The water quality of a surface water body is determined by natural and cultural inputs of sediment, nutrients, organic materials, pathogens, metals, and other substances. Two general categories are used to describe sources of pollution—point and nonpoint. Point sources enter water bodies at an identifiable site. Examples include municipal and industrial discharges and storm sewer outfalls. Nonpoint source pollutants are typically picked up off the land and carried into surface water bodies in a diffuse manner by runoff from rainfall or snowmelt. Construction and demolition sites can be a significant source of nonpoint pollution. Grading activities remove grass, rocks, pavement, and other protective ground covers, resulting in bare, exposed soil. Wind and water erode soil and sand particles and carry them to water bodies, where they settle to the bottom. Sedimentation builds up the streambed, increases turbidity, and covers up habitat important for fish spawning and aquatic insect life. In addition, demolition and construction activities often require the use of toxic or hazardous materials such as petroleum products, pesticides, herbicides, and sealants. If allowed to migrate to water bodies as nonpoint source pollution, these materials can lower water quality and harm plant and animal life.

Abating point source pollution usually involves modifying some internal process or activity that is generating the pollutants or treating effluent before it is discharged. Nonpoint pollution is more difficult to manage. It is closely tied to uncontrollable weather events and geographic conditions.

Consequently, abatement of nonpoint source pollution generally focuses on land and runoff management practices.

Acceptable or unacceptable water quality in surface waters is usually judged using water quality standards established by states or other relevant jurisdictions. Most standards assign a beneficial use(s) to a water body (i.e., a water quality classification) and then set minimum numeric and narrative criteria needed to support that use(s).

Relevance to RCI

Any action involving surface disturbance in the watershed (e.g., establishment of new family housing complexes, expansion of existing housing complexes, or installation of new utilities serving those complexes) may have direct impacts on the hydrology or water quality of surface water. Demolition and replacement of existing family housing even when the developed area is not expanded could also potentially result in temporary or permanent changes in surface water conditions.

An ROI for surface waters would typically include the sites under construction for each alternative plus adjacent lands where surface waters could be influenced by drainage patterns and point and nonpoint pollution. Professional judgment is necessary to estimate the extent of adjacent lands that must be considered.

Statutory and Regulatory Setting

The Federal Clean Water Act of 1977 (33 U.S.C. 1251 et seq.) is the primary law regulating water pollution in surface waters. Other relevant laws and regulations are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- AR 420-49, *Utility Services*
- Safe Drinking Water Act (SDWA)

- Marine Protection, Research, and Sanctuaries Act
- Estuary Protection Act

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment section for surface water should accomplish the following objectives:

- State whether surface waters are present in the ROI for each alternative and indicate the sources(s) of information used to base that decision.

- Graphically depict location of surface waters and indicate the sources(s) of information used to prepare the graphic.

- Described the type of surface water body and seasonal changes in water depths and flow rates to the extent possible using available information.

- Described the drainage basin of the surface water bodies and runoff patterns within the drainage basin to the extent possible using the available information.

- Describe locations of existing sources of point and nonpoint pollution within the drainage basin to the extent possible using the available information.

- State water quality classification of surface water bodies, if appropriate.

- Summarize relevant water quality data to the extent possible using available sources when this information supports the impact analysis.

- State existing claims to water rights, if appropriate.

If available information indicates that surface waters are present in the ROI, a figure depicting the surface waters should be developed. Labels should include the name of the water body and, if it is a stream or river, the direction of flow. Major drainage divides should also be included.

Description should include the following:

- *Water bodies*. The description of lakes, ponds, and other bodies of standing water should normally include the area and depth of the water body. The description of a river or stream should include whether the stream is perennial, intermittent, or ephemeral; the direction of flow; and the name of the water body that receives its flow, if appropriate.

- *Drainage basin*. The drainage basin of streams should be described in terms of the direction and pattern of runoff and the main land uses found within the area that are sources of point and nonpoint pollution.

- *Beneficial uses and water classification*. Beneficial uses of the surface water resource should be discussed in terms of any state-designated water classification. If the beneficial use is for drinking water, major customers should be identified along with daily average water usage, peak demands, and available capacities.

- *Water quality*. Relevant water quality data should be discussed and presented in a tabular format.

Sample text for surface water is found in Section 4.6.1.1 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Assessing potential impacts on surface waters from any action requires careful consideration of a broad spectrum of possible effects and relies heavily on the specialized expertise and judgment of the assessor. Construction activities can produce many different kinds

of nonpoint source pollutants which, if allowed to migrate into surface waters, can cause harmful consequences and lower water quality. BMPs are used to prevent, or at least control, the pollution of runoff water that moves diffusely into surface water bodies.

The environmental consequences section for water resources should accomplish the following objectives for each alternative:

- Indicate how the condition of water resources would be affected.
- Propose mitigation measures and explain how those measures could be accomplished.

- *Description of Effects*. Typical categories of water resource impacts from RCI activities could include

  - Sedimentation. Surface disturbances can lead to increased erosion and the movement of sediment to surface waters. Sedimentation builds up the streambed, increases turbidity, and covers up habitat important for fish spawning and aquatic insect life.

  - Water quality degradation. Demolition and construction activities often require the use of toxic or hazardous materials such as petroleum products, pesticides, herbicides, and sealants. If allowed to migrate to water bodies as nonpoint source pollution, these materials can lower water quality and harm plant and animal life.

  - Flooding. Surface disturbances can alter of drainage patterns and render soils more impervious. These conditions can increase both the volume and intensity of runoff, which in turn increases flooding and cause erosion of stream channels and banks.

- *Significance Thresholds*. Actions may trigger an EIS requirement if they result in a violation of water quality standards.

- *Mitigation*. Storm water management practices are used to mitigate the effect of construction sites on surface water resources. These practices varies in purpose and design. General objectives include
  - Minimizing the amount of disturbed soil.
  - Preventing runoff from off-site areas from flowing across disturbed areas.
  - Slowing down the runoff flowing across the site.
  - Removing sediment from on-site runoff before it leaves the site.

  Examples of practices used to meet these objective include the installation of silt fencing, sediment basins, hay bales, and gradient terraces.

Data Sources

Several standard sources should be consulted as an initial step. These include

- *Installation-wide surface water inventories*. Information about surface water resources can be obtained from installation maps, master plans, aerial photography, and quadrangle sheets available through the USGS in digital raster format at the scale of 1:24,000 and 1:250,000.

- *State water quality classifications*. These are available from state water or environmental agencies.

- *Water quality and hydrologic information*. These are available from federal, state, and local sources.

5.6.2 Hydrogeology/Groundwater

Resource Definition

Groundwater occurs in an aquifer, "a water-bearing bed or stratum of earth, gravel, or porous stone." All aquifers have interconnected openings or pores through which water can move, but some aquifers move water better than others. In general, the best aquifers are the coarse-grained, saturated portions of the unconsolidated granular sedimentary mantle. These unconsolidated sediments are commonly found at lower elevations in proximity of streams and consist of stream alluvium, glacial outwash or till, wind-deposited sand, alluvial fans, and similar water- or wind-induced coarse-grained granular materials.

Coarser-grained consolidated rocks such as conglomerates and sandstones are also good aquifers. They are typically found below the unconsolidated granular sedimentary mantel. Their value as aquifers depends on the degree of cementation and fracturing to which they have been subjected. Some massive sedimentary rocks such as limestone, dolomite, and gypsum can also be good aquifers. These rocks are relatively soluble, and solution along fractures can form voids that range from a fraction of an inch to several hundred feet.

Aquifers can be unconfined or confined. An unconfined aquifer is one that does not have a confining layer overlying it. It is often referred to as a free or water table aquifer. Water infiltrating into surface soils percolates downward through air-filled interstices and joins the body of groundwater. The water table, or the upper surface of the groundwater body, is in direct contact with the atmosphere through the open pores of the material above. Movement of the ground water is in direct response to gravity and is in balance with atmospheric pressure.

A confined, or artesian, aquifer has an overlying, confining layer of lower permeability than the aquifer. Therefore, it has only an indirect or distant connection to the atmosphere. Water in an unconfined aquifer is under pressure. When the aquifer is penetrated by an encased well, the water will rise above the bottom of the confining bed to an elevation at which it is in balance with the atmospheric pressure. If this elevation happens to be greater than that of the land surface at the well, water will flow freely (i.e., artesian well).

Recharge is the term used to describe surface water moving into bodies of groundwater. Discharge

is used to describe groundwater flowing to the surface. Under natural conditions and over a long period of time, which includes both wet and dry cycles, recharge will equal discharge.

Recharge sources include:

- *Deep percolation from precipitation.* An important source of recharge, it is influenced by vegetative cover, topography, and soil type, as well as the intensity and frequency of precipitation.

- *Seepage from streams and lakes.* Seepage occurs when the water table lies below the bottom. In general, the connection is strongest in streams with gravel beds in well-developed alluvial floodplains.

- *Underflow from another aquifer.* The amount of recharge by another aquifer depends on the head differential, the nature of the connection, and the hydraulic properties of the aquifers.

- *Artificial recharge.* This form of recharge can be planned (infiltration ponds and recharge wells) or unplanned (seepage from man-made canals, reservoirs, other water impounding and conveyance structures, irrigation, septic system leach fields).

Discharge sources include:

- *Seepage to streams*. In certain reaches of streams during certain times groundwater may discharge into the channel and maintain baseflow.

- *Flow from seeps and springs.* Discharge occurs where the water table intersects the land surface or a confined aquifer outlets to the surface.

- *Evaporation and transpiration.* Groundwater may be lost to the atmosphere if the water table is near the surface.

- *Artificial discharge.* Wells and drains are designed to withdraw water from groundwater storage.

Recharge water that is contaminated by pollution can make groundwater unsuitable or unfit for use. Sources of groundwater pollution include leachate from failing septic systems and garbage dumps and accidental spills. The distance that pollution moves in aquifers varies. Crevassed, fissured, and cavernous rocks and coarse clean gravel tend to carry pollutants farther than finer-grained aquifers. The filtering action and adsorption in these latter aquifers tend to capture and hold pollutants.

Relevance to RCI

Any action involving surface disturbance (e.g., establishment of new family housing complexes, expansion of existing housing complexes, or installation of new utilities serving those complexes) may have direct impacts on the hydrology or water quality of groundwater.

An ROI for groundwater would typically include the sites under construction for each alternative plus adjacent lands where recharge and discharge of groundwater occurs. Professional judgment is necessary to estimate the extent of adjacent lands that must be considered. As appropriate, legal counsel should also be consulted concerning any groundwater ownership or appropriation issues.

Statutory and Regulatory Setting

SDWA (40 U.S.C. 100 et seq.) directs EPA to develop national drinking water regulations for public water systems and directs states to establish programs that protect areas around wellheads. The 1996 amendments establish a strong emphasis on source water protection and enhanced water system management.

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment section for ground water should accomplish the following objectives:

- State the depth and geologic conditions of the aquifer(s) to the extent possible using available information.
- Indicate the direction of groundwater flow, location of any wells, and water quality conditions to the extent possible using available information.
- Indicate if groundwater is used by the installation or adjacent communities for drinking water. If so, note the overall yield of the aquifer. (Specific capacity and usage information for water supply purposes should be included in the Infrastructure section.)
- Describe locations of existing sources of point and nonpoint pollution that could potentially contaminate ground water recharge areas.
- Indicate existing claims to water rights.

Sample text that describes hydrology/groundwater resources is provided in REA Section 4.6.1.2.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Assessing potential impacts on groundwaters from any action requires careful consideration of a broad spectrum of possible effects and relies heavily on the specialized expertise and judgment of the assessor. Construction activities can produce many different kinds of nonpoint source pollutants which, if allowed to migrate into groundwaters, can cause harmful consequences and lower water quality. BMPs are designed to prevent, or at least control, the pollution of runoff water.

For each alternative, the environmental consequences section for water resources should accomplish the following objectives:

- Indicate how the condition of groundwater resources would be affected.
- Propose mitigation measures and explain how those measures could be accomplished.

- *Description of Effects.* Typical categories of groundwater impacts from RCI activities could include:

  - Ground water quality degradation. Demolition and construction activities often require the use of toxic or hazardous materials such as petroleum products, pesticides, herbicides, and sealants. If allowed to migrate to groundwater, they can lower water quality.

  - Decreased aquifer recharge. Surface disturbances can alter drainage patterns and render soils more impervious. These conditions can increase surface runoff at the expense of groundwater recharge. These conditions could lower the water table and alter discharge sites.

- *Significance Thresholds.* Actions may trigger an EIS requirement if they result in a violation of water quality standards.

- *Mitigation.* Storm water management practices are used to mitigate the effect of construction sites on groundwater resources. These practices vary in purpose and design. General objectives include:

  - Minimizing the amount of disturbed soil.
  - Preventing accidental spills of hazardous materials.
  - Preventing runoff from groundwater recharge areas.

Examples of practices used to meet these objective include careful handling of hazardous materials, marking and specialized protection of groundwater recharge areas, and the installation of runoff management practices such as silt fencing, sediment basins, hay bales, and gradient terraces.

Data Sources

Information on groundwater resources can be obtained from existing installation studies and maps that describe the extent and direction of groundwater flow, location of any wells, and water quality conditions of the aquifer. Water quality classifications of the groundwater can be obtained from the state water or environmental agencies.

5.6.3 Floodplains

Resource Definition

A floodplain is a highly variable area on one or both sides of a stream channel that is inundated by floodwater at some interval, from frequent to rare. It is an important part of the stream system and serves many natural functions including

- Spreading out and slowing floodwaters and reducing their erosive force.
- Recharging aquifers.
- Filtering sediments out of floodwaters and providing soils for riparian vegetation, which in turn provides habitat for wildlife.

Placing structures, buildings, or debris in the floodplain or installing structures designed to protect property from floodwater such as dikes, levees, retaining walls, and riprap disturbs the natural floodplain. Impacts resulting from these disturbances include

- Increasing the size and frequency of floods.

- Decreasing the ability of the floodplain to disperse stream energy during floods, which increases peak flows and the likelihood of stream bank and bed erosion.

- Decreasing vegetation cover and wildlife habitat.

- Decreasing recharge of aquifers, which can reduce ground water volume and affect stream baseflow.

Floodplains can be defined in many ways. For purposes of this section, however, floodplain boundaries are defined and expressed in frequency terms, specifically the 100-year and 500-year flood. The 100-year floodplain, for example, is the land inundated by the instantaneous magnitude of flow that can be expected once in 100 years based on historical records.

Many flood-prone areas partition the 100-year floodplain into two zones—the floodway and the flood fringe. The flood fringe is the outermost portions of the 100-year floodplain and, consequently, resides at the highest elevation. The floodway is the lower, interior zone and represents the portion of the floodplain that theoretically could convey all the 100-year floodwater with only a 1-foot rise of water level above the height of the outermost boundary of flood fringe. The importance of this distinction is that buildings in the flood fringe zone are eligible for federally subsidized flood insurance, whereas buildings in the floodway are not.

Relevance to RCI

Activities including the establishment of new family housing complexes, expansion of existing housing complexes, installation of new utilities serving those complexes, and demolition and replacement of existing family housing, even when the developed area is not expanded, can directly affect the floodplain if they occur within the floodplain boundaries. Such activities occurring outside floodplain

boundaries can also affect the floodplain if they significantly disturb the timing and extent of runoff and the amount of sediment load carried by runoff.

An ROI for floodplains would typically include the sites under consideration for each alternative residing in the 100-year floodplain plus any activity on adjacent land in the watershed that would significantly increase surface runoff and sedimentation. Professional judgment is necessary to estimate the extent of adjacent lands that must be considered.

Statutory and Regulatory Setting

Executive Order 11988 (Floodplain Management) directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains.

Impacts on the floodplain are regulated by state and local jurisdictions. In most instances, new construction is discouraged within the 100-year floodplain. Permits that allow structures in the floodplain typically require base floor levels to be higher than the elevation of the 100-year floodplain boundary.

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment section for floodplains should accomplish the following objectives:

- It should state whether a floodplain(s) is present in the ROI for each alternative and indicate the source(s) of this information

- If a floodplain(s) is present, the boundaries of the 100-year flood should be graphically depicted along with the source reference.

- The 100-year floodplain should be described to the extent possible using available information along with state and local regulations governing what may occur within the floodplain. This characterization may also include descriptions of the 500-year floodplain, the floodway, and flood fringe zones.

If available information indicates that a floodplain is present in the ROI, a map depicting the 100-year floodplain is essential. Ideally the map would have a 2-foot contour interval and include both the floodway and flood fringe zones. If local regulations designate zones based on the 500-year flood, this boundary should also appear on the map.

Sample text for floodplains can be found in REA Section 4.6.1.3.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis.* Assessing potential impacts on floodplains from any action requires careful consideration of a broad spectrum of possible effects and relies heavily on the specialized expertise and judgment of the assessor. The general goal is to minimize disturbance of the floodplain. Thus the analysis should focus on the presence or absence of floodplain encroachment by the activity.

- *Description of Effects*. Performing an analysis of the effects of floodplain encroachment is beyond the scope of this section.

  General effects of having structures in the floodplain include

  – Increasing the size and frequency of floods.

  – Decreasing the ability of the floodplain to disperse stream energy during floods, which increases peak flows and the likelihood of stream bank and bed erosion.

- Decreasing vegetation cover and wildlife habitat.

- Decreasing recharge of aquifers which can reduce ground water volume and affect stream baseflow.

- *Significance Thresholds.* Actions that result in the alteration of floodwaters within an area could result in a significant impact, including those that cause excessive runoff leading to local flooding.

- *Mitigation.* Mitigation measures may include avoiding construction within designated floodplains and controlling stormwater runoff.

Data Sources

Information for flood hazard areas, including defined boundaries for 100-year floods, is found on Floodplain delineation maps produced by FEMA.

5.7 BIOLOGICAL RESOURCES AND WETLANDS

5.7.1 Biological Resources

Resource Definition

The concepts of ecosystems and biological resources are central to NEPA. Section 102(2)(H) of NEPA requires that analyses conducted will consider "ecological information" in planning and development.

A description of biological resources at an installation provides the essential baseline conditions against which impacts of the proposed action and alternatives are evaluated. The description should emphasize those biological resources which are expected to be affected by the action under

consideration or that have particular significance on a local, regional, or national level. Issues specifically addressed under the topic of biological resources include vegetation, fish and wildlife, sensitive species, sensitive habitats, and wetlands. Because of the unique ecological and regulatory issues associated with wetlands, this particular resource topic is discussed separately under Section 5.7.2 in this manual.

Relevance to RCI

Direct and indirect impacts that result in the temporary loss of native vegetation, populations or species of fish and wildlife, sensitive species, and sensitive habitats must be considered for any action involving disturbance in naturally vegetated areas. In the case of an RCI project, the construction of new housing facilities, expansion of existing facilities, and/or installation of new utilities serving the facilities could have a direct adverse impact on biological resources in the project area.

Statutory and Regulatory Setting

The following statutes impose specific regulatory requirements pertaining to the treatment of biological resources on federal property. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-3, *Natural Resources—Land, Forest and Wildlife Management*
- Endangered Species Act (ESA)
- Migratory Bird Treaty Act
- Sikes Act
- Fish and Wildlife Coordination Act of 1980
- Bald and Golden Eagle Protection Act
- Magnuson-Stevens Fisheries Management and Conservation Act
- Marine Mammal Protection Act

Compliance and Documentation Steps

Section 7 of the ESA requires federal agencies to coordinate with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) ("Service") to ensure that any proposed action that the agency authorizes, funds, or carries out is not likely to result in adverse impacts to threatened or endangered species or critical habitats. NMFS has jurisdiction over marine fish, anadromous fish, sea turtles, and marine mammals. Consultation, conference, and biological assessment procedures under Section 7 should be integrated with NEPA procedures to the maximum extent feasible. Simultaneous compliance with NEPA and ESA procedures minimizes duplication of effort and avoids delay. Installations may combine ESA and NEPA documentation (such as the biological assessment and environmental assessment) to reduce paperwork as long as the requirements of both statutes are met. Generally, an installation should determine the effect of a proposed action on listed species or critical habitat in accordance with ESA Section 7 *before* completing the NEPA analysis. Avoiding consultation with the Services to accelerate the NEPA process is counterproductive and is not an acceptable Army practice. Where applicable, the following procedures are to be followed:

- *Informal consultation.* Informal consultation typically begins with a written inquiry to the Service about the presence or absence of listed and/or proposed species or critical habitat in the proposed project area.

  - Within 30 days of receipt of the notification of or request for a species list, the Service will either concur with or revise the list provided or advise the Army of any listed, proposed, or candidate species or designated or proposed critical habitat present in the area of the proposed action. Candidate species are those being considered for listing as threatened or endangered but not yet protected under the ESA..

  - If the Service advises that listed species or critical habitat are not likely to be present, the consultation requirement is met, and the Service will notify the Army of this in writing. No further consultation is required.

- If a listed species or critical habitat may be present, the Service will provide the Army with information or references regarding the species or habitat. The Service may recommend that additional studies or surveys be conducted to make a more precise determination.

- If the Service advises that listed species or critical habitat may be present, the Army will be required to conduct a biological assessment. A biological assessment is optional if only proposed species or proposed critical habitat is involved. However, if both listed and proposed species/habitat are present, a biological assessment is required and must address both proposed and listed species/habitat.

• *Biological assessment.* The purpose of the biological assessment is to help make the determination of whether the proposed action is "likely to adversely affect" listed species and critical habitat. Procedures for conducting a biological assessment are as follows:

- The contents of the assessment are discretionary, but generally include results of on-site inspections determining the presence of listed or proposed species; an analysis of the likely effects of the action on the species or habitat based on biological studies, review of the literature, and the views of species experts; and a description of cumulative effects reasonably certain to occur within the action area that are likely to affect the species.

- If preparation of a biological assessment is not begun within 90 days of receipt of a concurrence or list of species from the Service, the Army must verify with the Service that the list is still accurate.

- If a biological assessment was prepared for a previous action that was identical or very similar to the proposed action, the Army may incorporate by reference the previous biological assessment in a written certification.

- If conducting a biological assessment will require a taking of a listed species, a permit must be obtained.

- A biological assessment must be completed within 180 days of receipt of a species list or concurrence with a species list from the Service. The biological assessment is submitted to the Service, and a written response of concurrence (or non-concurrence) will be issued within 30 days.

- The Service may suggest modifications to the action to avoid the likelihood of adverse effects.

- If the Service determines that the proposed action is not likely to adversely affect listed species or critical habitat, no further action is required.

- If the Service determines that the action is likely to adversely affect listed species or critical habitat, a formal consultation is required.

- The Army should obtain a determination from the Service in writing regardless of the decision and should include the determination in the final NEPA document.

C *Formal consultation.* Formal consultation is required if the Army determines that a proposed action is likely to affect listed species or critical habitat. Formal consultation is not required if, as the result of preparation of a biological assessment or as a result of informal consultation the Service determines that the proposed action is not likely to adversely affect listed species or critical habitat. Initiate a formal consultation with a written request submitted to the Service. The request should include:

- A description of the proposed action.

- A description of the specific area that may be affected by the proposed action,

- A description of any listed species or critical habitat that may be affected by the proposed action.

- A description of the manner in which the action may affect the listed species or critical habitat, and an analysis of cumulative effects.

- Relevant reports, including EISs, EAs, or biological assessments. The information submitted should be the best scientific and commercial data available.

- Any other relevant information on the proposed action, the listed species, or critical habitat.

Formal consultation concludes within 90 days after its initiation, unless extended by mutual agreement between the Army and the Service.

- *Biological opinion:* The Service will issue to and discuss with the Army its biological opinion as to whether the proposed action, together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

  - In the case of a "jeopardy" opinion, the Service will suggest reasonable and prudent alternatives, if any, to the proposed action.

  - If the Service concludes that the proposed action and any resultant cumulative effects to listed species will not violate the ESA, the Service will specify the incidental take of listed species allowable and suggest reasonable and prudent measures, if any, that the Army can take to minimize incidental takings of listed species due to the proposed action.

- The Army should notify the Service of its final decision on the proposed action if a jeopardy opinion is received.

- If the Army determines that it cannot comply with the ESA after consultation with the Service, it may apply for an exemption.

- Formal consultation should be reinitiated if:
  - The amount of taking specified by the Service is exceeded.
  - New information reveals effects of the identified action that were not previously considered.
  - The identified action is modified in a way that could cause an effect to a listed species or critical habitat not previously considered.
  - A new species is listed or critical habitat designated that may be affected by the identified action.

It is strongly recommended that the Section 7 process be completed and the results incorporated into the final NEPA document prior to release of a FNSI or ROD.

Content and Organization

Describe Existing Conditions (Affected Environment). Information that should be used to describe vegetation; fish and wildlife species; endangered, threatened, and rare species; and sensitive habitats in the affected environment section of an EA is discussed in the following sections.

- *Vegetation*. The following information should be included to adequately describe the species composition and distribution of vegetation on the installation:
  - Principal habitat types occurring on the installation, including the approximate size (in acres) of each.
  - The location of each habitat type on the installation, particularly within the project area, depicted graphically.

- Regional significance, if any, of those habitat types.

- Floral surveys conducted on the installation, especially within the project area, and the date of those surveys.

- Native plant species documented at and around the project site.

- Exotic/ornamental plant species documented at and around the project site, including all noxious weeds.

- Ongoing vegetation management programs.

For all plant species mentioned in the environmental assessment, the common name should be written first, followed by the botanical name in parentheses. If there are numerous (i.e., more than about 15) plant species to report in this section, it is most effective to present that list in tabular form and include it as an appendix. Within the body of the text, however, listing only the dominant plant species or those with particular relevance, such as noxious weeds that have the potential to spread as a result of the proposed action, is appropriate. The plant list appendix should be referenced.

Sample text describing the distribution and composition of vegetation at an installation is presented in Section 4.7.1.1 of the REA.

- *Fish and Wildlife*. The fish and wildlife portion of the biological resources section should include detailed information about fish and wildlife species documented on the installation. If surveys have not been conducted, a list of species known to occur in the region—and thus potentially occurring on the installation—should be provided. Included in the description of fish and wildlife resources should be both game and nongame species and invertebrate species, if known. For all fish and wildlife species mentioned in the document, both scientific and common names should be included. Similar to listing plant species, fish and wildlife species should either be listed in

paragraph form or, if the number of species is too numerous to include as a paragraph, listed in tabular form and included as an appendix.

Information to include in the description of fish and wildlife resources is as follows:

- Nongame species of mammals, birds, reptiles, amphibians, and fish known to occur, or potentially occurring, on the installation.
- Game species of mammals, birds, and fish on the installation.
- Resident status of bird species on the installation (e.g., which birds are known to nest on the installation, which over-winter there, which species are neotropical migrants).
- Invertebrate species known or potentially occurring on the installation.
- Wildlife management areas, preserves, or refuges.
- Wildlife management programs.

Sample text describing fish and wildlife resources is presented in Section 4.7.1.2 of the REA.

- *Endangered, Threatened, and Rare Species.* Endangered, threatened, and rare species warrant special treatment in a NEPA document, due in part to the large size of many installations and the historic protection of wildlife habitats afforded by the military to endangered species habitats. Though only federally listed species are protected under the ESA, the protection of state-listed species on military installations is increasingly being addressed by the Army as a matter of responsible stewardship. To that end, it is appropriate and beneficial to confer with state fish and wildlife agencies during the NEPA process. In accordance with Army regulations, an EA is normally required for activities affecting state-listed species (see Section 5-3(q) of AR 200-2).

As previously mentioned, Section 7 consultation with the USFWS and appropriate state agencies is strongly recommended during the NEPA process. Consultation with these agencies will not only provide current information on federal and state listed species occurring on the installation, and thus potentially affected by the proposed action, but also can lead to a discussion of alternative courses of action in a "may affect" situation. Inquiry letters (see example) and agency response letters should be included as an appendix to the EA.

The affected environment section for endangered, threatened, and rare species should clearly and accurately present the following information:

- A current list of all federal and state-listed endangered, threatened, and rare species present within the project site, indicating specifically if nesting or other breeding activity is occurring. Include source(s) of information.

- A current list of all federal and state-listed endangered, threatened, and rare species occurring in the region (i.e., potentially occurring in the project area). Include source(s) of information.
- The up-to-date rarity status (e.g., federally endangered, federal species of concern, state threatened) of each species, including both federal and state statuses if applicable. For rare species, the global status (e.g., G1, G2, G2/G3) should also be mentioned. Global rarity ranks have been defined by The Nature Conservancy.

- Information on the habitat preferences of each sensitive species.

- A description of conservation programs conducted for each species.

- Locations, as shown on a generalized map, of each species on the installation.[6]

[6]When depicting locations of these species, it is important to show or describe them only in relation to the proposed project site. The inclusion of precise latitude and longitude coordinates is not appropriate in a NEPA document and could result in increased disturbance to a vulnerable species. The most important aspect of showing

Lists of sensitive species (using both common and scientific names) and their rarity status should be provided in tabular form. Other information to include in the table(s) is a general description of the species' preferred habitat, including all host species, and a brief description of its abundance on the installation.

Sample text illustrating this information is presented in Section 4.7.1.3 of the REA.

- *Sensitive Habitats*. Sensitive habitats include those areas with some conservation value. The conservation value can be recognized either by the federal government, due to the presence of an endangered or threatened species or to the natural area's designation as critical habitat, or by a state agency, due to the presence of state-listed species or to its significance as a regionally threatened ecosystem. For example, a high-quality remnant of tallgrass prairie in Illinois—a threatened ecosystem in the midwestern United States and designated "significant natural area" under the Illinois Natural Areas Preservation Act—would be treated as sensitive habitat in a NEPA document.

  Informal Section 7 consultation is also recommended when faced with a potential impact to sensitive habitat. Initiating a dialogue between the Army and appropriate agencies early in the NEPA process can facilitate discussion of alternative courses of action in a "may affect" situation.

  The following information should be included to describe sensitive habitats on an installation:

  – The presence and location of any critical habitat.

  – The presence and location of ecosystems or microhabitats of local, regional, or national significance, including the reasoning for such designation.

species locations is to relate their proximity to the site of the proposed action.

- Characterization of the unique or significant biological or physical features of the sensitive habitats. Include mention of dominant plant species.

- Biodiversity ranks for the habitats, if known.

- Any state regulations applicable to the conservation of the sensitive habitats.

- Management programs conducted by the installation to protect sensitive habitats.

Sample text describing sensitive habitats is presented in Section 4.7.1.4 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Evaluating potential impacts to biological resources from an RCI project involves two aspects—assessing impacts on resources associated with construction, demolition, or modification of project facilities and identifying the circumstances and environmental conditions for which the impacts would be significant. Due to the lack of quantitative models applicable to this process, much of the assessment is qualitative in nature and relies primarily on the expertise and judgment of the assessor. Arguably the most critical element to the analysis, however, is the dialogue between the Army and federal and state consultation agencies. The agencies provide information on sensitive species and habitats located on the installation and can inform the Army, early in the NEPA process, as to whether the proposed action is consistent with the requirements of the ESA.

  For each alternative, the environmental consequences section for biological resources should relate the following information:

  - The vegetation, fish and wildlife, sensitive species, and sensitive habitats that would be permanently lost as a result of the proposed action.

- The biological resources that would be temporarily lost, and when and how those resources would be restored.

- Disturbances to biological resources, terrestrial wildlife species in particular, that would occur during and/or following implementation of the proposed action.

- Outcome of the informal consultation process between the Army and USFWS/NMFS.

- Outcome of the informal consultation process between the Army and state natural resource agencies.

- Mitigation measures to offset the loss of vulnerable biological resources, including how and when those measures would be accomplished.

• *Description of Effects.* The following are typical impacts on specific biological resources from RCI activities.

- Vegetation. The clearing of a naturally vegetated area to construct new housing facilities, resulting in the loss of native plants, is the most apparent direct adverse impact on this resource area. Other direct effects could include the spread of invasive plant species into disturbed areas, the loss of native plant productivity, and increased habitat fragmentation. An indirect effect to consider is the degradation of aquatic ecosystems caused by contaminated runoff and increased sedimentation associated with ground-clearing and construction activities. The impact evaluations not only should consider the local significance of the vegetation loss, but also should frame the loss in a wider regional and national perspective when appropriate.

- Fish and Wildlife. Direct adverse impacts on fish and wildlife resources can be described in terms of reduced carrying capacities for a particular habitat type, diminished habitat quality, specific numbers of acres of habitat converted to other land uses, or actual number

of animals eliminated from the proposed action. Recreational impacts associated with the reduced fish and wildlife resources should also be described (e.g., reduced hunter days, decreased opportunity for bird watching and other nonconsumptive uses). A direct beneficial impact to consider is the conversion of a demolished housing site to open space, thus providing additional habitat for wildlife species.

Indirect impacts on fish and wildlife may result from increased noise and human activity associated with a construction project. These indirect effects may be short-term, occurring only during construction activities, or they may be long-term, occurring from an increased human presence in the project area.

– Sensitive Species. Potential adverse effects on sensitive species could include the loss of habitat (a direct effect) or disturbance to breeding activity (indirect effect). Other disturbances from noise and an increased human presence may result in the displacement of species from the project area or entire installation. These effects may be either long- or short-term. Results of agency consultation should be included in the discussion of impacts.

– Sensitive Habitat. Potential adverse effects include the loss of or disturbance to sensitive habitat. Examples of disturbances to these habitats include the trampling of sensitive plant species, alteration of successional stages, disruption of ecological processes, and/or removal of potential nest sites for sensitive species. Results of agency consultation should be included in the discussion of impacts.

Sample text describing the effects on biological resources is presented in Section 4.7.2 of the REA. For each alternative, the text should be supplemented by a figure that overlays the proposed construction footprint on a map of sensitive habitat and sensitive species. The location of proposed mitigation measures, if any, should also be shown.

- *Significance Thresholds*. Actions may trigger an EIS requirement if they would result in a direct or indirect adverse impact on a federally listed species or loss of critical or sensitive

habitat. The requirement can be avoided by mitigation proposals to alter the location or timing of the project. However, the mitigation proposals must be suggested or approved by the USFWS or NMFS and/or appropriate state agency.

- *Mitigation*. Avoidance and minimization measures for impacts on vegetation and fish and wildlife might include

  – Maintaining large blocks of native vegetation by clustering housing buildings and support facilities where feasible.

  – Landscaping with native, low-maintenance vegetation.

  – Limiting the use of herbicides to control noxious weeds.

  – Maintaining blocks of habitat and known wildlife travel corridors where feasible.

  – Timing construction activities to occur outside the breeding season of sensitive wildlife.

  – Maintaining an 800-foot buffer around bald eagle nest sites.

Data Sources

The environmental management offices at installations typically are the best sources for site-specific biological information. These offices can often provide land use plans, recent EAs and EISs prepared for projects on the installation, environmental baseline surveys, results of biological studies conducted on the installation, floral and forest inventories, wildlife inventories, integrated natural resources management plans, endangered species management plans, game species management plans, landscape plans, and other natural resources planning information containing information on baseline biological conditions.

A number of Army installations have implemented the ITAM program, designed to meet the myriad natural/biological resource management requirements on the training lands. An important component of the program is the LCTA component, which serves as a good source of characterization data. Annual LCTA Summary Reports are a requirement of the program and provide a description of the status and trends of training land conditions, and an assessment of the likely or potential causes of impacts. On many installations, the ITAM program and the environmental management office will have the infrastructure and the biological resources entered into a GIS database. GIS is capable of providing a wide variety of quantitative analysis, as well as producing spatial graphics that can be used to identify the existing or potential conflicts that various actions would have with biological resources.

If site-specific biological resources information is not available from the installation, the next best source for regional data is state natural resources agencies. These agencies often maintain a database of vegetation community types, wildlife species, and rare plants and animals found within their jurisdiction. The Natural Heritage Program is an especially good source of these data. Other organizations, such as The Nature Conservancy (regional offices) and more local or state-based conservation organizations, may also be able to provide regional biological information.

Specific data sources and the information available from them include the following: satellite imagery (vegetation cover, location of surface water resources), aerial photography (impacted areas, vegetation community types and cover), USGS topographic maps (slope, aspect, roads, boundaries), USDA-NRCS Standard Plant List (national list of official plant names), USFWS (list of endangered, threatened, and candidate species; wetlands mapping), state natural resource agencies (state-listed endangered, threatened, and rare species; significant natural areas/habitat types), The Nature Conservancy (threatened, endangered, and rare species; habitats of regional and/or global significance), ITAM Support Center at USACERL (vegetation, wildlife, land use), and MACOMs and the USAEC (land use issues, natural resources technical policy and guidance).

5.7.2 Wetlands

Resource Definition

Wetlands are defined by EPA and USACE as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Areas meeting this definition are delineated based on parameters of vegetation, soils, and hydrology. Loss or degradation of wetlands can reduce groundwater recharge, cause increased flood levels and shoreline erosion, reduce primary productivity critical to aquatic food chains, affect water quality, and reduce habitat available to many species of terrestrial and aquatic biota. Wetlands are also valued for their aesthetic properties and often contribute to scientific and recreational opportunities.

Relevance to RCI

Direct impacts that result in the temporary or permanent loss of wetland area or functional integrity must be considered for any action involving surface disturbance in naturally vegetated areas (e.g., establishment of new family housing complexes, expansion of existing housing complexes, or installation of new utilities serving those complexes). Demolition and replacement of existing family housing could result in the temporary or permanent degradation of adjacent wetlands even if the developed area is not expanded. Wetlands are intimately associated with surface water and biological resources, and any direct or indirect impacts on those resources could affect wetlands as well.

An ROI for wetlands would typically include the sites under consideration for each alternative plus adjacent lands where wetlands could be influenced by surface runoff, sedimentation, noise, or other indirect impacts. Professional judgment is necessary to estimate the extent of adjacent lands that must be considered.

Statutory and Regulatory Setting

Army and other federal laws and regulations for wetlands are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-3, *Natural Resources—Land, Forest and Wildlife Management*
- Clean Water Act, Sections 401 and 404
- River and Harbors Act of 1899, Section 10
- Executive Order 11990, Protection of Wetlands

Impacts on wetlands are also regulated by several states and local jurisdictions. Two states, Michigan and New Jersey, have assumed administration of Section 404 from the USACE. Several other states (e.g., Maryland and Pennsylvania) have instituted separate wetland permit requirements that parallel Section 404. Certain states limit formal regulation to tidally influenced wetlands (e.g., Virginia and North Carolina) or to wetlands meeting specific size or value criteria (e.g., New York, Minnesota). Certain states use different criteria to delineate regulated wetlands (e.g., Massachusetts and Connecticut). Many states use the water quality certification process to limit development activity in wetlands even if state statutes do not directly address wetlands.

Compliance and Documentation Steps

If a formal jurisdictional wetland determination has not already been completed for the affected site, the installation (permit applicant) will have to arrange for one to be performed prior to implementing construction activities in those areas of possible wetlands concern. The delineation will have to follow the methodology in the Army's *Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1, 1987) and other supplementary guidance specified by the USACE District Engineer for the region in which the site is located. The NEPA document can, in the mean time, be completed based on preliminary wetland delineations.

Under Section 404 of the Clean Water Act, a permit must be obtained from the USACE for the discharge of dredged or fill material into waters of the United States. Because the Section 404 permit application process will only be initiated after completion of the NEPA document and selection of an alternative, the EA/EIS will typically only indicate that the necessary permits will be obtained. It will not document accomplishment of each of the steps listed above. The EA/EIS should, however, indicate the type of Section 404 permit or authorization (e.g. Individual Permit, Nationwide General Permit, etc.) that will likely be required for each alternative.

Content and Organization

Describing Existing Conditions (Affected Environment). The affected environment section for wetlands should accomplish the following objectives:

- It should state whether wetlands are present in the ROI for each alternative and indicate the source(s) of information used to make that decision.

- If wetlands are present, it should graphically depict their location and indicate the source(s) of information used to prepare the graphic.

- Each wetland area should be classified using the classification system developed by the USFWS (Cowardin et al., 1979) and (to the extent possible using the available information) verbally characterized.

- The functions and values of each wetland should be evaluated to the extent possible using the available information.

If available information indicates that wetlands are present or potentially present in the ROI, a figure depicting the wetlands (or potential wetlands) is essential. Wetland areas should be labeled with their FWS classification on the figure. The text should indicate the extent of each area in acres (to one

or two decimal places, depending on the precision of the available information) or, for small wetlands, in square feet.

The verbal characterization should address the vegetation, soils, and hydrology of each wetland to the extent possible based on the available information. If a site visit is not possible, the description will understandably be limited.

- *Vegetation.* The description should normally indicate the dominant species for each vegetational stratum (tree canopy, saplings and shrubs, herbaceous groundcover, and woody vines). The selection of dominant species should be subjective and rarely include more than two or three species per stratum. A dominance calculation procedure sometimes used for wetland delineations (FICWD, 1989) is not recommended for purposes of vegetation description. Visible adaptations of the vegetation to wetland conditions, such as abnormally shallow roots, should be noted. The principal sources of the information will usually be a site visit or, if available, a previous wetland delineation report.

- *Soils.* The description should normally state which soil series are mapped in the county soil survey and provide descriptive information from the survey text on those soil series. At a minimum, the drainage properties of each soil series should be noted. If a site visit is possible, the EA preparer should take at least one or two hand-augured soil borings in each soil mapping unit (to a depth of 18 to 24 inches, as would be typical for a wetland delineation) to verify information in the county soil survey. Field indicators of hydric soils (e.g., histic epipedon, gleying, manganese concretions) should be noted.

- *Hydrology.* At a minimum, the hydrology description should indicate the principal water sources contributing to each wetland occurrence (e.g., surface runoff, groundwater discharge, riverine overflow, tidal flow, etc.) and whether each wetland occurrence has a surface inlet or outlet.

- Relevant conditions of the watershed (area contributing surface runoff) for each wetland occurrence should be noted. If a site visit is conducted, hydrological conditions contributing to an area's wetland status (e.g., depth to water table, presence of watermarks) should be noted.

Several formal procedures are available to rigorously evaluate functions and values of wetlands. These include the Wetland Evaluation Technique (WET), the Hydrogeomorphic Method (HGM) (currently under development), and various local methods. However, a subjective assessment will usually be adequate.

Sample text addressing this topic is presented in Section 4.7.1.5 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Assessing potential impacts on wetlands from any action requires careful consideration of a broad spectrum of possible effects (described below) and relies heavily on the specialized expertise and judgment of the assessor. The wetland area subject to permanent loss from fill should be precisely quantified by conducting a field delineation, survey, and mapping of all potentially effected waters of the United States, including wetlands. A qualitative consideration of the other categories of wetland related impacts is usually sufficient. Analytical models are available to generate quantitative estimates of changes in wetland hydrology (e.g., TR-55) and changes in wetland function (e.g., WET 2.0). But use of such models is generally limited to certain EISs.

  For each alternative, the environmental consequences section for wetlands should accomplish the following objectives:

  – Indicate which wetland areas would be permanently lost.

  – Indicate which wetland areas would be temporarily lost, and when and how those areas would be restored.

- Indicate how the condition and functional integrity of other wetlands could be affected.

- Propose mitigation measures, how those measures could be accomplished, and how they could offset losses of wetland area and function.

- Indicate what, if any, permits would be necessary for the potential wetland impacts.

• *Description of Effects*. Typical categories of wetland impacts from RCI activities could include:

- Filling. Any grading or construction activity within areas identified as wetlands constitutes filling. Filling can either be permanent, as necessary to construct a road or houses in a wetland, or temporary, as to excavate and backfill a ditch to extend a buried utility across wetlands. The EA should indicate the area to be filled and show an overlay of the construction footprint on a map of existing wetlands in a figure.

- Flooding. Construction activities adjoining wetlands can raise water levels, stressing or killing vegetation and other biota and, in extreme cases, creating open waters. Most wetland tree and shrub species are tolerant of seasonal saturation but are easily injured by extended periods of even shallow inundation. Culverts for road crossings permitted under Section 404 can become blocked (or are improperly sized) and create impoundments that flood wetlands. Enhanced storm water flows from new impervious surfaces can also flood wetlands following heavy rainfall.

- Draining. Direct ditching of wetland areas will not likely occur as part of any RCI activity. However, construction within areas adjoining wetlands can indirectly cause portions of wetlands to dry out. For example, grade changes may divert surface flow that formerly fed wetlands in isolated depressions. In some arid areas, increased demands on shallow aquifers to support new housing and associated landscaping can cause some spring-fed wetlands to dry out. These wetlands may be located at a considerable distance from the site of construction.

– Sedimentation. Any surface soil disturbance adjacent to wetlands can contribute sediment to the wetland. This sediment can smother herbaceous vegetation and sediment-dwelling fauna and alter the movement of water through the wetland. Small, isolated wetlands experiencing heavy sedimentation may become converted to uplands.

– Water Quality Degradation. Lawn maintenance in residential areas can contribute large quantities of fertilizer and pesticides to adjoining wetlands through runoff. Fertilizer from runoff can stimulate the growth of aggressive vegetation, and small insect larvae and other biota critical to the food chain can be killed by runoff-borne pesticides.

– Increased Noise and Human Activity. As for other natural areas, the value of wetlands as wildlife habitat can be reduced by noise and other indirect effects of an increased human presence. Humans shortcutting across wetlands can trample vegetation and wildlife, compact soils, and resuspend sediments. Noise from automobiles, lawnmowers, and conversation can startle wildlife.

Of the categories of impacts noted above, only filling is directly subject to permitting requirements under federal law. However, all potential impacts on wetlands must be considered under NEPA, not just impacts requiring permits.

Potential wetland impacts are generally most apparent when considering the construction of new facilities. However, certain RCI activities not involving new construction could potentially cause significant indirect impacts. For example, privatization of an existing housing complex could lead to more intensive lawn maintenance, and thus greater quantities of fertilizer and pesticides entering wetlands in runoff.

- *Significance Thresholds*. Actions may trigger an EIS requirement if they would result in a net loss of wetland function. The requirement can be avoided by compensatory mitigation proposals for restoring or creating similar wetlands elsewhere on the site or in the same watershed. Because wetland area is more readily quantified than wetland function, and because the success

of restored or created wetlands is uncertain, most mitigation proposals call for restoring or creating more wetland area than that lost.

- *Mitigation*. Avoidance and minimization measures for wetland impacts might include

  – Use of detention basins, oil/water separators, and other storm water management structures to limit the effect of increased storm water on wetlands.

  – Use of vegetated buffers, silt fences, straw mulches, and other erosion control practices during construction to prevent sedimentation of wetlands.

  Compensatory mitigation measures for wetland impacts might include

  – Restoration of wetlands disturbed by project. The long-term impact of temporary disturbances to wetlands can often be eliminated by restoring the wetlands to their original condition. For example, trenches to install buried utilities can be backfilled with the original soil layers and replanted with indigenous wetland vegetation.

  – Restoration of other wetlands. Wetland conditions can be readily restored to many former wetlands by simple measures such as filling drainage ditches, plugging or removing tile drains, or breaching open water impoundment.

  – Creation of other wetlands. Some nonwetland sites can be converted into wetlands by impounding surface runoff, diverting stream flow, excavating to the water table, or other methods. Careful selection of site and method is critical to success and cost efficiency.

  – Enhancement of other wetlands. Degraded wetlands can be enhanced through removal of invasive vegetation, supplementary planting of desirable vegetation, or installation of wildlife management features such as nesting boxes.

– Purchase and protection of other wetlands. This approach is sometimes viewed as an acceptable mitigation measure if the purchased wetlands are of exceptional value and in imminent danger of development, but otherwise it is not viewed as a strong mitigation measure because most wetlands are already protected under various regulations.

– Monetary compensation. Payments can be made to trustee agencies responsible for wetland management (such as the USFWS or state game agencies).

Sample text for this discussion is included in Section 4.7.2 of this manual.

Data Sources

A number of wetland data sources are usually available from the installation's natural resource manager, other environmental staff, local (county and municipal) planning offices, local soil conservation district offices, and field offices of the state environmental protection department (or equivalent), U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service. These sources include maps, electronic overlays, reports, and other descriptive material; specific routinely consulted sources include the following:

- *Site-specific wetland delineations.* Many sites have had formal wetland delineations in support of previous projects. If available, the reports are highly reliable and provide substantial descriptive detail for the delineated wetlands. If such delineations have been performed, copies may be available from the installation's environmental directorate, district offices of the USACE, state environmental protection departments, or local planning offices.

- *Installation-wide wetland inventories.* Wetlands have been mapped using aerial photointerpretation for many installations to support natural resource management programs. The accuracy of these maps varies considerably and is generally proportional to the extent of ground truthing employed. If an inventory has been completed, it should be available as a GIS layer from the installation's environmental directorate.

- *State and local wetland maps.* Some states and local jurisdictions have prepared areawide wetland inventories using aerial photointerpretation. Again, these maps vary widely in accuracy. Some were developed to support limited regulatory objectives and may address only certain types of wetlands (e.g., tidal wetlands, wetlands over a certain size threshold). If available, the maps can usually be purchased from state environmental protection departments or local planning offices.

- *Soil surveys.* Soil survey maps are available from the NRCS for most counties. A list of soil series determined to be "hydric," i.e., typical of wetlands, is available (NTCHS, 1991). Soil surveys vary widely in accuracy, with those published after 1980 for metropolitan counties being the most useful. Many earlier surveys are too broad in their classification of soils to be useful in the identification of hydric soils.

- *National Wetland Inventory (NWI) maps.* These maps have been developed by the USFWS for the entire United States using aerial photointerpretation and very limited ground truthing. The maps are prepared as overlays on 7.5-minute topographic quadrangles at a scale of 1 inch equals 2,000 feet. The maps can be purchased directly from the USFWS (in hard or electronic copy) or may be available from local planning offices. Because of photo-interpretation problems, map scale, and lack of ground truthing, NWI maps can depict non-wetlands as wetlands or completely miss wetlands on a site. NWI maps are most useful as a general approximation of wetland resources and do not provide sufficient detail to evaluate potential impacts of proposed activities on specific wetlands. Because the NWI maps provide only a general approximation of the extent and boundary locations of wetlands, jurisdictional boundary determinations should be made prior to any land disturbances or activities that could adversely impact wetlands.

Unless a site-specific wetland delineation is available, preparers should obtain as many of the other standard sources as are available. Preparers should also consult with natural resources management staff on the installation. Areas mapped as a wetland (or hydric soil) on any of the sources should be reported as a possible wetland unless refuted by field data.

If a site-specific wetland delineation is not available, a site visit is highly recommended to verify and supplement information from the standard sources. The site visit is especially recommended for actions involving surface disturbance of previously undeveloped lands. Although a formal delineation can be deferred until after an alternative is selected, an informal sketch of estimated wetland boundaries prepared in the field will contribute invaluably to the decision-making process.

5.8 CULTURAL RESOURCES

RCI NEPA documents (EAs/EISs) must identify those properties within the study area (the area to be privatized plus new construction sites) that are on or eligible for the National Register of Historic Places (NRHP) or that qualify as Native American traditional cultural properties. Impacts of the proposed RCI action on these resources must be identified, analyzed, and recorded in the NEPA document.

The proposed action, and the associated impacts (effects) on cultural resources, must be formally coordinated with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) in accordance with the National Historic Preservation Act (NHPA) or other applicable laws and regulations and the results recorded in the NEPA document. NHPA consultations with the SHPO, ACHP, and interested parties may result in the development of agreement documents that will delineate the steps the Army will take to either protect or mitigate for the loss of significant cultural resources. The requirements of these agreement documents must also be recorded in the NEPA document. NEPA document preparers should use the following instructions to complete the NEPA documentation and analysis for the RCI actions.

Resource Definition

NEPA requires consideration of "important historic, cultural, and natural aspects of our national heritage…" but provides no specific definition of these "aspects". Based on statutory requirements, cultural resources for NEPA analyses should be considered to include buildings, structures, archeological sites, districts, and objects eligible for or included in the NRHP; cultural items as

defined in the Native American Graves Protection and Repatriation Act of 1990; Native American, Native Alaskan, or Native Hawaiian sacred sites for which access is protected under the American Indian Religious Freedom Act of 1978; archeological resources as defined by the Archeological Resources Protection Act of 1979; and archeological artifact collections and associated records as defined by 36 CFR Part 79.

Relevance to RCI

RCI activities that have the potential to adversely affect cultural resources include but are not limited to the sale or out leasing of federal historic properties to non-federal entities, repair or renovation of historic properties, demolition of historic properties, and new construction that may affect archeological sites or Native American resources. In some instances, inappropriate siting of new construction could also result in an adverse visual impact on historic properties and districts.

Statutory and Regulatory Setting

NEPA is an appropriate authority for considering a project's effects on all types of cultural resources. A number of laws define and set requirements for the identification and treatment of cultural resources. At a minimum, as part of the NEPA analysis, the requirements of the following laws and regulations must be taken into consideration when determining the effects of an RCI action on cultural resources. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-4, *Cultural Resources Management*
- National Historic Preservation Act of 1966, as amended (NHPA)
- American Indian Religious Freedom Act (AIRFA)
- Native American Graves Protection and Repatriation Act (NAGPRA)
- Antiquities Act of 1906
- Archeological and Historic Data Preservation Act of 1974 (AHPA)
- Archeological Resources Protection Act of 1979 (ARPA)

In addition to the above statues and regulations, the Presidential Memorandum for Heads of Executive Departments and Agencies on Government to Government Relations with Native American Tribal Governments, dated 29 April 1994, requires that consultation between the Army and federally recognized Indian tribes occur on a government-to-government basis. Designated representatives of federally recognized Indian tribal governments must be treated by Army personnel as the representatives of a sovereign government.

Consultation with federally recognized Indian tribes on a government-to-government basis occurs formally and directly between installation commanders and heads of federally recognized tribal governments. Installation and tribal staff-to-staff communications do not constitute formal government-to-government consultation but are normally necessary prerequisites to formal consultation.

Regarding archeological resources, the Army must also ensure that federally owned and controlled archeological collections and associated records, as defined in 36 CFR Part 79 (*Curation of Federally Owned and Administered Archeological Collections*), are processed, maintained, and curated in accordance with the requirements of 36 CFR Part 79. However, NAGPRA cultural items and human remains in the Army's possession and control must be disposed of in a manner consistent with the requirements of NAGPRA and 43 CFR Part 10.

Compliance and Documentation Steps

To complete the NHPA Section 106 requirements for the RCI action, the following steps must be taken by the affected installation and/or its designee. The preparer of the RCI NEPA EA/EIS will document these steps in the NEPA document.

- The installation must identify and determine whether historic properties are present within the installation project area and whether the historic property inventory is up-to-date and complete.

- If the installation historic property inventory is found to be incomplete, inadequate, or out-of-date for either housing areas or proposed construction sites, the installation will determine, in consultation with the SHPO, what actions will be necessary to finalize the inventory.

- If it is determined that additional historic property inventories are required, the necessary architectural or archeological inventories will be initiated before or during preparation of the NEPA document.

- Section 106 consultations with the SHPO and ACHP for the sale of historic properties or construction projects must be initiated by the installation at the earliest possible opportunity in the RCI process.

- RCI NEPA documents must identify the historic properties that will be affected by the proposed action.

- Letters and agreement documents showing consultation with the SHPO and ACHP must be included in the NEPA document.

- Optimally the Section 106 consultations should be concluded prior to finalization of the RCI NEPA document.

- In those instances when it is not possible to complete the Section 106 consultation process prior to finalization of the NEPA document, the document will, at a minimum, describe known historic properties, the current status of the consultations, and the measures the Army will take to complete the consultation process and protect historic properties.

- If historic properties will be affected, the NEPA document must indicate that no RCI action will take place until the Section 106 consultation process is complete.

- The installation must also determine whether Native American traditional cultural properties will be affected by the RCI action and, when necessary, initiate consultations to resolve these issues.

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment section for cultural resources should succinctly describe the following:

- An overview of prior historic property inventory studies within the ROI (referred to as the "area of potential effect" [APE] under the NHPA)

- A description of architectural and archeological properties on or eligible for the NRHP that are located within the RCI APE

- Existing installation cultural resource agreement documents that may affect implementation of the RCI action

- Cultural resource studies completed or to be undertaken to support the RCI action

- Agreement documents specifically concluded with the SHPO, ACHP, and interested parties for the RCI action

- Native American issues or traditional cultural properties that may be affected by the RCI action

Document Impacts of Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on cultural resources should be addressed as follows:

- *Analysis*. Specification of existing conditions, potential impacts, and appropriate mitigation measures related to RCI actions requires an integrated analytic approach. A description of

existing or potential cultural resources within the project area must be given, and then the analysis must focus on the kinds of impacts that could reasonably be expected to affect those cultural resources that are on or determined to be eligible for inclusion on the NRHP. Consideration should also be given to those Native American traditional cultural properties that may be affected by the RCI action.

Section 106 of the NHPA requires federal agencies to take into account the effects of their actions or undertakings on properties that are on or eligible for inclusion on the NRHP. The process for compliance with Section 106 is outlined in 36 CFR Part 800: Protection of Historic Properties. Section 106 consultation activities should be initiated as early as possible in the RCI process for an affected installation. Every effort should be made to complete all necessary Section 106 consultations prior to finalization of the NEPA document. In those instances where it is not possible to complete the Section 106 consultation process prior to finalization of the NEPA document, document preparers must note that this is the case and describe and analyze as thoroughly as is possible the effects of the action on known and probable historic properties.

- *Description of Effects*. The consequences section of the NEPA document should clearly and succinctly describe the effects of the RCI action on historic resources. The following is divided into two approaches, depending on whether the Section 106 consultations are complete or incomplete.

  – If Section 106 consultations have been completed, the consequences section of the NEPA document should clearly describe the following: the effect of the RCI action on NRHP-eligible resources and Native American traditional cultural properties and the requirements of any NHPA Section 106 agreement documents that have been concluded as part of the RCI action.

  – If Section 106 consultations have not yet been completed, the consequences section of the NEPA document will clearly describe or include the following information: the status of the historic property inventory; the status of the NHPA Section 106 consultations; the known and

probable effects of the RCI action on historic properties and Native American traditional cultural resources; a description of how the Army will treat known and potential historic properties prior to completion of the Section 106 consultation process; and an assurance that no action will be taken until the Section 106 consultations have been completed for the action.

- *Significance Thresholds*. Impacts on cultural resources are considered to be significant if (1) properties that are on or considered to be eligible for the National Register of Historic Places will be destroyed or their character altered in such a fashion as to make them ineligible for the National Register or (2) Native American resources will be adversely affected or access to them will be lessened or prevented by the proposed project. Significant impacts on cultural resources can be avoided either by taking measures that will ensure the continued preservation of the historic property or by conducting recordation measures that will mitigate for the loss of the property. For each RCI installation with historic properties, an agreement document to be concluded between the Army, the SHPO, ACHP, and interested parties will stipulate the measures that will be taken to either avoid or mitigate for proposed significant impacts.

- *Mitigation*. If historic properties will be adversely affected by an RCI project, measures to be taken by the Army or others to either avoid or mitigate for these adverse effects will be detailed in an NHPA Section 106 agreement document to be concluded between the Army, SHPO, ACHP, and interested parties. Mitigation measures referenced or discussed in the NEPA document will be taken from those which are included in official agreement documents. If an agreement document is not yet finalized, suggested or recommended mitigation measures will not be included in the NEPA document without Army approval.

Data Sources

Several standard sources of cultural resources background information should be consulted as an initial step in writing the cultural resource sections of the RCI NEPA document. These include the following:

- Integrated Cultural Resources Management Plan (ICRMP).
- Installation cultural resource inventory survey reports (most specifically those which apply to the affected housing areas and lands proposed for new construction).
- Programmatic agreements and memoranda of agreement that deal with installation cultural resources.
- Installation Master Plan.
- Recent NEPA documents for the project areas.
- Installation-specific records held by the SHPO or other pertinent local historic preservation groups.

5.9 SOCIOECONOMICS

Socioeconomics comprises the social, economic, and demographic characteristics of a region. The socioeconomic environment can be affected by changes in employment, income, and population, which in turn can affect resources such as housing, public services, and infrastructure.

Socioeconomic studies performed for Army NEPA documents typically focus on five primary areas—economic development, sociological environment, quality of life, environmental justice, and protection of children. Each of these topics is discussed in the following sections.

5.9.1 Economic Development

Resource Definition

Economic development characterizes a regional economy in terms of its composition and health. Specifically, economic development describes the types of industries located in the region, employment distribution among these industries, the size of the workforce, and unemployment trends. The section also provides information on the affected DoD installation, including workforce size and expenditures.

Relevance to RCI

The construction of new housing not only affects the housing market in the area, but also fuels the economy with the temporary creation of new jobs. These changes can affect the status of the region's economic health, including unemployment rates.

Statutory and Regulatory Setting

There are no specific economic development-related federal laws or regulations that apply to the Army RCI.

Content And Organization

Describe Existing Conditions (Affected Environment). Before economic development or any of the other socioeconomic resources can be described, the analyst must establish an ROI so that appropriate data can be collected. There are no specific rules for defining an ROI, but a number of tools can be used to facilitate selecting an appropriate area. A potential problem in selecting an ROI is that if the ROI is too small, impacts would be overstated; conversely, an inappropriately large ROI would lead to underestimates of potential impacts.

It should be noted that since many Army installations have been the subject of NEPA documents (including Natural Resource Management Plans), it would be useful to first ascertain if such a document has been prepared for the installation in the last 5 to 10 years. A recent NEPA document could then serve as a guideline for establishing an ROI for an RCI action.

Defining the ROI can be accomplished using a number of different criteria, including administrative jurisdictions, homogeneous features, or functional linkages. Administrative regions generally follow predefined political or administrative boundaries, such as state lines. The homogeneous approach ignores political or administrative jurisdictions and delineates a region based on some common physical, economic, or statistical characteristic, such as a coal-mining region or an air pollution region. Basing regions on functional linkages defines a region by evaluating a set of social and economic linkages, while taking into account additional geographic factors. The use of functional linkages is the most common approach. Using this approach, the ROI is defined by the trading and commuting patterns within a given area surrounding the proposed site, and is composed of different nodes linked together through the flows of people, factors, goods, and communications. Other factors influencing ROI selection include residential distribution of the affected workforce, the availability of wholesale and retail establishments and services in the area, and proximity of the proposed site to large population centers.

Other practical concerns must also be taken into consideration when defining an ROI, such as the availability of data, the restrictions of the model, and local community input. Economic and demographic data from U.S. Government agencies are often not available at the sub-county level. Although some local jurisdictions may collect their own data, such data are not always of reliable quality and could be inconsistent with data from other local sources, especially if the study encompasses more than one site.

For most RCI actions at sites where no previous NEPA documentation exists, one should look at the size of the project and view it in the context of its geographical location. A relatively small project in a large urban county may lead to a one-county ROI. Conversely, a large RCI project in a very rural county would likely lead to a multi-county ROI. As noted above, commuting patterns are indicative of the flow of goods and services in a region. The commuting information, combined with information on the installation's resident population distribution and general economic and geographical information, should provide the analyst with the necessary information to define the ROI. It should be noted that once an ROI is selected, it is applied to all components of the socioeconomic analysis.

The economic development section provides a general overview of the ROI's economy. The economic development section should include information on regional employment and unemployment rates, employment by industrial sectors, per capita income, and installation workforce and salary data.

Sample text for this information can be found in Section 4.9.1.1 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on economic development should be addressed as follows:

- *Analysis*. Socioeconomic effects from RCI activities are interrelated. Effects on the regional economics in the area can affect population and housing in the area. Any change in population stemming from an increase in regional spending can affect public services in the area.

  Socioeconomic impacts are determined using the Economic Impact Forecast System (EIFS) model. The EIFS model is a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action.

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

  EIFS is implemented as an on-line system supported by the USACERL and the USACE through the University of Illinois. The system is available at all times to anyone with an approved login and password, through phone access numbers, Telenet, and other commonly used computer communications. Information on use and access to EIFS can be obtained by contacting the EIFS

Coordinator, USACERL, in Champaign, Illinois; phone (217) 373-3396. The ETIS Support Center at the University and the staff of USACERL are available to assist with the use of EIFS.

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

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

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its basic sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a "location quotient" approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

For RCI analysis, the EIFS Construction of On-base Housing model should be used. This model analyzes the impacts from the construction of additional housing on the local economy. This model requires that the user input the estimated dollar value of the construction project (including any ancillary supporting facilities), the percentage of the total spent on labor and materials, the

number of military families to move on post, and the average income of affected military personnel. Based on the input data and calculated multipliers, the model estimates ROI changes in sales volume, employment, income, population, housing, and school enrollments, accounting for the direct and indirect effects of the action.

If the privatization action is expected to result in the loss of existing government jobs (e.g., operation and maintenance of current Army housing and ancillary facilities), it may be necessary to run the EIFS Standard Model to estimate the economic effects from the loss of these jobs. Hence, any positive economic effect from the housing construction and associated employment would have to be measured against employment losses on-post to determine the net economic effect. If anticipated job losses are very small (e.g., less than 10), it may be sufficient to qualitatively assess job losses at the affected installation. Particularly in a large urbanized region economy, a loss of five jobs, for example, would be imperceptible, except for those directly affected. In contrast, if the analysis indicates that a large number of installation jobs would be lost and the installation is located in a small rural area, economic impacts could be significant and hence, should be quantified using EIFS modeling. The implementation of job reassignments, retraining programs, and hiring by the Development Partner would help to compensate for the loss of government positions.

- *Description of Effects*. The EIFS model output shows both direct and indirect effects. Direct effects are those stemming from the expenditures related to the construction while the indirect effects are those which result from the direct increases in spending.

  As a general rule, the economic effects from the construction of additional housing will be short-term in nature, lasting only the duration of the construction period. The impacts on area housing markets, however, will be longer term. There could also be long-term impacts on area community services if new development is in an area not previously served or if the development patterns in the community are substantially changed.

The results of the EIFS model should be summarized in the text and presented in table format. In addition, a download of the EIFS model inputs and outputs should be included in an appendix. The EIFS model shows the economic impacts on the area as well as some of the other impacts. However, the EIFS model should not be the only tool used. The impacts on local housing markets and on public services cannot be wholly determined by the EIFS outputs. The analyst must use the information presented in the affected environment section to determine whether there would be an effect on these resources.

- *Significance Thresholds*. Once model projections are obtained, the Rational Threshold Value (RTV) and Forecast Significance of Impacts (FSI) profiles allow the user to evaluate the "significance" of the impacts. These analytical tools review the historical trends for the defined region and develop measures of local historical fluctuations in sales volume, employment, income, and population. These evaluations identify the maximum positive and negative changes to a local economy that could occur without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action's impact to the historical fluctuation in a particular area. The RTV allows for the maximum historical growth, but only a percentage of the maximum historical declines. This results from the generally held belief that economic growth is positive, and most economies are better able to accommodate growth than decline.

  Like the RTV analysis, the FSI analysis is region-specific. However, unlike RTV, FSI does not attempt to measure a community's ability to adapt to economic changes, but instead indicates changes that would fall outside what is expected, given historical trends. The FSI profile forecasts indicator variables assuming that no action occurs, as well as the standard error of the forecast. If the impacts of the proposed action fall outside the forecast error bands, it is assumed to be significant.

  These techniques have two major strengths: (1) they are specific to the region under analysis and (2) they are based on actual historical time series data for the defined region. The use of the EIFS impact models in combination with the RTV and/or FSI has proven very successful in

addressing perceived socioeconomic impacts. The EIFS models and these significance measurement techniques are theoretically sound and have been reviewed on numerous occasions.

If the socioeconomic impact analysis of the proposed action indicates "significance," the EIFS model results should then be supplemented with a more detailed analysis. Although such instances are rare, the greater detail and accuracy will be valuable in further mitigation planning. With EIFS, a higher-level input-output (IO) model is available for use. Called the Automated Input-Output Multiplier System (AIMS), the model adheres to the EIFS philosophy in ease of use, but can provide sector-specific data for further analysis of significant impacts resulting from Army actions. In addition, more detailed, geographically specific impact analysis may be required. EIFS also contain two models that provide county-by-county impacts within the ROI: (1) the Air Force Region of Influence (AFROI) Model and (2) the Small Area Assessment Model (SAAM). This overall approach is referred to as the "two tier" approach since it depends upon a simple (using EIFS and the RTV to screen and more detailed models to address significant impacts) until such time that a significance threshold triggers a more detailed, resource-consumptive analysis of the socioeconomic impacts.

It is rare that the significance threshold is actually crossed, and the documentation of this fact can often lead to the dissipation of the issue. All data are locally specific and therefore applicable. Although the age of the data (dependent on the Census source) can be a criticism, it is the only uniform source available. In short, the model can be effectively used to define and document "insignificant impacts."

- *Mitigation*. The mitigation of socioeconomic impacts is most often accomplished through time-phasing of the action. Spreading the action over a few years is often a good mechanism to lessen the "jolt" or severity of the economic impact and is often a pragmatic result of the logistics associated with realignment. The impact is often spread over a number of years to account for the need for facilities at gaining installations and, a smooth transition and other factors.

Once the actual "staging" of an action is completed, some detailed mitigation can proceed, often under the auspices and assistance of the DoD Office of Economic Adjustment (OEA). This office is familiar with the programs designed to assist communities affected by DoD actions and is very effective in assisting these regions during such periods of turmoil. In severe cases of impact, more detailed, sector-specific models are often used by OEA. These are often necessary for the type of detailed mitigation planning often required for significantly affected regions.

Sample text describing overall socioeconomic effects can be found in Section 4.9.2 of the REA.

Data Sources

Data describing economic activity and employment levels are available from the Bureau of Economic Analysis (BEA) as part of the Regional Economic Information System (REIS) CD-ROM. Labor statistics are available from the Bureau of Labor web site at www.bls.gov. Installation workforce structure and salary information should be obtained from a questionnaire sent directly to the installation.

5.9.2 Sociological Environment

Resource Definition

The sociological environment encompasses demographics, housing, and public services, including law enforcement, fire protection, and medical services.

Relevance to RCI

The construction of new housing could affect the housing market in the ROI. Depending on the magnitude of the proposed action, other changes to the sociological environment could result,

including changes in population, which would affect demand for public services including law enforcement, fire protection, and medical services.

Statutory and Regulatory Setting

There are no specific sociological environment-related federal laws or regulations that apply to the RCI.

Content and Organization

Describe Existing Conditions (Affected Environment). The description of existing sociologic conditions should address the following:

- *Demographics.* Population information provides context to the socioeconomic impact analysis. Clearly, RCI actions in large urban metropolitan areas would have smaller impacts than those in small rural areas. If an RCI project is estimated to take place over a 10-year period, beginning in the year 2000, it would serve the analysis to have population projections for the year 2000, 2005, and 2010. Although these projections are not used for the EIFS modeling, they do provide perspective on whether the project is taking place in a growing, stagnant, or declining region.

- *Housing.* Because an RCI proposed action could significantly affect how and where installation personnel would reside in the future, the affected environment section should describe both on-base housing and off-base housing in detail. On-base housing information should include the following:

  - Number of units by type (e.g., apartments)
  - Percentage of installation employees residing on base
  - Location of housing
  - Age and condition of housing

In addition, off-base housing should be addressed. The discussion of off-base housing should include information such as the number of housing units in the ROI, the median value of owner-occupied housing, median rents, and vacancy rates.

Public services information should include law enforcement, fire protection, and medical services both on the installation and in the ROI. The information presented should include the number of officers in the ROI, the number of fire fighters in the ROI, the number of doctors in the ROI, and the location of area hospitals. In an RCI analysis, it is important to note who has the responsibility of covering the installation in case of an emergency since the proposed action is likely to be located almost entirely on the installation.

Sample text for this information can be found in Sections 4.9.1.2 and 4.9.1.3 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on the sociological environment should be addressed as follows:

- *Analysis*. As discussed in the Economic Development section, the EIFS Housing model is used to forecast changes in demographics and the demand for housing based on the type and magnitude of the proposed RCI action. Changes in demand for public services are not provided by the EIFS model, but can be assessed qualitatively. However, changes in the level of demand for these services would occur only if the proposed RCI action resulted in changes to the ROI population.

- *Description of Effects*. The EIFS model outputs should be presented in a table format accompanied by text explaining the results. Although the model provides estimates of the net change in demand for housing, the analyst should refer back to the affected environment section to ascertain whether the predicted changes would significantly affect the housing market. The estimated changes in housing demand must be assessed in view of market conditions in the ROI. If, for example, a housing glut existed in the local community, the relocation of military personnel

and their families from off-post to new on-post family housing might exacerbate the off-post housing situation. On the other hand, a housing deficit in the local community would be improved by such an action, by opening up more housing options and possibly more affordable housing for off-post populations. Thus, to fully understand the significance of the impact, the analytical results of the EIFS model must be combined with the best available information on the housing market in the ROI. Similarly, an RCI action could also have an impact on the quality of public services being provided in the ROI, depending on the number of installation personnel being moved on- or off-post. The analyst must view these changes in the context of the available capacity of the existing public services.

- *Significance Thresholds*. Although the EIFS model outputs provide the analyst with significant threshold values for changes in economic indicators, such as population and income, it does not provide RTV profiles for housing or public services. Changes in demand for these resources must be evaluated using best judgment. Specifically, the analyst must refer to the affected environment information to assess whether these resources are at full capacity and whether they have the ability to absorb additional demand if the RCI action would result in expansion of the regional economy. Conversely, if the RCI action were to cause significant contraction of the regional economy, these resources could be adversely affected through reduction in government revenues. If the EIFS model does indicate large economic changes, the analyst may need to perform additional research including consulting with local officials to better assess the potential impacts on these public services.

- *Mitigation*. As noted in the economic development section, the mitigation of economic impacts is most often achieved by phasing in a project over a longer period so that the region is better able to absorb increases or decreases in economic activity arising from Army actions.

Sample text describing overall socioeconomic effects can be found in Section 4.9.2 of the REA.

Data Sources

Demographics includes current population of the region and population projections. Population data are available from the Bureau of the Census and are accessible from their web site at www.census.gov. Population projections at a county level are not available from the Census Bureau, but are often available from either the county or state planning or economic development agencies. Many of these projections are available from state and local government Internet sites. These data will not necessarily be consistent across sites, but are often the only data available. If the ROI consists of a Metropolitan Statistical Area (MSA) or BEA economic area, population projections are available on the BEA REIS CD-ROM.

On-base housing information can be obtained directly from the installation through the use of a questionnaire. In addition, installation master plans and other general information supplied by the installation are good sources of information.

Off-base housing information can be obtained from both the Census Bureau and local governments. The 1990 Census data contain the most detailed data on housing at the county level. This information includes number of units, occupancy rates, rental housing vacancy, and other information on the quality of housing. These data can be accessed at the Census Bureau web site. More recent, but less detailed information may be available from the counties in which the installation is located. However, these data may not necessarily be consistent between counties or across sites.

Information on area public services, such as police, fire protection, and medical services, can be obtained through local government web sites, or through phone calls. The Department of Justice publishes an annual report entitled *Crime in the United States*, which includes information on the number of law enforcement officers in cities and counties around the country. The American Medical Association publishes *Physician Characteristics and Distribution in the U.S.*, which lists physicians by county, while the American Hospital Association publishes the *AHA Guide to the Health Care Field*, which presents a list of hospitals and their capacities and occupancy rates. The

questionnaire sent to the installation should include questions about the installation law enforcement staff, fire protection services, and medical services.

5.9.2.1 Unique Issues Associated with Law Enforcement Services

RCI actions could potentially result in jurisdictional issues under proposed alternatives that would involve construction or renovation of on-base housing that would accommodate both military and civilian residents. If the local governments were given legal authority over these residential communities, then some means of reimbursement would be required for expenditures on security. Payments could be made directly from the contractor or the federal government to the community, or the installation could be partially included in the county's tax base. If the residential community were to be governed by military authority, the primary issue would relate to the regulation of civilian activities. However, this issue would be a legal problem that would not be assessed in the socioeconomic analysis.

5.9.2.2 Unique Issues Associated with Fire Protection Services

Fire protection would be a less difficult issue to address than security enforcement under housing alternatives that accommodate both military and civilian residents. The primary issue would be funding of fire protection services if the housing were located on the installation. Similar to the law enforcement issue, either the federal government or the contractor could provide direct payments to cover these expenditures, or portions of the base could be included in the county's tax base to cover the civilian government's expenditures for these public services.

5.9.3 Quality of Life

Resource Definition

Quality of life analyses address factors such as education, assistance programs for homeless persons,

family support services, shops and services, and recreation opportunities.

Relevance to RCI

Changes to the installation as a result of RCI actions not only could have measurable economic impacts, but also could affect the quality of life for workforce personnel and their dependents. For example, any resulting changes to the ROI's demographics would have a direct effect on school enrollments. Descriptions of other quality of life factors are provided to indicate the types of non-work-related facilities that are readily available to the installation population and to give further context to the proposed actions.

Statutory and Regulatory Setting

There are no specific sociological environment-related federal laws or regulations that apply to the RCI.

Content and Organization

Describe Existing Conditions (Affected Environment). As noted above, quality of life issues include education, family support, shops and services, recreational facilities, and visual and aesthetic resources in the ROI.

Relevant education information includes the number of school-age dependent children on base, the number of school districts within the ROI, total school enrollment, and description of post-secondary schools (if any) located in the ROI. Because the federal government provides aid to school districts enrolling Army dependents, NEPA documents typically include the following statement:

> The U.S. Department of Education provides federal impact aid to school districts that have federal lands within their jurisdiction. This federal impact

aid is authorized under Public Law 103-382 as payment in lieu of taxes that would have been paid if the land were not held by the federal government.

School districts receive federal funding for each student whose parent or parents live on or work on federal property. The amount of federal school aid a school district receives is dependent on the number of 'federal' students the district supports in relation to the total district student population. Schools receive more funding for those students whose parent or parents live and work on federal property. Total funding varies year by year according to congressional appropriations for the program, but in general, funding has ranged from $250 to $1,750 per pupil.

Family support and shops and services information should include services available on the installation, as well as other services in the community. Recreation facilities should include both indoor and outdoor recreation on the installation and in the surrounding area.

Sample text for this information can be found in Section 4.9.1.4 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on quality of life issues should be addressed as follows:

- *Analysis*. The EIFS model provides estimated changes in both total population and school-age population. These estimates should be presented in a table format and accompanied by text explaining the model results. The EIFS model does not forecast changes in demand for the other quality of life resources.

- *Description of Effects*. An RCI action would affect educational services only if there were a change in school-age population. Predicted changes should be assessed in the context of the existing demand for education in the ROI. Small increases in population would have an effect

only if the ROI school system were at full capacity; otherwise there would be little or no impact on the quality of services. Potential impacts on other quality of life resources such as recreational and shopping services should be assessed qualitatively. These resources would likely be affected only in cases where an RCI action would generate large population increases in a rural or underdeveloped region. In such cases, the existing services would be inadequate to fulfill the needs of the new population so as to maintain a high quality of life.

- *Significance Thresholds*. The EIFS model outputs provide the analyst with significant threshold values for changes in population. The model does not provide RTV profiles for school population changes. Changes in demand for public education must be evaluated using best judgment. Specifically, the analyst must refer to the affected environment information to assess whether public schools in the ROI are at full capacity and whether they have the ability to absorb additional students if the RCI action would generate population increases. Conversely, if the RCI action were to cause significant contraction of the regional population, schools could be adversely affected through reduction in government revenues. If the EIFS model does indicate large school-age population changes, the analyst may need to perform additional research, including consulting with local officials to better assess the potential impacts on these public services. *[Preparer's Note: Request information on OSD's opinion regarding school impact aid.]*
- *Mitigation*. As noted in the economic development section, the mitigation of economic impacts is most often achieved by phasing in a project over a longer period so that the region is better able to absorb increases or decreases in economic activity arising from proposed Army actions.

Sample text describing overall socioeconomic effects can be found in Section 4.9.2 of the REA.

Data Sources

Much of this information can be obtained from a questionnaire sent directly to the installation. The installation can provide information on the services and recreation facilities available on the installation and the number of schoolchildren residing on base. This is an important piece of information because school funding depends on the number of children residing on federal land.

To obtain school enrollment and staffing information, state education department web sites are often a good source of information. If they do not supply the data, they often at least provide information about the school districts in the area and initial points of contact.

5.9.4 Environmental Justice

Resource Definition

Environmental justice pertains to the potential for disproportionately high and adverse environmental impacts to off-post minority and low-income populations as a result of a federal action.

Relevance to RCI

RCI actions could directly affect the housing market in the ROI, especially if the actions lead to a reduction in affordable housing or increased property values. Potential changes to the housing market and any other economic change that might have disproportionately adverse impacts on either minority populations or low-income populations off post need to be addressed in the analysis.

Statutory and Regulatory Setting

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

Content and Organization

Describe Existing Conditions (Affected Environment). The environmental justice section should include a background discussion on the purpose of environmental justice and the executive order. It should then present the race, ethnic, and poverty level of the ROI outside the installation and a comparison area (the state in which the installation is located and the United States as a whole). This is most easily presented in a table with additional explanation in the text.

Sample text for this information can be found in Section 4.9.1.5 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on environmental justice should be addressed as follows:

- *Analysis*. Potential environmental justice impacts are assessed using a phased approach. This approach establishes four thresholds to assess whether environmental justice issues are likely to arise as a result of proposed DoD activities. The following four questions form the framework and establish the thresholds for the phased approach to environmental justice analysis:

  - Are there any potential impacts to human populations?

  - Are there any potential impacts to minority populations or low-income populations?

  - Are potential impacts to minority populations or low-income populations disproportionately high and adverse?

  - Are any potentially disproportionately high and adverse impacts "significant"?

  Environmental justice guidance developed by the CEQ defines "minority" as individual(s) who are members of the following population groups: American Indian or Alaska Native, Asian or Pacific Islander, Black, or Hispanic (CEQ 1996). Minority populations are identified when either the minority population of the affected area exceeds 50 percent or the percentage of minority

population in the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis. Low-income populations are identified using statistical poverty thresholds from the Bureau of Census Current Population Reports, Series P-60 on Income and Poverty.

Environmental justice impacts become issues of concern if the proposed activities result in disproportionately high adverse human and environmental effects on minority or low-income populations. Disproportionately high and adverse human health effects are identified by assessing these three factors to the extent practicable:

- Whether the health effects, which may be measured in risks or rates, are significant (as employed by NEPA) or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death.

- Whether the risk or rate of exposure by a minority population or low-income population to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group.

- Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.

In addition to health impacts, environmental justice impact analyses assess potential adverse socioeconomic impacts on low-income and minority populations.

C *Description of Effects*. For RCI actions, socioeconomic impacts are more likely to occur than are health impacts. Factors of concern would be how the proposed RCI action would affect the local housing market, especially in terms of available low-income housing. If, for example, a large number of installation personnel were moved to private off-base housing in a tight housing market, regional housing prices could escalate, resulting in adverse impacts on low-income

populations. The analyst must assess these types of potential impacts and then determine whether they would result in disproportionately high and adverse impacts on low-income populations or minority populations.

- *Significance Thresholds*. Environmental justice impacts are by definition significant impacts. It is only when environmental impacts are significant and adverse and disproportionately affect low-income or minority populations that environmental justice issues become relevant to the analysis. If the socioeconomic and health analyses find no significant impacts, there are no environmental justice issues. As described in the effects issues, the analysis is performed only after several criteria have been met.

- *Mitigation*. Mitigation of environmental justice impacts would be implemented in the same manner as for other adverse socioeconomic impacts; that is, the project would likely be phased in over a longer period to allow the economy to better absorb changes generated by the Army action. However, if the environmental justice issue pertained to adverse health impacts, more substantial actions would be implemented by the Army to protect vulnerable populations. However, RCI actions would be unlikely to result in health impacts of any type since they would be focused primarily on housing issues.

Sample text describing overall socioeconomic effects can be found in Section 4.9.2 of the REA.

Data Sources

Environmental justice information on race, ethnicity, and poverty status is available from the Census Bureau on their web site. Although the information is from the 1990 Census, these data are the most current standard data available.

5.9.5 Protection of Children

Resource Definition

This section pertains to installation facilities, services, and policies designed to promote the health and safety of children.

Relevance to RCI

RCI could potentially affect how and where child dependents of the installation workforce live and the availability of services and facilities operated for the benefit of children.

Statutory and Regulatory Setting

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, seeks to protect children from disproportionately incurring environmental health risks or safety risks that might arise as a result of Army policies, programs, activities, and standards.

Content and Organization

Describe Existing Conditions (Affected Environment). The affected environment should detail the presence of children at the affected site, particularly with regard to children residing in on-base housing. Addition information would include description of Army actions to protect children on base including the use of fencing, limitations on access to certain areas, and provisions for adult supervision. The Protection of Children section should also include some background discussion of the Executive Order.

Sample text for this information can be found in Section 4.9.1.6 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for RCI actions and alternatives to result in consequences on children should be addressed as follows:

- *Analysis*. In the case of RCI actions, the primary dangers to children would be during the construction. Any precautions that would be taken to protect children during this phase of the proposed action should be noted.

- *Description of Effects*. The EIFS models does not address protection of children issues. This part of the assessment should be performed qualitatively. The section should describe potential changes to children's status as a result of the proposed RCI action. Issues covered under this section would include changes in number of children on the installation and changes to the types of services available that address child welfare, such as availability of day care services, safety issues, and the loss or gain of youth recreational facilities.

- *Significance Thresholds*. There are no standard criteria for assessing whether impacts on children would be significant. The assessment of changes to child welfare is qualitative and should focus on whether the RCI action would pose potentially substantial harm to the safety of children during construction and whether the status of available child welfare services would be significantly different after project implementation.

- *Mitigation*. Mitigation would entail implementing procedures and physical structures (e.g., fencing) to prevent accidents to children during demolition and construction activities. Other measures could include ensuring that level of public safety protection is maintained and that welfare services are not disrupted or eliminated as a result of RCI action.

Sample text describing overall socioeconomic effects can be found in Section 4.9.2 of the REA.

Data Sources

Information on the protection of children should be obtained from installation contacts. It is important to know whether children have historically been present on the installation and what precautions have been taken in the past to protect them from harm.

5.10 TRANSPORTATION

5.10.1 Roadways, Traffic, and Parking

Definition of Resource

Transportation resources include networks and systems that carry people and goods from one location to another, including road networks, rail and water routes, air transportation systems, and public and mass transit systems. Parking facilities are also included as the quality and capacity of these facilities at a location could affect the effectiveness of other neighboring ground transportation modes. For most RCI studies, transportation networks of primary concern would include road networks on and adjacent to the affected installation, rail routes, public transportation, and parking.

Relevance to RCI

Proposed RCI actions could alter the building and population density at a proposed site leading to changes in available land and parking, as well as changes in traffic conditions. For example, an increase in on-site housing could increase traffic levels both on the installation and the roads surrounding the site. Depending on the existing levels of traffic congestion and the size of proposed housing expansion, the RCI action might require changes to the local transportation infrastructure.

Statutory and Regulatory Setting

Federal, state, county, and city agencies and other authorities have jurisdiction over much of an area's transportation networks through local and regional ordinances. Permits might include access management, right-of-way, conditional use, authority to construct, stream bed alteration, storm water runoff provisions of CWA, noise, and other means.

Content and Organization

Describe Existing Conditions (Affected Environment). Applicable transportation information that normally should be described includes the following:

- Roadways, traffic, and all walkways and bicycle paths on and off the installation.
- Rail access and service to the installation or other affected property.
- Water access such as ports, docks, and piers.
- Air operations at the installation, or on other affected property, and associated airspace use.

A brief overview of the integrated transportation network that serves the installation and the surrounding community is of value to orient the reader to the setting, but detailed descriptions should be avoided unless the potential exists for them to be affected by the proposed action or the alternatives.

- *Roadway system.* This section should describe what roads provide access to the installation, the condition and types of roadways (e.g., multi-lane highway, arterial, rural routes), the materials of the roadways (pavement, asphalt, gravel), the direction and length of each roadway (i.e., north to south from X town to X city), and how well the roads are maintained (see Table 5-3). The roads should be classified using the Federal Highway Administration's *Highway Functional Classification* (1989). Planning-level analyses are most appropriately used where moderate changes in traffic are expected and where future scenarios are being analyzed.

- *Traffic.* This section should describe each of the methods used to measure traffic in the ROI and on the installation. It should also discuss specific traffic problems in the area.

  This section must describe the existing high traffic conditions in the study area, which includes the installation and the surrounding communities. This section should begin with definitions

Table 5-3
Roadways On (or Near) the Installation

Road	General Location	Surface Type	Condition	Areas Served
A	SE	AC	Good	Entrance to neighborhood
B	NW	LB	Good	Installation
C	Central/SW	Gravel	Minor repairs needed	City

Note: AC = asphalt concrete; LB = low bituminous

for all traffic terms that will be used in this section and in related portions of the Environmental Consequences section. Such terms defined in this section include *level of service (LOS), capacity, volume-to-capacity ratio (C/V), critical roadway segments, expressway/freeway, multi-lane highway, urban arterial, rural two-lane highway,* and *screenline*.

The definition should be followed by a brief discussion of the analysis approach used to describe traffic conditions. Operational-level analyses of critical intersections are the most precise, followed in decreasing order of precision by planning-level analyses of critical intersections, volume/capacity ratio analyses of critical roadway segments, and screenline analysis of major movements.

Operational-level analyses are most appropriately used in refining intersection operations and in measuring the impacts of small changes in travel demand under existing conditions. Planning-level analyses are most appropriately used where moderate changes in traffic are expected and where future scenarios are being analyzed. Roadway segment analyses are most appropriately used where traffic changes are expected to be quite large and where impacts are likely to occur many years in the future but where the proposed project and future improvements to the roadway network are well defined. Screenline analyses are typically conducted where details concerning individual roadways are not important or where the relative differences between alternative projects are more important than absolute impacts.

- *Level of service (LOS) at roadway intersections.* LOS is a concept used to describe traffic flow conditions, i.e., speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience (see Table 5-4). Its calculation results in six categories representing a range of operating conditions. It indicates how well traffic flows through an intersection, i.e., how many automobiles are present vs. the amount of time it takes to get through the intersection (delay). Operational-level analyses are most appropriately used in refining intersection operations and in measuring the impacts of small changes in travel demand under existing conditions. LOS range from "A" to "F" with "A" representing excellent, free-flow traffic conditions and level "F" representing extremely congested conditions. This scale refers to the ease of movement within the traffic streams, as well as at intersections. It is directly related to V/C ratio (see below). The greater the delay at an intersection, the worse the conditions are on the LOS scale.

Table 5-4
Measures for Level of Service

Type of Facility	Measure of Effectiveness
Freeways	
Basic freeway segments	Density (person capacity/mile/lane)
Weaving areas	Average travel speed (mile per hour)
Ramp junctions	Flow rates (person capacity per hour)
Multilane highways	Density/Free-flow speed (mile per hour)
Two-lane highways	Time delay (percent)
Signalized intersections	Averaged stopped delay (seconds/vehicle)
Unsignalized intersections	Average total delay (seconds/vehicle)
Arterials	Average travel speed (mph)
Transit	Load factor (persons/seat, vehicles/hour, people/hour)
Pedestrians	Space (square feet/pedestrian)

Source: Institute of Traffic Engineers. 1994. *Traffic Access and Impact Studies for Site Development. A Recommended Practice*.

- *Volume/capacity (V/C)-ratio analysis of critical roadway segments*. Roadway segment analyses are most appropriately used where traffic changes are expected to be large and where impacts are likely to occur many years in the future but where the proposed project and future improvements to the roadway network are well defined. V/C ratios are first quantitatively measured and then they are used to determine LOS. They are measured at a scale of 0 to 1.00.

  For example, a roadway with a capacity ratio of 0.95 would have an LOS of E, and an intersection with a capacity ratio of 0.60 would have an LOS of B. This analysis is often used in planning studies.

- *Screenline analysis of major movements*. These analyses are typically conducted where details concerning individual roadways are not important or where the relative differences between alternative projects are more important than absolute impacts. They are usually the most appropriate tool for analysis because future roadway improvements are speculative and conceptual in nature. These impacts are measured by gross changes in travel demand as reflected in the screenline analysis. It is the best approach when the purpose of an analysis is to identify the impacts of each alternative relative to the others, rather than to quantify the precise impacts of each alternative.

- *Average annual daily traffic (AADT).* Information on AADT is obtained from the state's Department of Transportation (DOT). States normally have a traffic counting program which is used to establish the AADT for every roadway link on a system.

- *Transit service.* Transit is a measure of an on-site public transportation system (internal only).

- *Pedestrians.* This measure describes the protection, access, and safety measures provided for pedestrians. It should include information on the capacity of pedestrians on the walkways.

- *Applicable Transportation Plans and Policies*.

- *Highway and local roadway capacities.* Future roadway/parking developments planned should be discussed.

- *Parking.* This measure addresses parking lots for the housing areas including how many vehicles can be accommodated and how many vehicles must be accommodated. It also addresses covered vs. open parking lots.

See Section 4.10.1.1 of the REA for sample text.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. The effects of the proposed action on the onsite transportation systems would be analyzed in terms of what new construction or renovation would be required. Analysis would also include the effects of the number of vehicles using these roadways on the traffic in the ROI.

- *Description of Effects*. Potential effects might include air and noise impacts, traffic flow, construction of new roadways, and affects on soil and water. Significance is based on traffic and circulation analyses of the change in accessibility and mobility.

  The standards by which impacts will be determined to be significant are known as significance criteria. They should include all federal standards and applicable state and professional standards. Significance criteria include the generation of traffic levels so that new roads need to be constructed or existing roads need to be expanded. An action could have significant effects if the circulation pattern is dramatically altered. Inadequate parking and internal circulation capacity to accommodate project traffic so that neighboring areas are adversely affected is considered significant. A change in the LOS is also considered significant.

  Discuss all changes to the existing transportation network that could reasonably be expected. Impacts include—traffic and circulation due to the expected decrease or increase in the activity at the installation, impacts on the installation's projected traffic-producing activities on existing

and future land uses both on and off post, to threatened and endangered species when roads are widened or new roads are constructed, and changes in public opinion (favorable or adverse) regarding projected changes in traffic density and circulation patterns. Mitigation alternatives need to be identified. Storm water management on the installation should be briefly discussed here in relation to how the transportation network would affect storm water generation and the management program.

Following the analysis approach, this section should discuss service standards for roadway operations. It should conclude with an analysis of current traffic conditions and existing problems in the study which are relevant to traffic issues and are likely to be affected by the proposed action or the alternatives. Some effects might be the addition or subtraction of vehicle, pedestrian, bicycle, or transit trips to or from the transportation network; construction of a transportation project; creation of noise and air pollutant emissions from additional traffic resulting from the proposed project; transportation impacts from the proposed project combined with the impacts of other existing and planned developments.

- *Significance Thresholds*. Thresholds would include generation of traffic levels that would require construction of new roadways or expansion of existing roadways, alteration of circulation patterns, inadequate parking, and internal circulation such that adjoining communities are affected.

- *Mitigation*. Mitigation measures might include the following: widen existing roads to create additional traffic lanes; provide transit service and implement aggressive measure to reduce single-occupant vehicles; provide safe bicycle paths with alignments conducive to commuter use; increase the roadway and intersection capacity; increase denser land use transit opportunities; develop land use proposals that would not generate peak period traffic trips; reduce densities of land uses to reduce the number of vehicle trips generated by the proposed project; and move the alignment of a transportation project to avoid environmentally sensitive areas.

Sample text can be found in Section 4.10.2 of the REA.

Data Sources

Many sources are available to provide those data necessary to identify existing conditions. These should be obtained and analyzed first to ensure that repetitive data will not be generated at unnecessary expense.

- Local, regional, and/or state transportation agencies (e.g., state department of transportation), can usually provide roadway maps, existing and projected traffic volumes, LOS data, and information on planned roadway improvements. City/County Engineering or Public Works Departments are sometimes an alternative source for such information.

- Local and regional planning reports (e.g., City/County Comprehensive Plans and Metropolitan Area Transportation Plans)

- Modeling programs and databases (e.g., Transportation Research Board Highway Capacity Manual).

- The installation's *Real Property Master Plan* contains information on the existing transportation network within the installation boundaries and any future planning. It serves in helping to design an efficient and safe transportation network consistent with the surrounding community.

- The Institute of Transportation Engineers is a good source of information about trip generation and the impacts on traffic access during site development.

5.10.2 Public Transportation

Definition of Resource

Public transportation is the vehicle systems that transport people at a nominal cost. Such systems can include busses, trains, subways, ferries, and airplanes.

Relevance to RCI

The locality surrounding the proposed action site may have one or more means of public transportation. Activities associated with the proposed action may include the use of such systems. For example, the non-military spouse living in RCI housing might commute to work via the public bus and rail system.

Statutory and Regulatory Setting

Federal, state, and local transit authorities and state departments of transportation have regulations specific to public transportation.

Content and Organization

Describe Existing Conditions (Affected Environment). A brief discussion of the public transit system in the area of the installation should be provided. This section might include:

- *Pedestrian access and safety.* Types of pedestrian crosswalks, trails, and other services to and from the project site should be described.

- *Bicycle use.* Local bicycle trails, paths, and signed bicycle routes, including those to the installation, should be mentioned.

- *Public transportation* (bus routes, subway system, high-occupancy vehicles [HOV]). The number of systems, their distances traveled, and frequency of trips should be provided in this section.

- *Ferry.* The types of ferry services in the area and where they sail should be described.

- *Rail accessibility.* The companies providing rail service and distance to train depots and tracks should be described. Total number of miles of track on the installation, service classification (heavy-duty, standard, or light), year built (and upgraded if applicable), and current condition are the important factors. How well the installation's rail system is integrated with external rail is also important.

- *Air.* Distances to local airports should be listed. Runways and airports on the installation and in the ROI should be described in terms of location, size, and usage. Information on airspace use and whether there are any building height restriction zones on the installation should also be included.

- *Trolley.* The extent of the trolley system and the frequency of its operation between points should be discussed.

- *Water.* This section should include information on charter and shipping boats. Describe the existing conditions with respect to actual or potential water-based transportation (e.g., ships, barges, etc.). Existing facilities and related support infrastructure, as well as locations on the installation that could support such infrastructure, should also be identified.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Analysis of the effects of the proposed action on public transportation would describe how service providers would be affected.

- *Description of Effects*. Effects of the proposed action on public transportation would include changes in bus service to accommodate new or expanded housing areas. Beneficial effects could include the construction of bicycle and walking trails.

- *Significance Thresholds*. Significance thresholds for public transportation could include changes in traffic patterns, obstructions to the circulatory system, changes in the levels of service, and changes in V/C ratios.

- *Mitigation*. Mitigation measures would be similar to those described in the REA.

Sample text can be found in Section 4.10.2 of the REA.

Data Sources

Data on public transportation can be obtained from the local library, Chamber of Commerce, rail and ferry stations, airports, bus depots, and federal, state, and local transit agencies. The Federal Transit Administration is a good source for information on public transit. Schedules and routes provide information on frequency and extent of services.

5.11 UTILITIES

The utilities section covers infrastructure that exists on the installation and in the surrounding areas. The specific utilities that are covered in this section will vary with the installation and depend on what utility services are currently provided, but they may include potable water treatment and distribution, sewer collection and treatment, storm water collection and discharge, electricity, natural gas, solid waste, and telecommunications systems.

5.11.1 Potable Water Supply

Resource Definition

Potable water must be safe to drink, pleasant to the taste, and usable for domestic purposes. Domestic uses for potable water include drinking water, cooking, lawn sprinkling, and bathing. Potable water may also used for industrial (e.g., cooling water) or fire fighting purposes. Potential

sources of potable water include surface water and groundwater. Public water supplies are typically maintained by local municipalities or regional water authorities.

Relevance to RCI

Military personnel or civilians living in RCI housing require access to a potable water supply and distribution system capable of providing water of sufficient quality and quantity. RCI actions may require expansions of the existing water distribution systems to ensure maintenance of reliable high quality water supply. Hence, a proposed expansion of installation housing requires a detailed evaluation of the existing infrastructure, including pipes, pipe materials, and sizes that are currently being used so potential problem areas with low pressure, low flows, or aesthetic problems can be identified.

Statutory and Regulatory Setting

The Safe Drinking Water Act (SDWA), as amended, authorized EPA to regulate contaminants in public drinking water systems. Potable water supply quality must conform to standards set forth under the SDWA and all applicable state and local regulations. Other applicable Army and federal laws and regulations are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- AR 420-49, *Utility Services*
- Medical Technical Bulletin (TBMED) 576, *Sanitary Control and Surveillance of Water Supplies at Fixed Installations*
- Technical Manual (TM) 5-660, *Maintenance and Operation of Water Supply, Treatment, and Distribution Systems*
- Lead Contamination Control Act of 1988
- National Primary Drinking Water Regulation, 40 CFR Parts 104-149

Content and Organization

Describe Existing Conditions (Affected Environment). This section should describe both the capacity of the existing water distribution system and the demand (current and forecasted) for potable water. The ROI should include all supply grids on the same potable water supply system as the RCI project. This section should provide information on the physical condition of the system, including the age of the system, pipe size and materials, layout of the distribution system, sources of water storage, and sources used for fire protection. The report should include a clear description of which portions of the site are served by the system, and who owns and operates it.

An evaluation should also consider compliance with current and proposed regulatory requirements, building codes, and ongoing operations and maintenance activities. Additionally, water rights will warrant discussion at some installations.

Sources. Potential sources for potable water should be identified. Potable water systems on the installation and in the ROI should be described in terms of water source (groundwater wells or surface water sources). Surface water sources of potable water include reservoirs and lakes; groundwater sources include wells. The section should note the frequency and type of maintenance activity used to keep the potable water supply and distribution system in compliance. Volumes pumped and the age, physical capacities, and conditions of pumps, including information about any volume restrictions on the raw water supply (such as seasonal restrictions) should be provided. Depths of wells or surface water intake devices can be provided if known (well depth information might be available from the authors of the water resources and/or geology sections). Flow information should be expressed as millions of gallons per day (mgd) to the third significant decimal place, e.g., 15,000 gallons per day would be 0.015 mgd and 150,000 gallons per day would be 0.15 mgd.

Treatment. Treatment information (type of treatment and disinfection, including past problems) and pending or likely future regulatory issues (e.g., Surface Water Treatment Rule as required by the SDWA) should be provided. Treatment (if any) might include aeration, coagulation/flocculation,

sedimentation, and filtration to remove contaminants. Disinfection will generally consist of chlorination (although ozonation is an acceptable alternative method) to destroy or inactivate organisms that were not removed during the treatment process. Disinfection of potable water should be conducted in accordance with the procedures and requirements of American Water Works Standard D105. Depending on the fluoride concentration of the source water, addition or removal of fluoride may be required. Information about the age, condition, and capacity of the treatment system should also be included. Minimum flow is not usually an issue with water supply because the treatment and storage operates on the volume demanded rather than as a batch or continuous volume.

Distribution. The storage and distribution of the raw and treated water should be described. The age, size, construction materials, and condition of these systems are important to describe as is water use (particularly if installation water is used by others in the ROI or if the installation obtains its water from others in the ROI). Taste and odor problems may develop in dead-end lines due to stagnation. Additional information about potable water supply and storage is available in the 1985 *Water Supply, Water Storage* (TM-5-813-4).

Uses. Water for fire protection should be described. If potable water is used throughout the installation for fire protection, describe the fire hydrant service areas (or identify only the areas not served by hydrants). If auxiliary (typically nonpotable) water sources are available for fire protection, identify the location of the supply and its capacity in gallons (or in hours of fire fighting capability). Ponds and lakes, including golf course water hazards, are examples of auxiliary water supplies that can be used for fire protection. Additional guidance about how to describe these issues is available in the 1965 *Water Supply for Fire Protection* (TM 5-813-6).

Capacity Potable water supply capacity is measured in gallons per day (gpd). The required capacity depends on the daily demand or usage of potable water, and this number varies from region to region. Specific information on water usage can be provided by local water works or water districts.

Maintenance. The utilities section needs to address maintenance for RCI housing. RCI maintenance should be similar to what a local municipality would provide. This section should include the scope of maintenance and repair covered. The occupants' responsibility for maintenance and repair should also be called out.

Document Effects of the Proposed Action and Alternatives (Consequences)

- *Analysis*. Increasing or decreasing the demand on a utility could have effects on the utility system and on its other users. The proposed project's demand for potable water must be carefully analyzed in relation to the utility's capacity, availability, and condition.

- *Description of Effects*. Effects would be described in terms of whether the provider's capacity would be exceeded, how other users would be affected, and whether new infrastructure would need to be added to the project site. A significant decrease in demand for potable water could adversely affect the taste of water (through stagnation), and lead to deterioration of the system.

  Conversely, an increase in demand might require additional potable water supply and distribution lines to the project site if adequate lines are not currently on site. The water supply system could also be affected, and new sources of potable water might be needed.

- *Significance Thresholds*. Significant effects would be determined by whether the demand exceeds the capacity of the system. If the proposed project greatly affects other users, significant impacts could occur. Noncompliance with local, state, or federal permits and standards could also be considered significant.

- *Mitigation*. Mitigation measures include utility upgrades or conservation measures that would decrease the demand for water. Modifications to the system to provide for the change in demand could lessen the effects of the proposed action on the system.

Data Sources

Information on potable water can be obtained from local utilities, municipalities, or regional water districts. Information may be in the form of technical reports, data on historic water usage (i.e., meter readings), and drawings of existing utilities. Information concerning water utilities can be found in the Water Resource Management Plan (WRMP) and the IUMP. EPA, the state regulatory agency, and the American Water Works Association (AWWA) are potential sources of general information. The U.S. Army Center for Public Works (USACPW) could provide technical and operational assistance for water supply systems.

5.11.2 Sewer

Resource Definition

Wastewater is typically collected and transported to the wastewater treatment plant (WWTP) through a network of gravity and pressure pipes. After treatment, water is discharged to a receiving water. Adequate treatment of wastewater is required to maintain water quality in the receiving stream. A wastewater collection system may consist of gravity piping, pumping (often referred to as lifting), or combination of these methods to transport waste flows to the WWTP. The age, condition, size, and type of these collection systems have substantial implications for use in any new housing development on the installation. Collection systems typically are considered to include collectors (which are usually pipes located beneath streets), mains (larger pipes that receive flow from the collectors), and interceptors (which connect parallel mains). Laterals, which connect individual buildings to the collectors, are generally not considered part of the sewer system although if there are problems associated with laterals, such information should be included.

There are two basic types of wastewater—sanitary wastewater and industrial wastewater. Sanitary wastewater or "domestic" wastewater refers to liquid discharged from residences, commercial buildings, and institutions. Industrial wastewater originates from an industrial process or processes and generally must be treated separately at an industrial wastewater treatment plant (IWTP).

Preliminary treatment (pretreatment) of industrial wastewater may address high organic loadings (e.g., high biochemical oxygen demand concentrations) or pH excursions (i.e., neutralization of wastewater to a pH range of 6 to 9) before being treated at the domestic WWTP. Pretreatment of wastewaters avoids upsets in the biological treatment process. EPA has specific standards for certain categories of industries. Whether an Army installation's industrial facility meets EPA's definition of "industrial facility" is another issue (they often do not).

Relevance to RCI

Personnel at housing units generate sanitary wastewater. Adequate treatment of these waste streams is necessary to maintain the quality of the water receiving the wastes.

The appropriateness of infrastructure variables depends on the location of the RCI housing. Off-base housing initiatives, for example, must look more closely at community services as opposed to Army-provided services.

Statutory and Regulatory Setting

Army and other federal laws and regulations pertaining to the treatment of wastewater are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- AR 420-49, *Utility Services*
- Clean Water Act (CWA) of 1977

Content and Organization

Describe Existing Conditions (Affected Environment). The scope of the wastewater discussion should encompass wastewater collection, pumping, and treatment facilities. The ROI for wastewater includes all of the supply grids for the wastewater provider that also service the RCI housing.

Description of the System. The EA should include a description of existing gravity sewers, pumping stations, and force mains that are used to transport wastewater. Although facilities have separate collection systems to address wastewater and storm water, older facilities may continue to collect both wastewater and storm water. Piping capacity is determined by the slope and diameter of the pipes, and to the extent possible, this information should be provided in the EA. The type of piping (clay, iron, transite) should also be specified. Information on the age of the collection system and relation to ground water should be included. The frequency and type of maintenance activities should be described.

Collection and Treatment. Any WWTP treating sewage from on-base or off-base housing units must be considered in the EA. Information should be given on the capacity and utilization of the collection system. Wastewater treatment processes can be classified as preliminary, primary, secondary, and tertiary. The EA should identify the type of treatment provided for the installation. WWTPs have maximum flow and minimum flow guidelines that must be considered. These guidelines should be weighed against potential changes in daily sewage loads resulting from housing initiatives.

Collection and treatment capacities of both on-site and of-site systems should be expressed in mgd. Current facility usage should be indicated. Additionally, minimum flow requirements for effective operation of treatment systems should be identified.

After treatment, treated wastewater is discharged into a water body such as a river, ocean, or retention basin. An NPDES permit is required for any discharge of a pollutant from a point source to waters of the United States. The permit grants permission to discharge specified pollutants from specified outfalls, usually for a period of 5 years.

In some areas, sewage is transported to wastewater/storm water lagoons (large ponds 3 to 5 feet deep, where air, sunlight, and microorganisms break down wastes and kill some disease-causing bacteria) or drainage fields. If wastewater lagoons or drainage fields exist as part of the sewage treatment system, the location and treatment methods used should be mentioned.

Permits. NPDES permits issued for wastewater discharge and storm water runoff should be called out in the EA. The duration of the permit and type and quantity of discharge allowed should be stated. Permit compliance and monitoring requirements, or any BMPs enacted pursuant to the NPDES permit should also be discussed.

An important component of the NPDES permitting process is the pretreatment program, which sets standards for the control of effluent from indirect discharges. States and local municipalities may set additional limits on indirect discharges to protect the wastewater treatment facility. Existing or planned pretreatment programs, along with additional state and local requirements, should be described.

Other applicable permitting requirements may also need to be considered and addressed. For example, Sections 401 and 404 of the Clean Water Act and Section 10 of the River and Harbors Act permitting requirements need to be addressed where sewer, water, or storm lines cross, outfall to, or otherwise effect wetlands or other waters of the United States. (For further information on these permitting requirements, see the discussion under "statutory and regulatory setting" in Section 5.7.2 of this manual.)

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Wastewater would be analyzed in a manner similar to that used for potable water.

- *Description of Effects*. The effects of demand for wastewater treatment would be described as in the potable water section.

- *Significance Thresholds*. Significant effects would occur if wastewater flows were increased above the capacity of the existing collection system or if demands were reduced so much that flow velocities through the pipeline would not remove solids in the wastewater (i.e., scouring velocities). Low-flow conditions can create odor problems due to the decomposition of solids or creation of hydrogen sulfide gas. Other effects that might have significance include failure to

meet permits and standards and a need for larger quantities of new piping. Consideration should also be given to problems associated with infiltration and inflow. In addition to the capacity problems, installations may incur additional costs associated with the transport and treatment of nonsanitary wastewater.

- *Mitigation*. Mitigation measures for wastewater include utility upgrades (piping and pumping systems) and evaluation and rehabilitation of sewer lines where infiltration/inflow or structural defects may be a problem. Modifications to the system that change the quantity of wastewater being collected must be considered in the proposed action.

Data Sources

Information on the quantities of wastewater treated can be obtained from the local POTW. Wastewater flows can be measured by monitoring flows at various points in the collection system. Typically, the flow monitoring is required for 7 to 28 days to account for diurnal changes and possible impacts from rain events. Wastewater flows may also be estimated using water records. A conservative estimate of the sanitary flows can be obtained by assuming 100 percent of the potable water returns to the wastewater system. This approach does not include infiltration and inflow sources, which may make up a significant portion of the total flow in some systems. Information specific to the installation utilities can be found in the WRMP and the IUMP. The USACPW, the USACHPPM, and the USACE supporting district can provide technical and operational assistance for wastewater systems and help the installation meet NPDES permit requirements. For information on NPDES permits, the MACOM is a good source. MACOMs generally keep records of NPDES permits and regulations along with Notices of Violation (NOVs). The availability of relevant information, to a degree, is also location-specific.

5.11.3 Storm Water Collection

Resource Definition

Storm water collection systems are designed to collect and remove rainwater that falls on impervious and pervious areas of an installation. For pervious areas, part of the rainfall will infiltrate into subsurface soils while the remainder will result in runoff toward low-lying areas. Storm water can transport chemicals, nutrients, sediment, and refuse and deposit them to various points of drainage, including surface waters. Storm water collection systems vary from one municipality to the next. The age of the system and the level of development in the area will determine the type of collection system employed. Storm water collection may or may not be separated from wastewater collection.

Relevance to RCI

An RCI action could increase or alter the impervious area at an installation resulting in increased storm water runnoff. If there are surface water bodies near the installation that are used for recreational or drinking water purposes, the increased runnoff could pose potential health risks to the user population. Increased runnoff could also affect drainage patterns and lead to adverse environmental impacts such as increased erosion. An RCI EA should address storm water collection to ensure that the necessary regulations have been considered and storm water is properly collected for treatment.

Statutory and Regulatory Setting

Storm water collection and discharge are regulated under the Clean Water Act. NPDES permits (as previously described under sewer) are required. The primary Army regulation that applies is AR 420-49. Federal statutes and Executive Orders are described in Appendix A of this manual.

Content and Organization

Describe Existing Conditions (Affected Environment). This section should describe the existing storm water system in terms of age, condition, and capacity. If the installation operates under an NPDES Storm Water Permit, the section should provide basic information such as when the permit was issued and restrictions if any are applicable.

The storm water discussion should identify on-going problems (e.g., water quality concerns or water quantity issues such as flooding or floodplain encroachment) and whether the installation is implementing corrective actions. The section should also specify if storm water and wastewater collection are combined into one collection system.

If the installation operates a storm water treatment system, the description should cover the age and capacity of the system and whether overflow problems have occurred. Finally, a discussion of BMPs being implemented should be provided, and observations or past compliance records documenting the effectiveness in meeting discharge requirements should be included.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Increased development at a site could increase storm water flows due to the increases in impervious areas at the site. The capacity of existing drainage systems must be evaluated to determine whether the additional flows can be conveyed. A general estimate of storm water flows can be developed using the Rational Method. In some cases, more detailed procedures such as the *Urban Hydrology for Small Watersheds (TR-55)* methods developed by the Soil Conservation Service may be required.

- *Description of Effects*. The effects of the proposed project on the existing storm water system should be described in terms of the capacity of the system and whether it is likely that the proposed project would cause the capacity of storm water pipes to be exceeded.

- *Significance Thresholds*. In situations where storm water flow exceeds the allowance under the system's NPDES permit (if the installation operates under one), fines or permit revocation could result in significant impacts. If storm water flow exceeds the capacity of closed conduits or culverts, localized flooding might occur. Excessive storm water flows might also create problems such as erosion in a streambank or impairment to natural habitats.

- *Mitigation*. Where flow is greater than the capacity of the storm water system, the system can be modified to increase its ability to collect and convey water. Examples of mitigation measures include installation of parallel pipes to increase flow capacity or construction of regional retention basins in up gradient areas that reduce peak flows during storm events.

Data Sources

Information on storm water collection can be obtained from local municipalities or state regulatory agencies. Information may be in the form of drainage studies, Storm Water Pollution Prevention Plans, record plans and site drawings, and topographic maps. Information specific to the installation utilities can be found in the WRMP and the IUMP. EPA is a potential source of information. The USACPW, the USACHPPM, and the USACE supporting district can provide technical and operational assistance for storm water systems and help the installation meet NPDES permit requirements. For information on NPDES permits, the MACOM is a good source. MACOMs generally keep records of NPDES permits and regulations along with NOVs.

5.11.4 Energy Sources

Resource Definition

Energy sources typically available to an installation include electricity, natural gas, coal, heating oil, steam, and solar power.

Relevance to RCI

RCI housing units must be provided with affordable access to energy sources. Expansion of the installation housing could require increases in the amount of energy supplied to the site. Depending on the size of the expansion and the available capacity of the existing distribution system, a proposed RCI action could significantly affect the installation power grid infrastructure.

Statutory and Regulatory Setting

AR 420-49 sets forth the Army policy on energy source selection and use. It requires that all generation, distribution, and use of energy be done in the most efficient manner. Also, energy sources must be selected with careful consideration of national reserves and local fuel availability. Use of renewable energy sources (solar, wind, geothermal, and wood) is encouraged.

Content and Organization

Describe Existing Conditions (Affected Environment). Energy should be discussed in energy source subsections. Each subsection should address availability and suppliers, cost/unit, existing infrastructure of the energy source, and any environmental degradation resulting from consumption of the energy source.

AR 420-49 requires installations to set energy conservation goals that are consistent with installation needs. These goals should be considered when appointing utility services. The RCI EA should call out any energy conservation programs that are in place or soon will be. Conservation programs vary widely but can include recycling; energy-efficient appliances; water-efficient toilets, faucets, and shower heads; and specially insulated homes that reduce energy lost in the form of heat. Ensuring consideration of conservation efforts is the Director of Public Works' responsibility.

Electricity. Discussion of electricity should remain consistent with the above format. Electricity consumption should be described in megawatt hours per year (Mwh/yr). The local providers should

be called out along with the service area they cover. Peak load and voltage can be used to discuss service level capacity. Monthly electrical use averages may also be helpful in establishing the demand for electricity from the new RCI housing units. Existing infrastructure can be adequately addressed by detailing the type, age, and amount of power lines and transformer stations in the service area.

Natural Gas. Discussion of natural gas should also remain consistent with the prescribed format. Natural gas is channeled through gas mains and usually involves a less intricate infrastructure then electricity. If boilers use natural gas, the estimated quantities should be recorded.

Coal. Coal is not a common source for household energy. When appropriate, coal should be discussed using the prescribed format, but with more discussion on the environmental consequences. The location of the servicing coal-firing plant should be called out, especially if it is in close proximity to the cantonment area.

Heating Oil. The location of heating oil tanks, number of boilers, uses of heating oil, and consumption should be discussed. Other important information to incorporate into this section includes the age and condition of the fuel tanks and boilers.

Steam. Steam should be discussed in terms of the existing central steam generation plant. The type of fuel used to create steam, buildings served by steam, and the condition of the system should be included.

Solar. Solar power is gaining popularity as an energy source. The discussion of solar power should vary from the prescribed format since solar power is usually provided for individual housing units rather than on a widespread basis and thus there is little or no existing infrastructure. The discussion should mention the cost and capacity of the solar power system. Some states provide incentives, monetary or otherwise, to use alternative energy sources such as solar or wind power. Any such programs could be mentioned to complete the discussion of solar energy. Passive solar energy

efforts, such as keeping blinds closed to direct sunlight or facing windows away from the midday sun, should be included in this section.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. Potential effects on energy sources from the proposed action could include the need to upgrade and expand infrastructure on site or an increased demand beyond the capacity of the service provider.

- *Description of Effects*. Potential effects should be described in terms of what upgrades and construction would be needed, how demand would change, whether capacities would be exceeded, and any changes in type of energy source(s) used.

- *Significance Thresholds*. Effects could be significant if the use of the system extends beyond the service's useful life, if capacities are exceeded, or if major repairs and construction on site or by the utility provider would be needed.

- *Mitigation*. Conservation of energy is a major means of lessening the effects of an action on energy. Low-level lighting and use of energy-efficient lighting are examples of conservation measures. Boiler fuel conversions (heating oil to natural gas) should also be considered as an option for improving operating flexibility and decreasing air emissions.

Data Sources

Information on energy sources can be obtained from local power providers. Information may be in the form of utility technical studies, meter readings, and other utilities drawings. Information specific to the installation utilities can be found in the IUMP. EPA and the Department of Energy are potential sources of general information on energy use and costs. The USACPW can provide technical and operational assistance for energy systems.

5.11.5 Communications

Resource Definition

The communications system encompasses all of the systems and equipment on an installation that link individuals with each other and with remote locations off-site. These systems and equipment include telephones, cable television service, hand-held radios, computers, and the network available to support Internet and fax capabilities.

Relevance to RCI

New residential units constructed under a proposed RCI action would use some, if not all, of the communications systems available to them. Military personnel or civilians living in RCI housing would be provided with adequate access to communications systems. Depending on the size of the expansion and the capacity of the existing system, the RCI action might require significant changes to the communications systems currently available to the site, including adding new telephone lines to the site.

Statutory and Regulatory Setting

Federal laws regulate communications systems. There is limited federal and Army-specific regulation of communications systems. Most regulatory efforts will be directed from the state or local level. AR 420-49 specifies that the DPW is not responsible for communications equipment.

Content and Organization

Describe Existing Conditions (Affected Environment). Describe the telephone service and other communications-related systems available at the installation or in the ROI. The ROI for the communications system includes those areas served on the same grid as the RCI site.

It is important to note whether the installation is currently served by integrated digital switching network (ISDN) lines or if that service is readily available. For each system, the type of wiring, network, age, owner, and provider is described. For Internet access, for example, the provider and access speed should be described. Other information includes whether telephone directory assistance or cable television is available or accessible. This section also describes who pays for the utilities and how they are metered. The communications systems section should describe what systems are in place. Each system should be described in terms of suppliers, cost, existing infrastructure, quality, and ability to upgrade the system.

Cable Television. Cable should be addressed in a manner consistent with the prescribed format. Most localities have only one or two cable providers. The discussion should call out the cable providers and present adequate information on their current system and services offered. The age and upgradability of the system are not as important for cable systems as for phone and Internet systems.

Phone Service. Local phone service is usually dominated by one provider. The provider should be called out along with the existing infrastructure of the network, the age, and the upgradability of the system. If the phone service is routed through an on-base station, call out the station. Also mention if services such as directory assistance will be available for the benefit of RCI housing tenants.

Network Capabilities. Discussion of network capabilities should place extra emphasis on the quality and upgradability of the system. The type of line available (fiber optic, digital, copper), the access speed available, and the capacity of the system should be described.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. The ability to expand the existing communication systems must be established. Increased Internet usage in residential areas has increased the demand for telephone service. Since phone service may enter an installation at a single point, the capability to expand may be limited.

- *Description of Effects*. The extent to which phone service and network capabilities can be provided should be described.

- *Significance Thresholds*. Depending on the type of phone system, the speed of Internet service may be limited. If additional on-base housing projects are constructed, there may be limits on the phone service available.

- *Mitigation*. Depending on the demand for phone service, existing systems may need to be upgraded to current industry standards. This would include replacing existing phone lines to improve phone service and Internet capabilities.

Data Sources

Information can be obtained from government (local, regional, and state) agencies, local communications providers, and independent reports. Information may be in the form of utility technical studies and other utilities drawings. Information specific to the installation utilities can be found in the IUMP.

5.11.6 Solid Waste Management

Resource Definition

Nonhazardous solid waste, as defined under the Resource Conservation and Recovery Act (RCRA), consists of many types of waste including municipal solid waste, construction wastes, some municipal sewage sludge, industrial and commercial "nonhazardous" waste, and some semi-solid and liquid wastes. Construction waste generated from new development, construction of houses, and demolition of existing structures is included. Solid waste management is the systematic collection, disposal, and reduction of solid waste.

Relevance to RCI

RCI projects involving construction of new housing or renovation of existing housing will produce waste. Short-term generation of waste resulting from construction activities must be disposed of to prevent threats to human health and the environment.

The addition of housing units and personnel would permanently increase the amount of solid waste produced. Solid waste disposal programs must be developed or adjusted to compensate for this additional load. If the available waste disposal system is at full capacity, the RCI action could result in adverse impacts to the environment.

Statutory and Regulatory Setting

Army and other federal laws and regulations pertaining to solid waste management are listed below. Federal statutes and Executive Orders are described in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- AR 420-49, *Utility Services*
- Solid Waste Disposal Act (SWDA) of 1976
- Executive Order 12873, Federal Acquisition, Recycling, and Waste Reduction
- Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

Content and Organization

Describing Existing Conditions (Affected Environment). This section should briefly identify past, present, and future solid waste management practices on the installation as well as in the ROI. The ROI for solid waste includes the entire area serviced by the solid waste disposal provider. Identifying if, when, and where municipal-type wastes were disposed of in the past (versus hazardous waste, or a combination of all wastes) is important because of hazardous waste sites' potential implications

for RCRA, CERCLA, and CERFA compliance. Capacities and proximity of landfills are also important for evaluating potential impacts of increased waste disposal.

Solid waste generation should be expressed in annual tonnage or as a volume in cubic yards. The capacity at landfills and resource recovery facilities should be expressed in years (based on an assumed annual tonnage or volume of waste generation rate). Solid waste should be discussed in terms of collection methods and disposal alternatives. Solid waste collection and disposal are frequently carried out by the private sector, although it is sometimes executed by a public entity.

Solid waste is typically collected in dumpsters or curbside as part of a public or neighborhood collection program. All information on collection methods, the collector, collection schedules, and cost of service that is readily available should be included in the EA.

Solid waste can be buried in a landfill or incinerated. The EA should mention available disposal alternatives including the name and proximity of landfills and incinerators available. The useful life of the landfill should be included. If the landfill is nearing the end of its useful life, future alternative sources must be mentioned. Incinerators do not accept all varieties of solid waste, so the alternative disposal methods for these unacceptable waste need to be discussed.

Alternatives to solid waste disposal are recycling and composting. These methods promote efficient waste disposal and reduce the overall solid waste load. The EA should mention these options and include information on the volume of landfill or the extension of landfill useful life allowed by such programs.

Recycling is an important part of reducing the solid waste disposal load. All recycling programs should be mentioned in the EA. The recycling program coordinator, whether a public or private entity, should be called out. Materials recycled should be specified along with the collection method and frequency. If possible, include the amount of solid waste disposal averted through recycling efforts.

Document Effects of the Proposed Action and Alternatives (Consequences).

- *Analysis*. The analysis of the potential effects of the proposed project on solid waste management should consider types and quantities of waste generated, the collection of waste, and disposal of the waste. This should include who the contractor or hauler is, other areas served by this provider, and the capacity of the disposal area. This section should describe where (e.g., how far from the installation) trash is hauled for disposal.

- *Description of Effects*. Effects should be described in terms of effects on the hauler, effects on other users of this hauler, and effects on the actual disposal site(s). If the proposed project would require additional collection times or disposal of a larger quantity of solid waste, the effects of these actions on all other users, the hauler, and the disposal site should be described. The amount of solid waste generated by the proposed action could affect the ability of an incinerator to burn trash properly or could decrease the life of the currently used landfill, thereby requiring new disposal areas.

- *Significance Thresholds*. The proposed project would have significant impacts if demands for solid waste collection and disposal exceed the capacity of the hauler/contractor that handles solid waste. Effects would be significant if federal, state, or local regulations for solid waste management were violated.

- *Mitigation*. Mitigation of the effects of the proposed action on solid waste management could include the implementation of a recycling program or the promotion of waste reduction.

Data Sources

Information on solid waste can be obtained from the EPA Office of Solid Waste.[7] The USACPW

[7]EPA's Office of Solid Waste offers a catalog of hazardous and solid waste publications available on the Internet at http://www.epa.gov/epaoswer/osw/catalog.htm . Guidance on estimating quantities of construction and demolition debris for various types of projects is available in EPA's report *Characterization of Building-Related Construction*

is also available for guidance and support on ISWM. Technical information on ISWM, source reduction, and more is available from Public Works Technical Bulletin (PWTB) 420-49-08. Information for base-specific solid waste is available from the ISWM plan.

5.11.7 Army Utilities Privatization Program

Current Army policy includes the privatization of utility systems—electrical generation and distribution, natural gas distribution, water supply treatment and distribution, and wastewater collection and treatment—at major installations. The policy was created in response to the necessity for Army installations to support their missions in an economically efficient manner. By privatizing these utilities, the Army relinquishes its responsibilities to operate, maintain, and repair such systems. Typically, the resource areas that could be affected by utility privatization are land use, air quality, geology, water resources, permits and regulatory authorizations, and economic development.

There are two methods for privatizing utilities—conveyance and long-term lease. The Army could convey any or all of the systems at the installation. Alternatively, the Army could enter into a long-term lease for private sector operation of any or all of the systems and, simultaneously, contract with the lessee for uninterrupted provision of services. Either of these approaches would be subject to two conditions. First, the Army would require that the transferee be a qualified provider under appropriate regulatory agency license or other authority. Second, the disposition would be contingent on the Army's obtaining a cost-effective, long-term contract for utility services acceptable to the government. *[Preparer's Note: This approach and language is consistent with recent Army BRAC actions and related NEPA documentation. No formal authority has been identified.]*

Conveyance of Utility Systems

Various candidate organizations or entities could potentially qualify as transferees in conveyances of the utility systems. Depending on the type of system, it is possible that the installation, a private

and Demolition Debris in the United States (June 1998), document no. EPA530R98010.

entity, or an existing utility provider could qualify as transferee under the conditions the Army has determined are necessary for such a transaction. Conveyance of utility systems would be subject to both specific and general conditions. Specific conditions would require provision of suitable amounts of utility service (e.g., 500,000 gallons of potable water per day for routine operations), attainment of quality standards appropriate to the utility, assurance of staffing to meet both routine and mobilization requirements, and service contracts for 10 years.

General conditions that would be levied with respect to conveyance of each utility at the installation would include the following:

- The owner must demonstrate under the applicable laws for the state (in which the RCI project lies) that it is the franchised utility provider for each utility listed or that it has the authority to resell utilities.

- The owner must negotiate a utility service contract (rates and terms) acceptable to the installation, as appropriate, for each utility system acquired. The owner must bear all costs associated with the acquisition of easements, licenses, or permits necessary to assume ownership and operation of the utility systems.

The existing plants, systems, and appurtenances must be conveyed with no additional consideration, warranties, or indemnification on the part of the government.

The utility owner must assume responsibility for any and all subsequent environmental consequences of ownership/operation of the utilities.

The owner must agree to adhere to all regulatory requirements associated with the operation, maintenance, and repair of any and all utility systems located within the confines of the ammunition-restricted areas.

Sale of the sanitary WWPT would not necessarily include conveyance of the underlying fee since the plant is located at the installation. Whether title to the sanitary WWTP land would be conveyed would need to be worked out between the utility provider and installation officials. Sale of utilities would include creation of easements within the installation property to allow continued operation of the various systems. The easements would include a clause indicating that the Army relinquishes all title, claim, or interest in the appurtenances or fixtures associated with the easements. In this way, the easements could be used to convey title to the distribution systems, precluding disputes over the ownership of the distribution systems themselves.

Long-Term Lease of Utility Systems

A long-term lease of any of the utility systems available for disposition would be structured to vest in the lessee operational control over the utility system. The Army anticipates that a long-term lease would be for a term of 10 years or longer, with rights to renew granted to the lessee. Alternatively, a long-term lease could be negotiated with another entity.

Leasing of utility systems would be subject to specific and general conditions similar to those applicable to conveyance of the systems. Specific conditions would require provision of suitable amounts of utility service, attainment of quality standards, assurance of staffing to meet Army requirements, and service contracts for 10 years.

General conditions that would be levied with respect to leasing of each utility would include the following:

- The lessee would have to provide maintenance services sufficient to ensure continuous service to the Army facilities served by the distribution system.

- The lessee would have to bear all costs associated with acquisition of easements, licenses, or permits necessary to assume management and operation of the utility system.

- The existing plants, systems, and appurtenances would be leased with no additional consideration, warranties, or indemnifications on the part of the government.

- The lessee would assume responsibility for any and all subsequent environmental consequences of management and operation of the utility.

- In consideration for the value of the utility system, the lessee would develop rate schedules that provide the government with the most economical rates.

- In consideration for the value of the utility system, the lessee would provide all labor and materials necessary for installation of meters on services for government-retained facilities and would install such meters at no cost to the government.

- Leasing of utilities would include creation of easements with the property to allow continued operation of the various systems.

When proposing to privatize Army utilities, any associated NEPA analyses should assume that the contractor would be qualified to operate the system. The privatization of Army utilities could potentially affect several resource areas, including land use, air quality, soils, water resources, and economic development. The privatization of utility systems will also affect the Army's control over the operation of the current system.

The privatization of utilities allows qualified providers of utility services to expand their customer base. By distributing operating costs over a larger customer base, overall cost to the customer should be reduced due to the increased economy of scale. Although only qualified service providers will be considered, distinct and separate utilities should be targeted for privatization rather than finding one source for privatizing all utilities at an installation.

5.12 HAZARDOUS AND TOXIC SUBSTANCES

Resource Definition

The terms *hazardous materials, hazardous wastes,* and *toxic substances* include those substances meeting specific criteria in federal statutes and regulations. Based on regulatory definitions, substances are hazardous materials prior to and during their use. After their use when they are no longer needed, hazardous materials may become hazardous wastes. These substances have hazardous physical and chemical properties (i.e., ignitability, corrosivity, and reactivity) and/or have high toxicity.

Types of materials and substances covered under this topic include polychlorinated biphenyls (PCBs), solvents, and pesticides. Other issues often addressed are Installation Restoration Program (IRP) and related actions, and aboveground and underground storage tanks (ASTs and USTs, respectively). In addition to hazardous and toxic substances, the Army generally includes other "special hazards" in this discussion, in particular, asbestos containing materials, lead-based paint (LBP), and radon.

Relevance to RCI

An Army RCI project may include activities such as construction, demolition, support activities, and facility maintenance that could be expected to use hazardous materials and/or generate hazardous wastes. A wide range of activities associated with the construction, maintenance, management, renovation, replacement, rehabilitation, or development of Army family housing and ancillary support facilities may use hazardous materials, generate hazardous waste, or release toxic substances. The potential impacts to the environment as a result of these actions may be direct or indirect, depending upon the source of the material, the extent of use or contamination, or the methods used to remedy hazardous materials in or near these family housing facilities. Potential impacts may result from the demolition of existing family housing, the construction of new family housing and support facilities, and the continuing maintenance of existing housing.

The presence of hazardous materials, hazardous wastes, and toxic substances may generate direct and indirect impacts on other resources. For example, contamination levels found at existing sites may regulate future land use; contamination at new family housing sites may prevent construction. Existing or newly discovered contamination may require remediation that could affect routine maintenance of existing housing facilities or the construction of new facilities. Soil, groundwater contamination, or the uptake of contaminants of concern by vegetation may directly affect biological resources.

Hazardous materials and toxic substances may be associated directly or indirectly with the operation of family housing. Storage tanks may contain fuel for heating family housing. Fuel leaked from these facilities becomes hazardous waste, which, depending upon the ROI and the proximity to family housing, may generate impacts directly or indirectly associated with the RCI project. Support facilities may store and use hazardous materials (solvents, pesticides, and herbicides) for cleaning, maintenance, or refurbishment of existing housing units. Toxic or other hazardous substances may be present in existing housing units associated with asbestos flooring, LBP, or PCB transformers used in the original construction of the housing units. Depending upon the geographic location, naturally occurring radon gas in housing units may present risks to residents.

Hazardous materials, hazardous wastes, and toxic substances present operational challenges to safely handle these materials, dispose of them in an acceptable manner, and minimize risks to housing personnel and Army families and dependents. Some of these issues include the following:

- *Risks associated with the use and handling of hazardous materials or wastes*. The use and handling of hazardous materials and wastes could result in a potential health risk to workers. Additionally, the handling of hazardous materials and wastes releases varying quantities of hazardous constituents to the environment. For example, solvents evaporate during use and incineration of hazardous waste releases hazardous constituents to the air.

- *Accidental releases of hazardous materials and wastes to the surrounding environment.* Accidental releases can occur through transportation accidents, equipment failures, human error,

and improper storage. The risk to humans resulting from the release of hazardous materials depends on the amount and toxicity of the wastes, the media into which they are released, and the proximity of the release to family housing or other human receptors.

- *Disposal of hazardous waste*. Despite the implementation of pollution prevention, waste minimization practices, and treatment to stabilize or detoxify waste, some hazardous waste would require disposal. Disposal of hazardous waste could result in a potential risk to human health and the environment. The future long-term integrity of disposed waste forms or the ability of a disposal facility to isolate hazardous waste constituents cannot be predicted with certainty. Potential releases of hazardous constituents from disposal facilities could negatively affect both human health and the environment.

- *Chronic exposure to toxic substances*. Although the Army has engaged in programs to identify, remove, or stabilize asbestos and LBP in housing units, there are potential risks to housing personnel and residents from the long-term exposure to any toxic substances not identified or stabilized by other programs. In addition, depending upon the geology, long-term exposure to radon may pose risks to residents and housing personnel. Demolition of housing units containing asbestos and LBP requires adherence to standards to reduce or eliminate exposure of construction personnel to airborne contaminants.

Statutory and Regulatory Setting

Hazardous materials, toxic substances, and associated hazardous wastes are likely the most heavily regulated resource area. Executive Order, and federal, state, DoD, and Army regulations and guidelines regulate these materials. A list of applicable Army and other federal laws and regulations is provided below. Federal statutes and Executive Orders are described in Appendix A of this manual. Prior to the onset of any RCI activity potentially affecting hazardous materials and toxic substances and associated hazardous wastes, Army personnel should consult full text versions of applicable regulations.

- AR 200-1, *Environmental Protection and Enhancement*
- AR 420-49, *Utility Services*
- AR 420-76, *Pest Management*
- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
- Toxic Substances Control Act (TSCA)
- Community Environmental Response Facilitation Act (CERFA)
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
- Federal Facilities Compliance Act (FFCA)
- Hazardous Materials Transportation Act
- Pollution Prevention Act of 1990
- Executive Order 12088, Federal Compliance with Pollution Control Standards
- Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

Content and Organization

Describe Existing Conditions (Affected Environment). An ROI for hazardous materials would include all areas potentially subject to release of hazardous materials or wastes from each RCI-related activity, including the storage, handling, and disposal of such materials. The extent of the ROI would vary according to the site conditions and specifications noted in the proposed action. It would be equally influenced by the physical and chemical characteristics of the materials in question (e.g., volatility and solubility), the source of the materials (e.g., UST/AST, transformers, asbestos tile flooring), and the paths by which materials released might expose populations (e.g., inhalation, dermal exposure, drinking water, and ingestion). It would also be influenced by site-specific factors including wind direction and intensity, precipitation levels, surface drainage, permeability of soils, and depth to groundwater. Such factors can greatly influence the transport and dispersion of contaminants.

Hazardous materials and wastes should be discussed as follows:

- *Hazardous Materials and Toxic Substances.* Discussion of this topic should include the use of hazardous materials in family housing and support facilities during routine maintenance and operations. It should identify potentially hazardous materials intrinsic to each housing area or ancillary facility. These may include solvents and cleaning supplies, pesticides and herbicides, paints, preservatives, pipe solder, certain roofing tars, and exterior ASTs or USTs used for heating. Hazardous materials used in ancillary or other support facilities should also be discussed, including pesticides, motor fuels and lubricants, solvents, and other chemicals.

  Within the ROI, other pertinent information may include hazardous materials used and stored in adjacent facilities, spill contingency plans currently in place, and the status and schedule for UST renovation and removal.

- *Hazardous Waste.* Discussion should address the presence of hazardous waste at and in the vicinity of the RCI project area. Within the ROI, this would include the location and condition of contaminated sites, the status of IRP studies and any National Priorities List sites, ongoing or future remediation and monitoring activities, and a description of RCRA permitted facilities and other hazardous waste collection/storage sites. In addition, some mention should be included as to how or where such materials are disposed of.

  This section does not require detailed discussion of IRP activities if there is no demonstrated direct or indirect effect on existing or planned family housing or on other RCI project areas. If the IRP program or investigations discovered no actionable conditions on or near existing or planned family housing or a support facility, a statement supporting this (and citation) should be included in this section. Alternatively, if, for example, a site undergoing remediation is located within or adjacent to family housing or a support facility, the studies and analyses leading to the remediation (and any subsequent monitoring) should be discussed in detail.

Depending upon the actions contained within the proposed action and alternatives, hazardous wastes (in addition to solid wastes) may be generated by demolition or renovation of housing structures. This section should present a discussion of hazardous materials thought to be present in family housing and support facilities, which under certain circumstances might become hazardous wastes. These may include asbestos flooring tiles, asbestos siding, PCB-containing electric transformers, or LBP. The discussion should include a description of the likely physical locations of hazardous materials in the structure, and an estimate of the amount of material present (on an individual housing unit basis or for the entire complex).

Sample text for this discussion is provided in Section 4.12.1 of the REA.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for effects to result from the presence or management of hazardous and toxic substances within or near the RCI project area should be addressed as follows:

- *Analysis*. The analysis should be based upon and supported by the data and discussions contained in the affected environment section. At a minimum, this section should address the following:

  – Describe how current and planned IRP efforts might be affected by the proposed action and alternatives, including schedule changes and impacts on current remediation.

  – Identify additional contaminated sites on the installation.

  – Identify any impacts on USTs or ASTs providing support to family housing and support facilities.

  – Show anticipated volumes of hazardous wastes generated pre- and post-action.

- Show anticipated volumes of hazardous wastes for disposal pre- and post-action.

- Discuss the potential impacts from intrinsic hazardous materials in housing units.

- Discuss potential sources of toxic or hazardous substances, pathways to human receptors, and resultant risks to human populations resulting from continued habitation or from demolition of family housing and support facilities.

- Identify any beneficial effects resulting from the proposed action and alternatives, including pollution prevention efforts, waste reduction, human health hazard reduction, or toxic substance stabilization.

- Identify any permits, coordination, or other regulatory requirements likely to result from the proposed action and alternatives.

• *Description of Effects*. This section should discuss the potential direct or indirect impacts on the baseline environment that was described in the affected environment section for hazardous materials, hazardous waste, and toxic substances. The appropriate level of impact analysis for an EA is to base it on existing data and information. In an EA, it is unusual to conduct separate tests and analyses on contaminated sites, hazardous materials, or toxic substances outside the installation's IRP program.

It is important to understand that the IRP program is not the subject of NEPA analysis in an RCI NEPA EA. The IRP program is separate from NEPA, and IRP activities have been subjected to considerable investigation, analysis, review, and acceptance by Army and regulatory agencies. Assuming that the remedial investigation and feasibility study (RI/FS) produced for the IRP is consistent with guidelines prepared by EPA, and is in compliance with AR 200-2, the analysis performed by the RI/FS is consistent with NEPA. Data, analyses, and conclusions found in the

RI/FS may be incorporated into RCI EA as valid scientific or engineering conclusions without the need to revisit or reevaluate the decisions developed by the RI/FS.

Implementation of an RCI project can result in a variety of direct and indirect effects from changes in hazardous material, hazardous waste, and toxic substance conditions. Possible examples of such effects are modification of ongoing IRP remediation to accommodate new project construction; release of asbestos-contaminated concrete dust during demolition activities; increased volumes of hazardous waste that must be transported off post to secure landfills; and chronic exposures to pesticides and herbicides released into surface water, incorporated into fish, and ingested by fish-eating waterfowl.

For the ***no action alternative***, discussion should focus on the anticipated schedule of the IRP program and the remediation of known contaminated sites within the ROI. Discussion should focus on the potential impacts from existing contaminated sites directly or indirectly affecting RCI project sites. The adverse effects from these sites, as described in existing IRP documentation or risk assessments, must be presented. The proposed remediation schedule (unless otherwise changed) should be assumed to be part of the no action (continued management) alternative, and any future beneficial impacts resulting from the reduction of contamination at existing or proposed remediation should be stated.

As an example, assume that groundwater is withdrawn for watering of common areas on the family housing areas, the IRP program has indicated that in time the well site is likely to be within the contaminated plume, and that the withdrawn water will be contaminated. For the no action alternative, analysis should be focused on the potential impacts or risks of the use of contaminated water in housing areas. Since the IRP program is likely to have conducted risk assessments on the plume, authors should rely on the conclusions and recommendations from these risk assessments and remediation actions. The EA text should clearly state whether the risk assessment identified this situation as one presenting human health and safety risks, show any projected exceedances of standards, and determine if proposed remediation of the situation

would reduce the risk to acceptable levels. Conversely, the text should state if the IRP program has found the situation to be less than standards and criteria and subject to no further action.

Discussion on the no action alternative should also focus on how hazardous materials are currently used. Any planned reduction of hazardous material usage at family housing and support facilities should be discussed and claimed as waste (and risk) minimization. This section should identify any existing human health and ecological risks from hazardous materials routinely used on housing sites. In addition, any beneficial impacts resulting from waste minimization efforts should be discussed.

Discussion of the ***proposed action*** should focus on how the baseline at existing contaminated sites directly or indirectly affecting housing sites might be altered by the proposed action. In addition, text must describe any new potential hazardous waste generation or contamination arising from specific activities within the proposed action. This discussion should also describe any likely impacts on the pattern of use of hazardous materials or the addition of new hazardous materials resulting from operational changes inherent in the proposed action.

Using the groundwater example above, discuss all effects resulting from any activity of the proposed action and alternatives that might accelerate the movement of the plume, intercept the plume through construction, increase or decrease the volume of groundwater withdrawn, or cause some other effect. State whether the action would have either beneficial or negative effect on the groundwater situation.

Should the proposed action and alternatives require the removal of USTs or ASTs, the removal must be in compliance with the installation's UST plan, and the potential impacts of removal and disposal must be discussed.

Any activity resulting from the proposed action that results in the generation of hazardous waste must be described. Whenever possible, the impacts should be quantified. As an example,

assume that the proposed action involves the demolition of housing units and therefore may generate some asbestos- or LBP-contaminated waste. This section should present the estimated volume of generated waste (if survey data exist to support such estimates), discuss how the material would be handled during demolition and transportation, present potential mitigation resources, and assess actual disposal alternatives for the newly generated hazardous wastes.

This section must describe any activity resulting from the proposed action that will require the identification, location, and assessment of hazardous waste at a new site, greenfield or brownfield site, whether on or off the installation. This discussion must be included, even if the conduct of these investigations is outside the NEPA process or managed by other installation programs. As before, whenever possible the potential impacts (risk, schedule, and cost) arising from these investigations should be quantified.

For those constituents of concern remaining for discussion, the text should discuss sources, pathways to exposure, exposure potential, and human heath or ecological risks as calculated in IRP documents. Since the concept of human health risks is complex and often confusing to the public, a description of the risk assessment process and threshold probabilities should be considered for inclusion.

Discussion of the proposed action should also address how the baseline use of hazardous materials at housing sites might be altered. The text must describe any increases or decreases in current usage, as well as new hazardous materials used and unique disposal plans. As before, any planned reduction of hazardous material usage at family housing and support facilities resulting from the proposed action should be discussed and claimed as waste (and risk) minimization. This section should describe the human health and ecological risks from newly identified hazardous materials likely to be routinely used on housing sites. Any beneficial impacts resulting from waste minimization efforts should also be discussed.

As an example, assume that new housing constructed as part of the proposed action will be designed to reduce or eliminate certain hazardous materials used in the existing housing. These changes might include shingled roofs rather than flat roofs, elimination of the routine use of roofing tars, cements, or adhesives; installation of vinyl tile, eliminating asbestos tile; and switching to natural gas and eliminating individual ASTs for heating fuel. Another example is that maintenance of the new housing would be outsourced, eliminating the need for maintenance facilities.

Alternatively, construction of new housing may require the increased use of adhesives, solvents, or other hazardous materials. The text should state that all materials would be used for a short-term duration, in accordance with specifications, and that contractors would be responsible for hazardous material disposal and spill contingency plans.

- *Significance Thresholds*. For hazardous wastes, hazardous materials, and toxic substances, the use of standards and criteria is one method to determine significance. All materials and chemicals currently recognized as presenting real or potential risks to human health and safety have levels or concentrations which, when exceeded, present some risk. Some constituent concentrations, when exceeded, violate federal or state standards or criteria, irrespective of risk. Any impact resulting from the proposed action and alternatives that results in increases to the constituent concentration from below to exceeding levels above the standards, criteria, or risk thresholds may be considered a significant impact.

  Actions could also result in significant effects if they result in substantial increases in the generation of hazardous wastes or place substantial restrictions on property use due to hazardous waste, materials, or site remediation.

- *Mitigation*. Many methods have been described for mitigating the impacts from hazardous materials, hazardous waste, and toxic substances. Most of these measures have been generated

through the DoD IRP program, and in many cases the mitigation includes remediation and restoration of contaminated sites.

At most IRP sites, the objectives of the selected remediation process are to reduce risk, or eliminate or isolate the source of contamination. Since the IRP program is separate from the NEPA process, remediation of contaminated sites relevant to family housing and support facilities is not equivalent to NEPA mitigation.

In the most restrictive definition, mitigation measures are those measures employed to reduce or eliminate environmental impacts directly associated with the proposed action and alternatives. Even with this definition, there are many mitigation measures available to reduce impacts.

Mitigation measures could be taken to reduce potential impacts from the use of hazardous materials and toxic substances and the generation of hazardous waste; however, they must not violate any applicable federal, state, and local regulations. Some applicable mitigation measures beyond those commonly used in the IRP remediation program include the following:

- Incorporation of waste minimization and pollution prevention processes into design of new housing facilities.

- Requirement that construction contractors prepare and implement pollution prevention plans.

- Waste minimization programs for operation and maintenance staff meeting the spirit and intent of Executive Order 12856.

- Emergency response and cleanup measures to respond to environmental contamination in the event of an accidental release, including implementation of spill contingency plans.

- Installation of control devices where required to control releases of refrigerants or solvents to the air.

- Storage of certain hazardous materials in areas with secondary containment to contain potential leaks.
- Minimizing usage of hazardous materials to the extent practicable by equivalent product substitution.

- Treatment or recycling of hazardous wastes onsite, wherever feasible and allowed by regulations.

- Transport of hazardous wastes to approved off-site recycling, treatment, and disposal facilities.

Sample text for this discussion is presented in Section 4.12.2 of the REA.

Data Sources

Numerous sources of hazardous material/waste information can be used to retrieve and review data necessary to analyze actions related to family housing and support facilities. The data will depend upon the types of activities under consideration through the alternatives in the NEPA document, including construction, maintenance, management, renovation, replacement, rehabilitation, and new development of family housing and ancillary support.

Initially, the EBS prepared for the RCI project will serve as the most likely source of information and data on hazardous materials, hazardous wastes, or toxic substances found in, around, or near family housing and support facilities (see Section 15-6 of AR 200-1 for discussion on integrating and documenting the EBS in NEPA documents). The DPW and the installation Environmental Office

are also likely sources. These groups are involved with any IRP actions on the post and are the repository of primary research data, secondary analyses, and detailed information on past or current investigations, remediation, monitoring or mitigation. These groups are also required to provide routine monitoring data to federal and state regulations on surface water discharge, air emissions, groundwater monitoring, and industrial waste pre-treatment. Information on the location and condition of aboveground storage tanks, belowground storage tanks, and associated piping is also available from these organizations.

Many Army facilities have a Hazardous Materials Pharmacy, which is used to control and monitor the use and disposal of hazardous materials. Data can be retrieved on volumes of hazardous materials requisitioned from the pharmacy for use in family housing and support facilities.

Radon tends to be a problem in a few geographic areas of the United States. If research indicates that radon may be a problem in the general installation area, specific data on radon in family housing or support facilities can be retrieved from Radon Reduction Program, surveys which identify any facility with radon concentrations exceeding 4 picocuries per liter (pCi/L). The installation's Radon Reduction Program will identify whether any mitigation actions have been taken on housing or support facilities exceeding the action level.

Information on pesticides used on or near family housing or support facilities may be found in the installation's Integrated Pest Management Plan and obtained from the Pest Management Coordinator. Information on resident-applied pesticides and herbicides is likely to be limited to anecdotal information from interviews of residents.

Information on asbestos-containing materials in family housing and support facilities may be found in the installation's Asbestos Management Plan and through interviews with the Asbestos Management Team, review of existing installation-wide surveys of all structures, review of exposure assessments and risk assessments of each relevant housing facility containing asbestos, and reviews of the asbestos abatement plan for each location containing asbestos.

Information on the presence of PCBs associated with family housing and support facilities may be found in the DPW.

Other sources of data relevant to hazardous materials, hazardous wastes, and toxic substances may be found in various installation documents and plans, including spill contingency plans, pollution prevention plans, hazardous substance management systems, and discharge monitoring reports for NPDES permits.

A substantial amount of information and environmental data potentially useful to an environmental assessment may also be acquired from other federal, state, and local sources.

5.13 INFREQUENTLY ENCOUNTERED TOPICS

5.13.1 Annexation

The process of annexation involves the enlargement of jurisdiction and responsibilities. Jurisdiction refers to the authority to legislate within a geographically defined area. In addition, annexation involves the creation of sovereignty by municipality (i.e., county property becoming city property). Administration of resources and management of property on annexed land is determined through the existing state law.

Annexation involves increasing the population of the city or county by including installation population increases the city's or county's share of state revenues generated from sources including cigarette taxes, motor vehicle licensing fees and taxes, highway users taxes, and state sales taxes. Annexation also increases the local revenue base. This may bring certain benefits to the military community, such as municipal fire protection, road maintenance, purchase of utilities at municipal rates, closer and better schools, and police protection. These benefits are based on the existing city or county resources or their potential to provide these services. It is DoD and Army policy not to contest

annexation, but annexation may be opposed if it is not in the best interests of the federal government. Army procedures for annexations are provided in AR 405-25 (*Annexation*).

Annexation is a complex issue requiring case-by-case studies of the jurisdictional relationship between the installation and the state and local authorities. While conducting environmental effects analysis, if the subject of annexation is discussed, personnel should consult legal counsel due to the potentially substantial socioeconomic consequences and cumulative effects.

5.13.2 Airfields and Airspace

Airfields are those areas which support the military air mission and include aircraft, airstrips, runways, hangars, administrative facilities, aircraft towers, fueling stations, supply and storage areas, and buffer areas. Airspace is the space encompassing all proposed airborne activities.

Relevant to land use planning at airports and airfields is the designation of the Air Installation Compatible Use Zone (AICUZ), Clear Zone, and Accident Potential Zone (APZ). The AICUZ consists of land areas on which certain land uses may obstruct the airspace or otherwise be hazardous to aircraft operations, as well as land areas that are exposed to the health, safety, or welfare hazards of aircraft operations. The purposes of the AICUZ are to minimize the potential of major catastrophe from aircraft accidents; to prevent incompatible development in noise exposure and accident areas; to assist local authorities to protect and promote the public health, safety, and welfare of area inhabitants; and to protect, through compatible land use planning and control, the compromise of installation operational capability. A Clear Zone represents the area at the end or just beyond the runway surface where most land uses are incompatible with military aircraft landing operations. Extending beyond the Clear Zone along the aircraft flightpath, the APZ allows a variety of land uses; however, intensive uses (e.g., schools, churches, and restaurants) should be restricted because of the greater accident risks in these areas. Outside the Clear Zone and APZ, the risk of accidents is generally not significant enough to warrant special consideration in land use planning. Designation of AICUZ, Clear Zones, and APZ areas is the responsibility of the Army as the airfield operator.

In relation to RCI, the siting of new housing areas and their proximity to airfields leads to land use compatibility noise, and health and safety issues. Existing housing areas slated for renovation would be expected to be upgraded to current standards, alleviating any noise and health and safety issues.

Specific Army aviation and airspace management procedures and policies used by the Army are provided in AR 95-2, *Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids*.

5.13.3 Cemeteries

Cemeteries, for the most part, are covered under the Cultural Resources section (see Section 5.8 of this manual) as historic properties. Nonhistoric cemeteries are considered low-intensity land use and are often sited on a secluded portion of the installation. Issues related to siting a housing area near a cemetery are primarily aesthetic and are easily alleviated with fencing and landscaping.

Beyond the historic significance of some cemetery properties, the primary concerns for siting a housing area near a cemetery would be trespassing and vandalism. These issues would be covered under the public safety program on the installation.

Army procedures for the operation and maintenance of on-post cemeteries are provided in Section 4-3 of AR 200-3 (*Natural Resources—Land, Forest and Wildlife Management*) and in AR 210-190 (*Post Cemeteries)*.

5.13.4 Installation Agreements

Installation agreements are mutual aid agreements between local, state, or other governmental agencies in the joint or shared use of resources that might not be available to any one of the organizations otherwise (i.e., fire and rescue, ambulatory assistance). In relation to RCI, installation

agreements would include those pertaining to public services such as police and fire protection. Information on these agreements, if they exist, can be obtained through the installation fire department and the Directorate of Safety.

5.13.5 Landfills

Closed landfills are considered low-intensity land use and are often fenced and posted with appropriate signs, or are converted to other benign land uses such as open space. Issues related to siting a housing area near a closed landfill are minimal because it is expected that the landfill met all of the stringent regulatory requirements at closure. In fact, some closed landfills may complement a new housing area through conversion to playgrounds or "tot lots," golf courses, and other recreational areas.

Use of landfills for waste disposal is discussed in Section 5.11.6 of this manual.

5.13.6 Legacy Program Projects

In an effort to maintain natural and cultural resources found on the millions of acres of land managed by DoD, Congress passed the fiscal year 1991 Defense Appropriations Act (Public Law 101-511) which established the Legacy Resource Management Program. The organization that spearheaded moving the program through Congress was The Nature Conservancy, a nonprofit environmental organization. The Legacy Program's primary purpose is to preserve DoD's natural and cultural resources for today and tomorrow. It is managed by the USAEC, which developed a budget plan and began distributing fiscal funds to the Army's major commands in 1994. Projects under the Legacy Program have created partnerships between installations, their local communities, and environmental organizations, including the Boy Scouts of America, the National Trust for Historic Preservation, Defenders of Wildlife, and Native American tribes.

Siting of any new housing developments would have to consider any activities that are currently being conducted under the Legacy Program. Compatibility of the activities would have to be considered since most of the Legacy projects are installation-specific and in the "public eye." The installation Environmental Coordinator would have information pertaining to Legacy projects on the installation. Cultural resource projects include Native American studies, archeology, preservation of historic structures, and preservation of artifacts. Natural resource projects include the protection of endangered species, public awareness guides, the restoration of habitats, installation management plans, and "watchable wildlife" programs.

For projects held DoD-wide, information can be obtained from the applicable Service branch. The Army Legacy Office is located at Aberdeen Proving Ground, Maryland. That office can be reached at the following address: Commander, U.S. Army Environmental Center, ATTN: SFIM-AEC-ECN (Legacy), Building E4435, Aberdeen Proving Ground, MD 21010-5401.

5.13.7 Unexploded Ordnance

Resource Definition

The term *unexploded ordnance* as used in these analyses is defined as military munitions that have been primed, fuzed, armed, or otherwise prepared for action and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design, or any other cause. This definition is the same as the definition of unexploded ordnance (UXO) in EPA's military munitions rule (62 FR 6622, February 12, 1997). Military munitions are designed to be safe during storage and handling operations and will not normally detonate until an item is actually used. A military munition becomes UXO only after it has been used and failed, in total or in part, to function properly. Due to the complex design of many military munitions and the large number of military munitions employed, some of them are almost certain to become UXO. The highly likely presence of UXO on active,

inactive, closed, transferred, and transferring military ranges creates a safety risk to Army personnel, civilian employees, Army dependents, visitors, and trespassers.

Relevance to RCI

Ranges and former ranges exist on many Army installations. Areas within an installation which were used for range training in the past may be been "swept" clear of ordnance and placed into other land uses. Although it is highly unlikely that family housing and support facilities have been constructed on former ranges, land under consideration for an RCI project may have once been a range operation.

The potential presence of ordnance on an Army installation could easily generate major impacts on an Army RCI project. Although the specifics will vary from installation to installation, an RCI project may include activities such as construction, demolition, support activities, and maintenance. It is possible that new construction, utility clearing, or other subsurface intrusions could be expected to encounter ordnance, UXO, or chemical constituents from degraded ordnance on former or existing ranges. These impacts primarily involve safety and land use issues, as well as soil and ground water contamination.

The presence of ordnance, ordnance-related contamination, or UXO may generate direct and indirect impacts on other resources. For example, presence of UXO or contaminated soils found at existing sites may regulate future land use; at proposed family housing sites, it may prevent construction. Existing or newly discovered UXO-related contamination may require remediation that could affect the construction of new facilities. Soil, groundwater contamination, or the uptake of contaminants of concern by vegetation may directly affect biological resources.

The presence of or proximity to UXO and ordnance-related chemical constituent contamination will present operational challenges to safely handle these materials, dispose of them in an acceptable

manner, and minimize risks to housing personnel and Army families and dependents. Some of these issues include

- *Risks associated with the use and handling of UXO*. The handling of UXO, even by uniformed explosive ordnance disposal (EOD) personnel, presents major risk to these workers.

- *Risks associated with the transport of UXO and normal munitions*. Transport is under the control of the EOD directorate, using DoD Explosive Safety Board (DDESB) requirements for safing, loading, packing, and transport. Even though the risks of accidents, release, or contamination is minimal, planning will be required and schedules may be altered to accommodate transport.

- *Accidental releases of chemical constituents from UXO to the surrounding environment.* Accidental releases can occur through transportation accidents, equipment failures, human error, and improper storage. The risk to humans resulting from the release of these constituents depends on the amount and toxicity of the wastes, the media into which they are released, and the proximity of the release to family housing or other human receptors.

Statutory and Regulatory Setting

Ordnance, UXO, and constituent contaminants are regulated by a number of federal, DoD, DDESB, and Army regulations and guidelines which are listed below. Brief descriptions of federal statutes are provided in Appendix A of this manual.

- AR 200-1, *Environmental Protection and Enhancement*
- DoD Directive 6055.9, *Ammunition and Explosives Safety Standards*
- Federal Facility Compliance Act of 1992
- Resource Conservation and Recovery Act (RCRA)

- EPA *Military Munitions Rule*, 40 CFR Part 260

The DoD is also developing the "DoD Range Rule," in response to EPA's proposed military munitions rule. The DoD is including closed, transferred (i.e., FUDS), and transferring ranges (i.e., BRAC) within the scope of the range rule to more comprehensively address this issue. The DoD proposed rule addresses the unique explosives safety considerations associated with military support facilities, the studies and analyses leading to the detection, identification, removal, and disposal of the UXO should be discussed in detail.

Content and Organization

Describing Existing Conditions (Affected Environment). Depending on the activities and location of the proposed RCI project, UXO could be encountered during construction of new housing, ancillary support facilities, or associated infrastructure. This section should present a discussion of the locations known to contain UXO on the installation that might affect the RCI project. If UXO is a potential concern for the project, then this section should also provide a general overview of the status of UXO on the installation, including prior studies, EOD unit operations, ongoing remediation or monitoring related to UXO, and any future UXO detection and removal projects.

If no UXO has ever been found on or near existing or planned family housing or support facilities, a statement supporting this should be included in this section. Alternatively, if, for example, a site undergoing remediation is found to contain UXO or contaminated soils and is located within or adjacent to family housing or support facilities, the studies and analyses leading to the detection, identification, removal, and disposal of the UXO should be discussed.

Since the issues surrounding UXO generate intense public interest, this section should be written in a straightforward manner with minimal use of jargon and include maps that clearly show areas of concern.

Document Effects of the Proposed Action and Alternatives (Consequences). The potential for effects to result from the presence of UXO within or near the project area should be addressed as follows:

- *Analysis*. This section should discuss and analyze the potential environmental impacts from ordnance, munitions, and UXO resulting from the implementation of the proposed action and each alternative. At a minimum this section should:

  - Describe how current and planned efforts to address UXO on the installation might be affected by the proposed action and alternatives, including schedule changes and impacts on current projects.

  - Identify and map all known sources of UXO and ordnance-contaminated sites within proximity of the project area.

  - Discuss potential sources of risk to safety personnel, installation civilians, housing staff, residents, or trespassers.

  - Identify any beneficial impacts resulting from the removal of ordnance or UXO from the installation as a result of activities associated with the proposed action and alternatives.

  - Identify any permits, coordination, or other regulatory requirements addressing UXO that is directly or indirectly associated with the proposed action and alternatives.

- *Description of Effects*. This section should discuss the potential direct or indirect impacts to the baseline environment that was described in the Affected Environment for UXO. The appropriate level of impact analysis in an EA is to use existing data and conclusions. In an EA, it is unusual to conduct UXO sweeps, geophysical investigations, and subsurface excavations outside the installation's UXO or EOD programs.

For the **no action alternative**, discussion should focus on the anticipated schedule of the installation's UXO or EOD program and the remediation of known contaminated sites. Discussion should focus on only the potential impacts from existing ordnance-contaminated sites directly or indirectly affecting housing sites. The negative impacts from these sites as discussed in documentation or risk assessments must be presented. The proposed detection, identification, and removal schedule should be assumed to be part of the no action (continued management) alternative, and any future beneficial impacts resulting from the removal of UXO or the reduction of ordnance-related contamination at existing sites should be stated.

Discussion of the **proposed action** should focus on how the baseline at sites containing UXO or ordnance-related contaminated sites directly or indirectly affecting housing sites might be altered by the proposed action and alternatives. In addition, text must describe any actions that might detect or expose UXO arising from specific activities within the proposed action and alternatives.

This section must describe any activity resulting from the proposed action and alternatives that will require the identification, location, and assessment of UXO on closed or inactive ranges being considered as part of the proposed action and alternatives whether on or off the installation. Whenever possible, the potential impacts (risk, schedule, and cost) arising from these investigations should be quantified.

- *Significance Thresholds*. Should a site associated with the proposed action and alternatives be thought to contain UXO, or known to be contain UXO, immediate actions must be taken to secure the site, investigate the conditions, and render the area safe. Although the DDESB, the USACE, and the U.S. Army Environmental Center have UXO risk evaluation tools, UXO is not subject to a significance threshold in the NEPA sense. The presence of UXO should automatically be considered a major, direct, and negative impact on the environment and on project schedules and cost.

Presence of UXO on a site associated with the proposed action and alternatives should immediately trigger analysis of other alternatives for land use and facilities construction. Presence of UXO on sites associated with a particular alternative would, if not removed, eliminate that alternative from further consideration.

- *Mitigation*. Many methods have been described for reducing risks of exposure to UXO and ordnance, including the following:

  - Posting of signs announcing the presence of UXO. Multilingual signs may be appropriate at some installations.

  - Fencing around suspected sites to prevent accidental intrusion.

  - Community and school educational programs regarding the hazards of handling UXO.

  - Installation of devices to control releases of ordnance-related contaminants to surface and groundwater resources.

Data Sources

The sources available to provide data on ordnance use, past or present, are few. The primary source is the Range Management or Range Operations Office. The data quality will depend on whether the range is active, inactive, or closed. Data on inactive or closed ranges is difficult to find and when found is likely to be qualitative in nature. Much of the evaluation of impacts in the EA will require qualitative data and subjective review. Former military personnel may provide some information, but their recollections form low-quality data.

The DPW and the installation Environmental Office may have sources of information and data on UXO related to construction activities, related to field clearing for utility placement, and resulting from cultural resource evaluations. The IRP routinely requires UXO detection, identification, and removal prior to remediation, monitoring, or mitigation, and consequently may have additional data and insight regarding UXO locations on the installation.

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CHAPTER 6.0:
DOCUMENT REVIEW AND PROCESSING

For each NEPA analysis performed, the Army's goal is to complete a thorough technical review and review for legal sufficiency within a reasonable time period. This chapter identifies the steps associated with document review, processing, and approval for Army EAs that address RCI actions conducted within the United States.

NEPA analyses for Army RCI actions will typically be conducted at the installation level by the proponent (or through support to the proponent) and, in some cases, with assistance from the MACOM or USACE District Office. Final reviews and approvals of documents are provided by the Installation Commander and his or her staff. The following steps begin with review of the Draft EA. Variations in complexity and issues associated with a particular EA, however, will sometimes cause these steps, the participants involved, and the roles of participants to change. In processing EAs and FNSIs, some installations and MACOMs might also have requirements different from or more specific than those defined here. It is, therefore, important for the proponent to review these steps with the installation Environmental Office early in the EA development process to ensure proper planning and coordination (particularly MACOM coordination) and to allow for adequate review time.

6.1 REVIEW OF THE DRAFT EA

Upon completion of the Draft EA, the document is staffed with the appropriate installation personnel. For RCI actions, these will normally include the offices of Environmental, Legal, Public Affairs, Real Property, and Public Works. A draft FNSI or NOI may or may not be included at this time, depending on MACOM or installation policies. Initial consultations with appropriate outside agencies (i.e., federal, state, and local) should also be completed at this early stage of the EA process. Depending on the interests of outside agencies and the potential effects of the activities associated with the project, it is sometimes useful to have such agencies review all or relevant portions of the Draft EA to help ensure that major issues are resolved before documentation is completed.

The installation Environmental Office is usually the designated point of contact for facilitating the EA process by that installation and for coordinating with the MACOM and any outside agencies. Depending on the extent of comments received, an In-Progress Review meeting can be held with the appropriate reviewers to resolve outstanding issues and concerns. Once appropriate review of the Draft EA has been completed, comments are incorporated, the document is revised, and the Final EA is produced. If the EA concludes that there are no significant effects, a Draft FNSI should be prepared by this time. If a FNSI cannot be supported, the proponent may choose to modify or terminate the proposal or proceed to an EIS. If the proponent chooses to proceed to an EIS, the installation Environmental Office should contact the MACOM Environmental Office to coordinate initiation of the EIS process.

6.2 REVIEW AND APPROVAL OF THE FINAL EA AND DRAFT FNSI

Upon completion of the Final EA, the EA and Draft FNSI are staffed within the installation for review and comment through a process similar to that used for the Draft EA (see above). During this final review, the installation Staff Judge Advocate Office provides a review for legal sufficiency of the document to ensure that all relevant legal issues have been addressed. Based on comments received, the proponent makes any necessary changes to the EA and FNSI, which are then submitted to the Installation Commander for approval. Upon receipt of the Commander's approval and signature, the EA and FNSI may be released to the public prior to making a final decision or initiating the action. A copy of the approved EA and FNSI is also maintained at the installation Environmental Office.

6.3 PUBLIC REVIEW OF THE FINAL EA AND FNSI

The proponent is responsible for publishing and releasing the FNSI for a minimum 30-day public review period. Although rarely done, requests for a review period of less than 30 days must be directed to the MACOM Environmental Office for approval. It is recommended that the Final EA be made available, with the FNSI, for public review. Copies of the EA, FNSI, and important reference documents (e.g., documents incorporated into the EA by reference) should also be made

available for public review at a facility(ies) near the installation that is (are) open beyond normal work hours (e.g., a local community public library).

Initiation and notification for the public review period are accomplished through publication of a display advertisement (Figure 6-1) and/or legal notice in at least one local newspaper of general circulation. The frequency for placement of such notices is dictated by the frequency of newspaper circulation (e.g., daily or biweekly), the extent of environmental issues raised by the proposed action, and the potential for community concern. An EA/FNSI for a project with few issues and limited concerns may require public notices to be published only once. In the case of a potentially controversial project, where it is of particular importance for the public to be well informed, the publication of newspaper notices on 2 or 3 separate days over the span of a week might be more appropriate. The display advertisement is prepared by the proponent, in coordination with the installation Environmental Office and Public Affairs Office (PAO). The PAO (or its designee) is then responsible for placing the notices with the local newspaper(s). This office is also the normal point of contact for any inquiries from the news media.

The proponent may not take any action, other than planning, until the public review period has concluded. Although the proponent is not required to respond to public comments on the Final EA and FNSI, it is advisable to provide some form of response (by means of letter, phone call, or meeting) for substantive comments made. If no substantive comments are received during this period, the proponent may initiate the action. Depending on public reaction to the EA and FNSI, it might be necessary to extend the review period, hold a public meeting(s), or announce a revision to the EA if public concern has the likelihood of hindering initiation of the project. Substantive public controversy could suggest the need to prepare an EIS to resolve reasonable disagreement on the effects of the proposed action. All such actions require close coordination between the proponent, installation Environmental Office, and PAO.

Public Notice

Availability of Environmental Assessment and Finding of No Significant Impact

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act and Army Regulation 200-2, *Environmental Effects of Army Actions*, the U.S. Army conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with implementing the Army's Residential Communities Initiative at Fort Academic, Virginia. The proposed action involves obtaining private sector funding for construction, maintenance, management, renovation, replacement, rehabilitation, and development of family housing and ancillary support facilities on post.

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

Fort Academic plans to initiate this action 30 days from the date of this publication. Copies of the EA and FNSI may be obtained by contacting Mr. Robert Ludlow at the Public Affairs Office, P.O. Box 1923, Fort Academic, Virginia 23604. The EA and FNSI are also available for review at the following locations: the installation library located in Building 412 at Fort Academic and the Christopher Newport University Library, 50 Shoe Lane, Newport News, Virginia 23606.

Figure 6-1

Sample Display Advertisement

APPENDIX A

ENVIRONMENTAL LAWS AND REGULATIONS

ENVIRONMENTAL LAWS AND REGULATIONS

This appendix provides information on environmental laws and regulations relevant to the U.S. Army Residential Communities Initiative. All federal statutes and Executive orders referenced in the NEPA Manual are described in the following sections.

FEDERAL STATUTES

American Indian Religious Freedom Act (AIRFA)

AIRFA establishes a U.S. policy to "protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise traditional religions. . .including but not limited to access to sites." The purpose of this act is to reaffirm the First Amendment's guarantee of religious freedom for American Indians.

Compliance with AIRFA implies the need to consult with Native Americans and Hawaiians about traditional religious and cultural sites on Army lands, and on possible ways to protect and provide access to such sites.

Antiquities Act of 1906

The Antiquities Act of 1906 prohibits the excavation, collection, removal, and disturbance of historic and prehistoric ruins and objects of antiquity (as referenced in the Antiquities Act) on federally owned or controlled property. The act provides for criminal penalties for anyone desecrating, injuring, excavating, or otherwise destroying any historic or prehistoric ruin or monument without express federal permission. The Antiquities Act permit has been replaced by the permit required under ARPA.

Archeological and Historic Data Preservation Act of 1974 (AHPA)

The AHPA specifically provides for the survey and recovery of scientifically significant data that might be irreparably lost as a result of any alteration of the terrain from a federal construction project or federally licensed project, activity, or program.

Archeological Resources Protection Act of 1979 (ARPA)

The ARPA prohibits the removal, sale, receipt, and interstate transportation of archeological resources from public or Indian lands without a permit. Permits are required to excavate and remove those cultural remains covered by the act. The permit process is intended to ensure that individuals and organizations working with federal resources have the necessary professional qualifications and that federal standards and guidelines for research and curation are followed. Violation of ARPA may result in the assessment of civil or criminal penalties and forfeiture of vehicles and equipment that were used in connection with the violation.

Bald and Golden Eagle Protection Act

Under the Bald and Golden Eagle Protection Act, it is illegal to possess, sell, transport, or trade American bald or golden eagles, dead or alive, their nests, or their eggs. A permit can be issued by the Secretary of the Interior for the taking or transporting of eagles for scientific, exhibition, and religious purposes or the transporting of nests if they interfere with resource development. Searches, seizures, and arrests are authorized by this act for the purpose of enforcement.

The construction of new housing, expansion of existing utilities, and/or installation of new utilities in connection with the RCI must be done in such a manner as to avoid disturbance of bald and golden eagles. If a nest is discovered in the affected area, a permit must be obtained to transport it to another site.

Clean Air Act (CAA)

The CAA is intended to protect and enhance the nation's air resources so as to promote public health and welfare and the productive capabilities of its population. The CAA established National Ambient Air Quality Standards (NAAQS) for carbon monoxide, total suspended particulates, sulfur dioxide, hydrocarbons, nitrogen dioxide, and photochemical oxidants. In 1976, NAAQS for lead were established. In 1979, the photochemical oxidants standard was revised and restated as an ozone standard. The hydrocarbon standard was withdrawn in 1983. In 1987, the total suspended particulates standard was reviewed and revised to include only particles with an aerodynamic particulate diameter of less than or equal to 10 microns, referred to as PM_{10}.

The Clean Air Act Amendments of 1990 (CAAA) strengthened the CAA. The Amendments gave the U.S. Environmental Protection Agency (U.S. EPA) the authority to designate counties and Metropolitan Statistical Areas that do not meet the NAAQS as nonattainment areas. If an area is designated as a nonattainment area, it must achieve the NAAQS by a specified date based on the concentration of the pollutant in the air. Also, the construction of any new major source of a pollutant in a nonattainment area for that pollutant requires a permit, and the new source must be equipped with pollution controls to ensure the lowest achievable emissions. In addition, if the new source is located near a Class I area (national parks and wilderness areas), the impact on visibility must be assessed.

Clean Water Act (CWA) of 1977

The Federal Clean Water Act of 1977 (33 U.S.C. 1251 et seq.) is the primary law regulating water pollution in surface waters. Under the CWA it is illegal to discharge pollutants from a point source into the navigable waters of the United States (including interstate and intrastate lakes, rivers, streams, wetlands, playa lakes, prairie potholes, mudflats, seasonal streams, and wet meadows), except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Relevant sections include the following:

- Section 208, which requires that states develop programs to identify and control nonpoint sources of pollution, including runoff.

- Section 303, which requires states to establish and enforce water quality standards to protect and enhance the beneficial uses of water for such purposes as recreation and fisheries.

- Section 304(a)(1), which requires the EPA administrator to publish criteria for water quality that reflect the latest scientific knowledge of the effects of pollutants in any body of water.

- Section 313(a), which requires that federal agencies observe state and local water quality regulations.

- Section 401, the State Water Quality Certification program, which requires states to certify compliance of federal permits or licenses with state water quality requirements and other applicable state laws. Under Section 401, states have the authority to review any federal permit or license that may result in a discharge to wetlands and other waters under state jurisdiction, to ensure that the actions would be consistent with state water quality standards or requirements. Federal permits that do not meet the state water quality requirements cannot receive a Water Quality Certification and therefore cannot be issued. The certification process is usually delegated to the state agency with the authority to regulate the quality of state waters.

- Section 404, which regulates the placement of dredged or fill material into waters of the United States, including wetlands. The act authorizes the issuance of permits for such discharges as long as the proposed activity complies with environmental requirements specified in Section 404(b)(1) of the act. Section 404, which is administered by the USACE and EPA, is the primary federal program regulating activities in wetlands. The USACE is the permitting agency.

Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) of 1972, 16 U.S.C. Section 1451 et seq., is the federal law that protects the nation's coastline. Guidelines set forth in CZMA direct coastal states and territories to develop programs for the management, beneficial use, protection, and development of their land and water resources through protecting natural resources, managing development, providing public access, and establishing pollution controls. It delegates responsibility to coastal states to exercise their responsibilities as owners of coastal zone areas to develop and implement management programs to achieve wise use of coastal land and water resources. Federal agencies proposing activities or development projects are required to assure that the activities or projects are consistent, to the maximum extent practicable, with the approved state programs.

Coastal Zone Management Improvement Act of 1980

The Coastal Zone Management Improvement Act of 1980 provides for the development of special area management plans (SAMPS) for areas of the coastal zone that are considered to be of particular importance. A SAMP is a comprehensive plan that provides for natural resource protection and reasonable coast-dependent economic growth. It contains a detailed and comprehensive statement of policies, and standards and criteria to guide public and private uses of lands and waters.

Coastal Zone Act Reauthorization Amendments (CZARA) of 1990

The Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 authorized the National Oceanic and Atmospheric Administration (NOAA) to undertake a Coastal Nonpoint Pollution Control Program. State

authorities are to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters (16 U.S.C.#1455(b)).

Community Environmental Response Facilitation Act (CERFA)

In October 1992, Congress amended Section 120(h) of CERCLA with the Community Environmental Response Facilitation Act (CERFA), Public Law 102-426. CERFA establishes new requirements for contamination assessment, cleanup, and regulatory agency notification and concurrence for identification of uncontaminated parcels.

CERFA requires federal agencies to identify uncontaminated parcels with regulatory concurrence. Contaminated parcels are evaluated and "qualified" with respect to their suitability for transfer. CERFA allows transfer by deed of remediated parcels at the point when successful operation of an approved remedy has been demonstrated to EPA.

CERFA requires that the identification of contaminated sites consider petroleum products as well as CERCLA hazardous substances. For property that is part of a facility listed on the National Priorities List, the site identification process cannot be considered complete until the EPA Administrator concurs. For real property not on the National Priorities List, site identification cannot be considered complete until the state concurs.

The law requires a transferring agency to provide a covenant, when transferring parcels identified as uncontaminated, that any response action or corrective action found necessary will be undertaken by the United States. The deed for such parcels is also to provide for a right of access to perform any additional response action, including appropriate investigations. Although CERFA does not mandate that the Army transfer real property identified as immediately available, it is the first step in satisfying the objective of identifying real property where no CERCLA-regulated hazardous substances or petroleum products were known to have been released or disposed of. The procedures mandated by CERFA will be observed in any property disposal actions under the RCI.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

CERCLA and its amendments, the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Omnibus Budget Reconciliation Act of 1990, provide liability and compensation cleanup and emergency response by the federal government for hazardous waste released into the environment and for the cleanup of inactive hazardous waste disposal sites. This act also established a fund financed by hazardous waste generators that is used to finance cleanup of sites when no responsible party can be found. Responsible parties are liable for all costs associated with the cleanup of hazardous waste sites. Sites are assessed and ranked according to the Environmental Protection Agency's hazard ranking system. The National Priorities List (NPL) consists of the most severely contaminated sites. Federal facilities are not eligible to receive financial assistance from the Superfund program.

Endangered Species Act (ESA)

The ESA protects fish, wildlife, and plant species that have been listed as endangered or threatened by the Secretary of the Interior or Secretary of Commerce. Under the act, federal agencies are required to ensure that any actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any endangered or threatened species or to result in the destruction of or substantial damage to its critical habitat.

In fulfilling its conservation responsibilities under the ESA, the Army works closely and cooperatively with the other federal agencies charged with enforcement of the act. These agencies include the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Consultation with these agencies and biological assessment procedures under Section 7 of the ESA should be integrated with NEPA procedures to the maximum extent feasible. Section 7(a)(2) of the ESA requires the Army to ensure that any action authorized, funded, or carried out by them is not likely to result in the destruction or adverse modification of critical habitat, which is defined in that act as specific geographic areas that are "essential to the conservation of the species."

Estuary Protection Act

The Estuary Protection Act requires federal agencies to take into account estuaries and their natural resources when planning development for water or water related lands. An inventory and study of estuaries must be undertaken to facilitate estuary protection, conservation, and restoration, while balancing the need for development of these areas for other uses. Considerations to be made include wildlife and recreational potential of estuaries, ecological values, esthetic value, importance to navigation, and value of such areas for more intensive development for economic use. This act authorizes the Secretary of the Interior to discuss estuaries and surrounding resources and the potential impact of a planned action on them, as well as to give recommendations on the proposed actions.

Any RCI action (establishment of new housing complexes, expansion of existing complexes, installation of new utilities) involving surface disturbance in the watershed would fall under this act.

Farmland Protection Policy Act (FPPA) of 1981

Farmland Protection Policy Act (FPPA) of 1981 (Title 7 of the *Code of Federal Regulations* [CFR], Part 658; The Natural Resources Conservation Service [NRCS] Final Rule, Farmland Policy, revised January 1, 1998) states that "the purpose of the Act is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses" and "to ensure that [Federal agency] programs, to the extent practicable, are compatible with State and units of local government and private programs and policies to protect farmland." The Act requires the Department of Agriculture to develop criteria for assessing the effects of federal programs on the conversion of farmland to nonagricultural uses. Section 4208 (b) of the Act also states that none of the provisions or other requirements of this the Act shall apply to the acquisition or use of farmland for "national defense purposes during a national emergency."

Federal agencies involved in proposed projects that may convert farmland to nonagricultural use must complete Farmland Conversion Impact Rating Form AD-1006 to determine whether the site is farmland subject to the FPPA.

Federal Facilities Compliance Act (FFCA) of 1992

The FFCA provides for a waiver of sovereign immunity with respect to all procedural requirements relating to Resource Conservation and Recovery Act (RCRA) solid and hazardous waste laws and regulations at federal facilities. The FFCA gives any state that has an authorized hazardous waste program the authority to conduct an inspection of any facility that manages hazardous waste, including federal facilities, for the purpose of enforcing the facilities' compliance with the state's program. Any funds received by the state from federal facilities must be used to improve hazardous waste facilities, protect the environment, or defray the costs of enforcement if these funds have not already been allocated a use by the state's constitution. The act also gives EPA authorization to annually inspect federal facilities that treat, store, or dispose of hazardous waste.

Section 107 of the FFCA amended RCRA and required EPA to promulgate regulations identifying when conventional and chemical military munitions become hazardous waste subject to RCRA Subtitle C regulations.

The Army RCI projects may include activities such as construction, demolition, support activities, and facility maintenance that could involve hazardous materials and/or generate hazardous wastes. In these cases, FFCA regulations would have to be followed.

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

FIFRA regulates the use of pesticides. Before a pesticide can be sold in the United States, it must be approved by EPA, showing that it meets criteria set forth regarding the quantity, quality, and impact upon the environment by the active ingredient(s). If it is found to pose an unreasonable risk to the environment, EPA is authorized to suspend or restrict its use. All pesticides approved by EPA must be labeled showing approved uses and restrictions. It is a violation of law to use a pesticide in a manner inconsistent with its label. A list of all registered pesticides must be made available by EPA according to the classification and certification by specific use. EPA is also required to establish regulations for the storage and disposal of containers, excess chemicals, and pesticides for which registration has been canceled. Under emergency conditions, the EPA Administrator can exempt any federal or state agency from this act.

Support activities for RCI projectss may store and use hazardous materials such as pesticides and herbicides for cleaning, maintenance, and refurbishment of housing units. These substances could be used only according to the specific instructions on the label.

Federal Land Policy and Management Act (FLPMA) of 1976

Enacted by Congress "to establish public land policy; to establish guidelines for its administration; to provide for management, protection, development, and enhancement of the public lands; and for other purposes," the FLPMA (43 U.S.C. 1701-1784) is the primary legislation guiding the Bureau of Land Management (BLM)

in its responsibility to manage the public lands and resources. In addition, it requires the Department of Agriculture to develop, maintain, and revise land and resource management plans for lands in the National Forest System. It provides for public participation in public lands policy making, authorizes the Interior Department to regulate grazing, and orders the BLM to identify wilderness study areas and make recommendations concerning creation of new wilderness areas.

This act declares that all public lands will be retained in federal ownership unless another use is determined to better serve the interests of the nation. It gives direction to agencies regarding the activities that would result in the "withdrawal" of lands from public use. The Department of Defense is directed to manage lands under their jurisdiction or adjacent lands in accordance with this act.

Federal Soil Conservation Law

Federal Soil Conservation Law (16 USGS 590a), by Congressional policy, "provides permanently for the control and prevention of soil erosion by preventive measures, including, but not limited to, engineering operations, methods of cultivation, growing of vegetation, and changes in land use."

This law would apply to RCI projects during the construction process. The leveling and grading of surfaces for the construction of new buildings could result in soil erosion if not done properly. In addition, construction of new buildings, roads, and parking lots could increase the amount of surface runoff and therefore increase erosion as well.

Fish and Wildlife Coordination Act of 1980

The purpose of this act is to ensure that wildlife conservation receives equal consideration and is coordinated with other water resources development programs. This act authorizes the Secretary of the Interior to assist federal, state, and public or private organizations in the conservation and rehabilitation of wildlife. It applies whenever waters greater than or equal to 10 acres in size are proposed or authorized to be impounded, diverted, controlled, or otherwise modified. In these cases, the USACE must consult with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the relevant state agency administering wildlife resources. The goal of the consultation to prevent loss of, and damages to, wildlife resources while still providing for necessary water resources development.

The effect on wildlife species and their habitats must be taken into consideration when planning RCI projects. The construction of new housing, expansion of facilities, or installation of new utilities would cause disturbance in naturally vegetated areas, having a direct impact on wildlife resources.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.) is intended to protect the nation from risks to life and property associated with the transportation of hazardous materials in commerce. Under the act, if the transportation of a particular quantity and form of material poses unreasonable risks to the health and safety of property, it may be classified as a hazardous material. Hazardous material is subject to transportation regulations, which include packing, labeling, and routing requirements, and handling regulations, which include number of personnel, level of training, and type and frequency of training.

Lead Contamination Control Act of 1988

The Lead Contamination Control Act of 1988 requires states to develop lead monitoring programs for housing drinking water systems. It specifies that installations must use lead-free plumbing when replacing plumbing components. This act applies to RCI projects when expansions of existing water systems or installations of new water systems are necessary.

Magnuson-Stevens Fisheries Management and Conservation Act (MSFMCA)

The Magnuson-Stevens Fisheries Management and Conservation Act (MSFMCA) promotes and establishes standards for sound conservation management principles concerning commercial and recreational fisheries. It directs the Secretary of Commerce to establish guidelines based on the national standards to aid in the development of fishery management plans. These plans are prepared, monitored, and revised by eight Regional Fishery Management Councils set forth in the act.

The 1996 amendments to the act require the designation of essential fish habitats (EFH) for federally managed species of fish and shellfish. Any actions authorized, funded, or undertaken by federal agencies that may adversely affect EFH for these species require consultation with the National Marine Fisheries Service. Actions that will not adversely affect EFH do not require consultation. This act would apply to RCI actions if activities are taking place in the vicinity of water bodies with designated EFH.

Marine Mammal Protection Act

The Marine Mammal Act is intended to protect species of marine mammals that are in danger of extinction or depletion. Unlike the ESA, this act gives the states the right to determine which species are below the optimum population level and should therefore be protected. Permits for the taking of marine mammals may be issued through the Secretary of the Interior. The effect of RCI actions (construction of new housing, expansion, installation of utilities) on sensitive marine mammal species must be taken into consideration.

Marine Protection, Research, and Sanctuaries Act

This act regulates the dumping of materials into ocean waters. It is intended to prevent or restrict dumping of materials that may be hazardous to human health and welfare, the marine environment, ecological systems, or economic potentialities. The dumping of dredged material is controlled through a permit process. In addition, this act established the Marine Sanctuaries Program, which gives the power to designate specific ocean areas as sanctuaries to preserve or restore them.

Any construction activities involving disturbance of surface area in the watershed could result in damages to the marine environment. If dumping of dredged materials is needed during an RCI project, a permit must be obtained.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act enforces international conventions for the protection of migratory birds. It provides protection for essentially all species of birds, excluding the rock dove, house sparrow, and European

starling. The act makes it illegal to kill migratory birds or disturb nests or eggs of protected species. The act also establishes hunting seasons, bag limits, and methods of harvest on certain species. This act would apply to RCI actions that result in the disturbance or temporary loss of vegetation affecting the habitat or nests of protected species.

National Historic Preservation Act of 1966, as amended (NHPA)

NHPA requires identification and stewardship of properties included in or eligible for inclusion in the National Register of Historic Places. It requires the Army to give priority to the use of such properties for mission and other purposes. NHPA requires the Army to consider the effects of any action on such properties. The NHPA and regulations implementing section 106 (36 CFR Part 800) also provide the means for determining the effect a particular undertaking or action might have on historic resources. The section 106 consultation process is the means by which a federal agency may make decisions on the treatment and protection of historic properties. The three major sections of NHPA that affect the RCI process are Section 106 (the consultation process), Section 110 (preservation planning and federal agency responsibilities), and Section 111 (leases, transfer of property, and management contracts).

National Primary Drinking Water Regulation

As part of the Safe Drinking Water Act, the National Primary Drinking Water Regulations (40 CFR Parts 104-149), adopted by EPA, define maximum contaminant levels in public water systems. These levels must not be exceeded with the installation or expansion of water systems at RCI housing projects.

National Trails Systems Act

In 1968, Congress enacted the National Trail Systems Act "to provide for recreation, public access, enjoyment, and appreciation of the "open-air, outdoor areas and historic resources of the Nation" (U.S. Code Title 16 - Conservation, Chapter 27-National Trails System). This act establishes the National Trail System, composed of recreation trails, scenic trails, historic trails, connecting or side trails, and uniform markers. The appropriate Secretary may issue regulations for the use, protection, management, and development of trail right-of-way. When planning RCI actions, the aesthetic value and use of the surrounding land must be considered. If the area is used for trails, attention must be given to the impact of new projects on the viewsheds from these trails.

National Wild and Scenic Rivers Act

Passed in 1968, this law is landmark legislation that established that certain selected rivers in the United States have "outstanding remarkable" values and therefore should be preserved in their free-flowing condition. The act prevents development of federally licensed dams, diversions, and other on-river development on these designated rivers. The act recognizes three designations of river—wild, scenic, and recreational. This act would apply to any RCI actions in areas near designated rivers. New construction would have to be planned to make sure that the aesthetic and visual resources of these rivers would not be adversely affected.

Native American Graves Protection and Repatriation Act (NAGPRA)

NAGPRA establishes that Native Americans (Indian tribes and Native Hawaiians) own the remains of their ancestors, certain goods associated with ancestral graves, and some artifacts that bear significance to their entire society, called "cultural patrimony." This law imposes consultation requirements on the Army in connection with RCI projects. The requirements include consultation with Native American groups about any excavation of remains these groups own under the law (for example, in advance of construction of new housing). In the event such items are discovered during construction, work in the vicinity must halt for at least 30 days while further consultation occurs.

Noise Control Act of 1972

The Noise Control Act of 1972 (Public Law 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. EPA administers the Noise Control Act and has identified 55 dBA as a desirable noise level for residential use. Although not a binding law, it is a benchmark for state and local agencies for setting noise zone guidelines. Noise control issues are generally handled at the local government level, where they are usually controlled by nuisance ordinances.

Local noise regulations are usually structured to keep new, permanent noise-generating sources out of noise-sensitive areas. Construction, which is a temporary noise-generating activity, is exempted from the provisions of local noise ordinances if the construction activity is restricted to daytime hours.

Pollution Prevention Act of 1990

The Pollution Prevention Act establishes a national policy of pollution prevention through source reduction of hazardous materials or through recycling, treatment, and disposal of hazardous waste, in that order of priority. The act stipulates the establishment of a nationwide source-reduction program and a strategy for quantifying source-reduction efforts. The act also authorizes grants to states for programs to promote the use of source reduction by businesses and a Source Reduction Clearinghouse to provide for the easier exchange of information on source reduction techniques.

The act also requires operators of facilities that are required to file an annual toxic chemical release form under the Emergency Planning and Community Right-to-Know Act, Section 313, to also include a toxic source reduction and recycling report in their filing.

Resource Conservation and Recovery Act (RCRA)

RCRA is intended to promote the protection of both health and the environment and to conserve valuable materials and energy resources. The act regulates the treatment, storage, transportation, and disposal of hazardous waste and nonhazardous solid waste. It also regulates the operation of underground tanks used to store petroleum products and hazardous materials. Many states have authority to enforce RCRA within their jurisdiction. Some states may have provided additional regulatory requirements beyond those specified under RCRA. A wide range of activities associated with RCI projects-construction, maintenance, renovation, etc.-might involve the use of hazardous materials. Hazardous materials and toxic substances would have to be handled, stored, transported, and disposed of according to RCRA guidelines.

River and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act requires a permit for dredging or the placement of fill or structures in navigable waters of the United States, which include waters subject to the ebb and flow of the tide and/or waters that are currently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Section 10 is similar to Section 404 of the Clean Water Act; however, Section 404 covers all waters of the United States without regard to their navigability and therefore is much broader in scope. Section 10 is often not applicable to wetlands because of the broader geographical reach of Section 404. The USACE often combines Section 10 and Section 404 review where their coverage overlaps in the permit review process. It is important to contact the appropriate USACE district office to ensure proper compliance with both Section 10 and Section 404 when a project may concern a waterway or a wetland.

Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (40 U.S.C. 100 et seq.) directs EPA to develop national drinking water regulations for public water systems and directs states to establish programs that protect areas around wellheads. The 1996 amendments establish a strong emphasis on source water protection and enhanced water system management.

The Safe Drinking Water Act (SDWA), enacted in 1974, authorized EPA to regulate contaminants in public drinking water systems. Potable water supply quality must conform to standards set forth under the SDWA and all applicable State and local regulations. The SDWA applies only to "public drinking water systems" although many privately owned drinking water systems fall under the jurisdiction of the act. A public drinking water system refers to a system for the provision to the public of piped water for human consumption. The system must include at least 15 service connections or regularly serve at least 25 individuals.

EPA may grant exceptions to the SDWA in the form of variances or exemptions. If a public water system cannot meet requirements set forth under the SDWA because of the characteristics of the raw water sources available to the system or if a public water supply cannot meet an applicable maximum contaminant level, for reasons other than its raw water supply regulation imposing the use of a treatment technology, the system may be granted an exemption. Unlike a variance, an exemption is granted only for 3 years. This act would apply to all RCI projects that would involve disturbance of the land surface and could therefore have direct impacts on water quality.

Sikes Act

The Sikes Act requires the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations; the sustainable multipurpose use of the resources, which will include hunting, fishing, trapping, and nonconsumptive uses; and, subject to safety requirements and military security, public access to military installations to facilitate the use. To facilitate the program, the Secretary of the Army is required to prepare and implement integrated natural resources management plans. This act would apply to RCI projects, requiring them to be planned so as to provide for the conservation of natural resources.

Soil Conservation and Domestic Allotment Act

The purpose of the Soil Conservation and Domestic Allotment Act is to control and prevent soil erosion on public lands to preserve natural resources, control floods, prevent impairment to reservoirs, maintain the navigability of rivers and harbors, and maintain public health. In accordance with this act, RCI projects would have to be planned so as to reduce the potential for soil erosion. Construction, such as the building of new houses or paving of roads, can increase soil erosion substantially if not done properly.

Solid Waste Disposal Act (SWDA) of 1976

The SWDA was intended to initiate research and development programs for solid waste disposal methods, with provisions for recycling and recovery. It provides technical and financial assistance to state and local governments in the research and development of new and improved programs.

RCI projects produce both short-term and long-term solid waste. Short-term waste from construction activities must be disposed of to prevent threats to human health and the environment. Permanent increases in waste production would result from new housing units. In accordance with this act, programs would have to be developed to compensate for the additional waste load.

Toxic Substances Control Act (TSCA)

TSCA requires EPA to evaluate chemical substances and mixtures before they are used to determine if they constitute an unreasonable risk to health or the environment. If EPA has determined that chemical substances or mixtures constitute a risk, it has the ability to regulate their manufacture, use, labeling, and disposal. If EPA has determined that a chemical substance or mixture is extremely hazardous, posing an unreasonable risk of serious or widespread injury, it has the authority to seize the substance or notify the purchaser and/or the public of the risks associated with its use. Bans on the manufacture of polychlorinated biphenyls (PCBs) and bans on the use of chlorofluorocarbon (CFC) propellants are also included under TSCA. All toxic substances used during RCI construction, maintenance, or other activities must be used and disposed of according to TSCA regulations.

EXECUTIVE ORDERS

Executive Order 11207, Coordination of Federal Programs Affecting Agricultural and Rural Area Development

Executive Order 11207 promotes cooperation among federal departments and agencies to achieve consistent administration programs affecting agricultural and rural area development.

Executive Order 11988, Floodplain Management

Executive Order 11988 directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains.

Impacts on the floodplain are regulated by state and local jurisdictions. In most instances, new construction is discouraged within the 100-year floodplain. Permits that allow structure in the floodplain typically require base floor levels to be higher than the elevation of the 100-year floodplain boundary.

Executive Order 11990, Protection of Wetlands

Executive Order 11190 directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands.

Executive Order 12088, Federal Compliance with Pollution Control Standards

Under Executive Order 12088, federal agencies are responsible for prevention, control, and abatement of environmental pollution from facilities and activities under their control and for compliance with applicable pollution control standards, including those established pursuant to the Noise Control Act.

Executive Order 12372, Intergovernmental Review of Federal Programs

Executive Order 12372 directs federal agencies to consult with and solicit comments from state and local government officials whose jurisdictions would be affected by federal actions.

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

Executive Order 12856 requires that the head of each federal agency be responsible for ensuring that all necessary actions are taken for the prevention of pollution with respect to the agency's activities and facilities. The head of each federal agency also is responsible for ensuring that the agency complies with pollution prevention, emergency planning, and community right-to-know provisions established pursuant to 42 U.S.C. 13101 et seq., the Pollution Prevention Act, and 42 U.S.C. 11001 et seq., EPCRA (amendments to CERCLA).

Executive Order 12873, Federal Acquisition, Recycling, and Waste Reduction

Executive Order 12873 addresses the entire solid waste cycle by requiring waste reduction targets, recycling goals, and an affirmative program to purchase recycled and environmentally preferable products. Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements," also deals with waste reductions.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations

Executive Order 12898 is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. Environmental justice analyses are performed to identify potential disproportionately high and adverse impacts from proposed actions and to identify alternatives that might mitigate these impacts.

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045 seeks to protect children from disproportionately incurring environmental health risks or safety risks that might arise as a result of Army policies, programs, activities, and standards. The presence of children at the affected site, particularly with respect to children residing in on base housing, must be considered. Additional necessary information would include description of Army actions to protect children on base, including the use of fencing, limitations on access to certain areas, and provisions for adult supervision.

APPENDIX B

SAMPLE NOTICE OF INTENT

DEPARTMENT OF THE ARMY
OFFICE OF THE SECRETARY OF THE ARMY

PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT FOR IMPLEMENTATION OF THE ARMY RESIDENTIAL COMMUNITIES INITIATIVE AT FORT ACADEMIC, VIRGINIA

AGENCY: Department of Defense, United States Army

ACTION: Notice of Intent (NOI)

SUMMARY: This NOI is for the preparation of an Environmental Impact Statement (EIS) for the implementation of the Army Residential Communities Initiative (RCI), in order to obtain private sector construction, maintenance, management, renovation, replacement, rehabilitation, and development of family housing and ancillary support facilities. Under the proposal, Fort Academic would join with Upright Development Corporation (UDC) in implementation of a jointly developed Community Development and Management Plan (CDMP) for the improvement of family housing. Under the CDMP, UDC would completely renovate 750 family housing units, demolish another 200 family housing units that cannot be economically renovated, and construct 350 new housing units. The CDMP would also require that UDC operate and maintain all family housing for a period of 50 years, as well as construct, operate, and maintain ancillary support facilities. Alternatives to the proposed action that will be considered include:

a. Partial Privatization

b. Private Sector Reliance

c. Off-Post Leasing

d. No Action

SCOPING PROCESS: Comments received as a result of this notice will be used to assist the Army in identifying potential impacts on the quality of the human and natural environment. Individuals and organizations are invited to participate in the scoping meeting to be held at the Newport News Municipal Building in the spring of 2000 (tentative). Notification of the time and location of the scoping meeting will

be announced in local newspapers and other media. In addition, individuals or organizations may participate in the scoping process by sending written questions and comments to the address below. Fort Academic's Installation Commander is the proponent for this action and the scoping process.

ADDRESSEE: Questions regarding this proposal or written comments should be forwarded to Mr. Robert Ludlow, Public Affairs Office, P.O. Box 1923, Fort Academic, Virginia, 23604. Comments and suggestions should be received at Fort Academic no later than 15 days following the public scoping meeting.

Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA(I,L&E)

APPENDIX C

SAMPLE PROJECT FILE AND ADMINISTRATIVE RECORD INDEX

Sample Project File
and
Administrative Record Index

FILE.1 Work Order Information

Preliminary scope of work and schedule
Cost estimates
Contracts

FILE.2 Project Administration

Project Management Plan
Quality Assurance Plan
Quality and technical review and audit
Progress reports

FILE.3 Internal Correspondence

FILE.4 Kickoff Meeting/Other Project Meetings

Meeting notes/action items list
Attendees list and phone numbers

FILE.5 Data/Modeling Results/Reference Materials

Previous investigations/reports
Photographs/maps
Relevant correspondence
Documents
Modeling Runs
Other relevant materials

FILE.6 Description of the Proposed Action and Alternatives (DOPAA)

Internal Review Draft DOPAA
DOPAA Questionnaires
Comments on DOPAA
Approved Draft DOPAA

FILE.7 Draft EA

Draft EA original (unbound)
Distribution list and letters
Comments received
In Progress Review meeting notes/action items (if applicable)

FILE.8 Final EA

Preliminary Final EA
Distribution list and letters
Comments received
In Progress Review meeting notes/action items (if applicable)
Approved and signed Final EA original (unbound)

FILE.9 Finding of No Significant Impact (FNSI)/Notice of Intent (NOI)

Draft FNSI/NOI
Comments on Draft FNSI/NOI
Approved and signed FNSI/NOI original

FILE.10 Agency Coordination and Consultations

Telephone conversation records
Meeting notes
Copies of faxes sent/received
Letters sent/received

FILE.11 Public Involvement

Public Affairs Plan (if applicable)
Telephone conversation records
Letters sent/received
Meeting notes and transcripts
Presentation materials used at public meetings and hearings
Newspaper clippings and other relevant news media information
Public notices and newspaper advertisements, including affidavits of publication
Newsletters and fact sheets
FNSI/EA distribution list and letters
Public comments received/responses sent

APPENDIX D

PRIME FARMLAND CONVERSION IMPACT RATING FORM AD-1006

U.S. DEPARTMENT OF AGRICULTURE

Form AD-1006

FARMLAND CONVERSION IMPACT RATING

PART 1 ***(To be completed by Federal Agency)***	1. Date of Land Evaluation Request	2. Sheet ____ of _____
3. Name of Project	4. Federal Agency Involved	
5. Proposed Land Use	6. County and State	7. Type of Project: Corridor ☐ Other ☐
PART II ***(To be completed by NRCS)***	1. Date Request Received by NRCS	2. Person Completing the NRCS parts of this form
3. Does the site or corridor contain prime, unique ,statewide or local important farmland? Yes ☐ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	4. Acres Irrigated	5. Average Farm Size
6. Major Crop(s)	7. Farmable Land in Government Jurisdiction Acres: %	8. Amount of Farmland As Defined in FPPA Acres: %
9. Name of Land Evaluation System Used	10. Name of Local Site Assessment System	11. Date Land Evaluation Returned by NRCS

PART III ***(To be completed by Federal Agency)***		**Alternative Site Rating**			
		Site A	**Site B**	**Site C**	**Site D**
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres in Site					
PART IV ***(To be completed by NRCS) Land Evaluation Information***					
A. Total Acres Prime and Unique Farmland					
B. Total Acres Statewide and Local Important Farmland					
C. Percentage of Farmland in County or Local Govt. Unit to be Converted					
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value					
PART V ***(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)***					
PART VI ***(To be completed by Federal Agency) Corridor or Site Assessment Criteria (These criteria are explained in*** **7 CFR 658.5(b & c))**	**Max. Points Corridor Other**				
1. Area in Nonurban Use	15 15				
2. Perimeter in Nonurban Use	10 10				
3. Percent of Site Being Farmed	20 20				
4. Protection Provided by State and Local Government	20 20				
5. Distance from Urban Built-up area	0 15				
6. Distance to Urban Support Services	0 15				
7. Size of Present Farm Unit Compared to Average	10 10				
8. Creation of Non-Farmable Farmland	25 10				
9. Availability of Farm Support Services	5 5				
10. On-Farm Investments	20 20				
11. Effects of Conversion on Farm Support Services	25 10				
12. Compatibility with Existing Agricultural Use	10 10				
TOTAL CORRIDOR OR SITE ASSESSMENT POINTS	160				
PART VII ***(To be completed by Federal Agency)***					
Relative Value of Farmland (from Part V above)	100				
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160				
TOTAL POINTS ***(Total of above 2 lines)***	260				

PART VIII ***(To be completed by Federal Agency after final alternative is chosen)***

1. Corridor or Site Selected:	2. Date of Selection:	3. Was A Local Site Assessment Used? Yes ☐ No ☐

4. Reason For Selection:

Signature of person completing the Federal Agency parts of this form:	DATE

APPENDIX E

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 1996 (10 U.S.C. 2871-2885)

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 1996

Public Law 104-106
104th Congress

An Act

To authorize appropriations for fiscal year 1996 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, to reform acquisition laws and information technology management of the Federal Government, and for other purposes. <<NOTE: Feb. 10, 1996 - [S. 1124]>>

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, <<NOTE: National Defense Authorization Act for Fiscal Year 1996.>>

TITLE XXVIII--GENERAL PROVISIONS

Subtitle A--Military Housing Privatization Initiative

SEC. 2801. ALTERNATIVE AUTHORITY FOR CONSTRUCTION AND IMPROVEMENT OF MILITARY HOUSING.

(a) Alternative Authority To Construct and Improve Military Housing.--(1) Chapter 169 of title 10, United States Code, is amended by adding at the end the following new subchapter:

``SUBCHAPTER IV--ALTERNATIVE AUTHORITY FOR ACQUISITION AND IMPROVEMENT OF MILITARY HOUSING

``Sec.
``2871. Definitions.
``2872. General authority.
``2873. Direct loans and loan guarantees.
``2874. Leasing of housing to be constructed.
``2875. Investments in nongovernmental entities.
``2876. Rental guarantees.
``2877. Differential lease payments.
``2878. Conveyance or lease of existing property and facilities.
``2879. Interim leases.
``2880. Unit size and type.
``2881. Ancillary supporting facilities.
``2882. Assignment of members of the armed forces to housing units.
``2883. Department of Defense Housing Funds.
``2884. Reports.
``2885. Expiration of authority.

``Sec. 2871. Definitions

``In this subchapter:

``(1) The term `ancillary supporting facilities' means facilities related to military housing units, including child care centers, day care centers, tot lots, community centers, housing offices, dining facilities, unit offices, and other similar facilities for the support of military housing.

``(2) The term `base closure law' means the following:

``(A) Section 2687 of this title.

``(B) Title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 10 U.S.C. 2687 note).

``(C) The Defense Base Closure and Realignment Act of 1990 (part A of title XXIX of Public Law 101-510; 10 U.S.C. 2687 note).

``(3) The term `construction' means the construction of military housing units and ancillary supporting facilities or the improvement or rehabilitation of existing units or ancillary supporting facilities.

``(4) The term `contract' includes any contract, lease, or other agreement entered into under the authority of this subchapter.

``(5) The term `Fund' means the Department of Defense Family Housing Improvement Fund or the Department of Defense Military Unaccompanied Housing Improvement Fund established under section 2883(a) of this title.

``(6) The term `military unaccompanied housing' means military housing intended to be occupied by members of the armed forces serving a tour of duty unaccompanied by dependents.

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``(7) The term `United States' includes the Commonwealth of Puerto Rico.

``Sec. 2872. General authority

``In addition to any other authority provided under this chapter for the acquisition or construction of military family housing or military unaccompanied housing, the Secretary concerned may exercise any authority or any combination of authorities provided under this subchapter in order to provide for the acquisition or construction by private persons of the following:

``(1) Family housing units on or near military installations within the United States and its territories and possessions.

``(2) Military unaccompanied housing units on or near such military installations.

``Sec. 2873. Direct loans and loan guarantees

``(a) Direct Loans.--(1) Subject to subsection (c), the Secretary concerned may make direct loans to persons in the private sector in order to provide funds to such persons for the acquisition or construction of housing units that the Secretary determines are suitable for use as military family housing or as military unaccompanied housing.

``(2) The Secretary concerned shall establish such terms and conditions with respect to loans made under this subsection as the Secretary considers appropriate to protect the interests of the United States, including the period and frequency for repayment of such loans and the obligations of the obligors on such loans upon default.

``(b) Loan Guarantees.--(1) Subject to subsection (c), the Secretary concerned may guarantee a loan made to any person in the private sector if the proceeds of the loan are to be used by the person to acquire, or construct housing units that the Secretary determines are suitable for use as military family housing or as military unaccompanied housing.

``(2) The amount of a guarantee on a loan that may be provided under paragraph (1) may not exceed the amount equal to the lesser of--

``(A) the amount equal to 80 percent of the value of the project; or

``(B) the amount of the outstanding principal of the loan.

``(3) The Secretary concerned shall establish such terms and conditions with respect to guarantees of loans under this subsection as the Secretary considers appropriate to protect the interests of the United States, including the rights and obligations of obligors of such loans and the rights and obligations of the United States with respect to such guarantees.

``(c) Limitation on Direct Loan and Guarantee Authority.--Direct loans and loan guarantees may be made under this section only to the extent that appropriations of budget authority to cover their cost (as defined in section 502(5) of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a(5))) are made in advance, or authority is otherwise provided in appropriation Acts. If such appropriation or other authority is provided, there may be established a financing account (as defined in section 502(7) of such Act (2 U.S.C. 661a(7))), which shall be available for the disbursement of direct loans or payment of claims for payment on loan guarantees under this

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section and for all other cash flows to and from the Government as a result of direct loans and guarantees made under this section.

``Sec. 2874. Leasing of housing to be constructed

``(a) Build and Lease Authorized.--The Secretary concerned may enter into contracts for the lease of military family housing units or military unaccompanied housing units to be constructed under this subchapter.

``(b) Lease Terms.--A contract under this section may be for any period that the Secretary concerned determines appropriate and may provide for the owner of the leased property to operate and maintain the property.

``Sec. 2875. Investments in nongovernmental entities

``(a) Investments Authorized.--The Secretary concerned may make investments in nongovernmental entities carrying out projects for the acquisition or construction of housing units suitable for use as military family housing or as military unaccompanied housing.

``(b) Forms of Investment.--An investment under this section may take the form of an acquisition of a limited partnership interest by the United States, a purchase of stock or other equity instruments by the

United States, a purchase of bonds or other debt instruments by the United States, or any combination of such forms of investment.

``(c) Limitation on Value of Investment.--(1) The cash amount of an investment under this section in a nongovernmental entity may not exceed an amount equal to 33\1/3\ percent of the capital cost (as determined by the Secretary concerned) of the project or projects that the entity proposes to carry out under this section with the investment.

``(2) If the Secretary concerned conveys land or facilities to a nongovernmental entity as all or part of an investment in the entity under this section, the total value of the investment by the Secretary under this section may not exceed an amount equal to 45 percent of the capital cost (as determined by the Secretary) of the project or projects that the entity proposes to carry out under this section with the investment.

``(3) In this subsection, the term `capital cost', with respect to a project for the acquisition or construction of housing, means the total amount of the costs included in the basis of the housing for Federal income tax purposes.

``(d) Collateral Incentive Agreements.--The Secretary concerned shall enter into collateral incentive agreements with nongovernmental entities in which the Secretary makes an investment under this section to ensure that a suitable preference will be afforded members of the armed forces and their dependents in the lease or purchase, as the case may be, of a reasonable number of the housing units covered by the investment.

``Sec. 2876. Rental guarantees

``The Secretary concerned may enter into agreements with private persons that acquire or construct military family housing units or military unaccompanied housing units under this subchapter in order to assure--

``(1) the occupancy of such units at levels specified in the agreements; or

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``(2) rental income derived from rental of such units at levels specified in the agreements.

``Sec. 2877. Differential lease payments

``Pursuant to an agreement entered into by the Secretary concerned and a private lessor of military family housing or military unaccompanied housing to members of the armed forces, the Secretary may pay the lessor an amount in addition to the rental payments for the housing made by the members as the Secretary determines appropriate to encourage the lessor to make the housing available to members of the armed forces as military family housing or as military unaccompanied housing.

``Sec. 2878. Conveyance or lease of existing property and facilities

``(a) Conveyance or Lease Authorized.--The Secretary concerned may convey or lease property or facilities (including ancillary supporting facilities) to private persons for purposes of using the proceeds of such conveyance or lease to carry out activities under this subchapter.

``(b) Inapplicability to Property at Installation Approved for Closure.--The authority of this section does not apply to property or facilities located on or near a military installation approved for closure under a base closure law.

``(c) Terms and Conditions.--(1) The conveyance or lease of property or facilities under this section shall be for such consideration and upon such terms and conditions as the Secretary concerned considers appropriate for the purposes of this subchapter and to protect the interests of the United States.

``(2) As part or all of the consideration for a conveyance or lease under this section, the purchaser or lessor (as the case may be) shall enter into an agreement with the Secretary to ensure that a suitable preference will be afforded members of the armed forces and their dependents in the lease or sublease of a reasonable number of the housing units covered by the conveyance or lease, as the case may be, or in the lease of other suitable housing units made available by the purchaser or lessee.

``(d) Inapplicability of Certain Property Management Laws.--The conveyance or lease of property or facilities under this section shall not be subject to the following provisions of law:

``(1) Section 2667 of this title.

``(2) The Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471 et seq.).

``(3) Section 321 of the Act of June 30, 1932 (commonly known as the Economy Act) (40 U.S.C. 303b).

``(4) Section 501 of the Stewart B. McKinney Homeless Assistance Act (42 U.S.C. 11401).

``Sec. 2879. Interim leases

``Pending completion of a project to acquire or construct military family housing units or military unaccompanied housing units under this subchapter, the Secretary concerned may provide for the interim lease of such units of the project as are complete. The term of a lease under this section may not extend beyond the date of the completion of the project concerned.

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``Sec. 2880. Unit size and type

``(a) Conformity With Similar Housing Units in Locale.--The Secretary concerned shall ensure that the room patterns and floor areas of military family housing units and military unaccompanied housing units acquired or constructed under this subchapter are generally comparable to the room patterns and floor areas of similar housing units in the locality concerned.

``(b) Inapplicability of Limitations on Space by Pay Grade.--(1) Section 2826 of this title shall not apply to military family housing units acquired or constructed under this subchapter.

``(2) The regulations prescribed under section 2856 of this title shall not apply to any military unaccompanied housing unit acquired or constructed under this subchapter unless the unit is located on a military installation.

``Sec. 2881. Ancillary supporting facilities

``Any project for the acquisition or construction of military family housing units or military unaccompanied housing units under this subchapter may include the acquisition or construction of ancillary supporting facilities for the housing units concerned.

``Sec. 2882. Assignment of members of the armed forces to housing units

``(a) In General.--The Secretary concerned may assign members of the armed forces to housing units acquired or constructed under this subchapter.

``(b) Effect of Certain Assignments on Entitlement to Housing Allowances.--(1) Except as provided in paragraph (2), housing referred to in subsection (a) shall be considered as quarters of the United States or a housing facility under the jurisdiction of a uniformed service for purposes of section 403(b) of title 37.

``(2) A member of the armed forces who is assigned in accordance with subsection (a) to a housing unit not owned or leased by the United States shall be entitled to a basic allowance for quarters under section 403 of title 37 and, if in a high housing cost area, a variable housing allowance under section 403a of that title.

``(c) Lease Payments Through Pay Allotments.--The Secretary concerned may require members of the armed forces who lease housing in housing units acquired or constructed under this subchapter to make lease payments for such housing pursuant to allotments of the pay of such members under section 701 of title 37.

``Sec. 2883. Department of Defense Housing Funds

``(a) Establishment.--There are hereby established on the books of the Treasury the following accounts:

``(1) The Department of Defense Family Housing Improvement Fund.

``(2) The Department of Defense Military Unaccompanied Housing Improvement Fund.

``(b) Commingling of Funds Prohibited.--(1) The Secretary of Defense shall administer each Fund separately.

``(2) Amounts in the Department of Defense Family Housing Improvement Fund may be used only to carry out activities under this subchapter with respect to military family housing.

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``(3) Amounts in the Department of Defense Military Unaccompanied Housing Improvement Fund may be used only to carry out activities under this subchapter with respect to military unaccompanied housing.

``(c) Credits to Funds.--(1) There shall be credited to the Department of Defense Family Housing Improvement Fund the following:

``(A) Amounts authorized for and appropriated to that Fund.

``(B) Subject to subsection (f), any amounts that the Secretary of Defense transfers, in such amounts as provided in appropriation Acts, to that Fund from amounts authorized and appropriated to the Department of Defense for the acquisition or construction of military family housing.

``(C) Proceeds from the conveyance or lease of property or facilities under section 2878 of this title for the purpose of

carrying out activities under this subchapter with respect to military family housing.

``(D) Income derived from any activities under this subchapter with respect to military family housing, including interest on loans made under section 2873 of this title, income and gains realized from investments under section 2875 of this title, and any return of capital invested as part of such investments.

``(2) There shall be credited to the Department of Defense Military Unaccompanied Housing Improvement Fund the following:

``(A) Amounts authorized for and appropriated to that Fund.

``(B) Subject to subsection (f), any amounts that the Secretary of Defense transfers, in such amounts as provided in appropriation Acts, to that Fund from amounts authorized and appropriated to the Department of Defense for the acquisition or construction of military unaccompanied housing.

``(C) Proceeds from the conveyance or lease of property or facilities under section 2878 of this title for the purpose of carrying out activities under this subchapter with respect to military unaccompanied housing.

``(D) Income derived from any activities under this subchapter with respect to military unaccompanied housing, including interest on loans made under section 2873 of this title, income and gains realized from investments under section 2875 of this title, and any return of capital invested as part of such investments.

``(d) Use of Amounts in Funds.--(1) In such amounts as provided in appropriation Acts and except as provided in subsection (e), the Secretary of Defense may use amounts in the Department of Defense Family Housing Improvement Fund to carry out activities under this subchapter with respect to military family housing, including activities required in connection with the planning, execution, and administration of contracts entered into under the authority of this subchapter.

``(2) In such amounts as provided in appropriation Acts and except as provided in subsection (e), the Secretary of Defense may use amounts in the Department of Defense Military Unaccompanied Housing Improvement Fund to carry out activities under this subchapter with respect to military unaccompanied housing, including activities required in connection with the planning, execution, and administration of contracts entered into under the authority of this subchapter.

``(3) Amounts made available under this subsection shall remain available until expended. The Secretary of Defense may transfer amounts made available under this subsection to the Secretaries of the military departments to permit such Secretaries to carry out the activities for which such amounts may be used.

``(e) Limitation on Obligations.--The Secretary may not incur an obligation under a contract or other agreement entered into under this subchapter in excess of the unobligated balance, at the time the contract is entered into, of the Fund required to be used to satisfy the obligation.

``(f) Notification Required for Transfers.--A transfer of appropriated amounts to a Fund under paragraph (1)(B) or (2)(B) of

subsection (c) may be made only after the end of the 30-day period beginning on the date the Secretary of Defense submits written notice of, and justification for, the transfer to the appropriate committees of Congress.

``(g) Limitation on Amount of Budget Authority.--The total value in budget authority of all contracts and investments undertaken using the authorities provided in this subchapter shall not exceed--

``(1) $850,000,000 for the acquisition or construction of military family housing; and

``(2) $150,000,000 for the acquisition or construction of military unaccompanied housing.

``Sec. 2884. Reports

``(a) Project Reports.--(1) The Secretary of Defense shall transmit to the appropriate committees of Congress a report describing--

``(A) each contract for the acquisition or construction of family housing units or unaccompanied housing units that the Secretary proposes to solicit under this subchapter; and

``(B) each conveyance or lease proposed under section 2878 of this title.

``(2) The report shall describe the proposed contract, conveyance, or lease and the intended method of participation of the United States in the contract, conveyance, or lease and provide a justification of such method of participation. The report shall be submitted not later than 30 days before the date on which the Secretary issues the contract solicitation or offers the conveyance or lease.

``(b) Annual Reports.--The Secretary of Defense shall include each year in the materials that the Secretary submits to Congress in support of the budget submitted by the President pursuant to section 1105 of title 31 the following:

``(1) A report on the expenditures and receipts during the preceding fiscal year covering the Funds established under section 2883 of this title.

``(2) A methodology for evaluating the extent and effectiveness of the use of the authorities under this subchapter during such preceding fiscal year.

``(3) A description of the objectives of the Department of Defense for providing military family housing and military unaccompanied housing for members of the armed forces.

``Sec. 2885. Expiration of authority

``The authority to enter into a contract under this subchapter shall expire five years after the date of the enactment of the National Defense Authorization Act for Fiscal Year 1996.''.

(2) The table of subchapters at the beginning of such chapter is amended by inserting after the item relating to subchapter III the following new item:

``IV. Alternative Authority for Acquisition and Improvement of Military Housing.....2871''.

(b) <<NOTE: 10 USC 2884 note.>> Final Report.--Not later than March 1, 2000, the Secretary of Defense shall submit to the congressional defense committees a report on the use by the Secretary of Defense and the Secretaries of the military departments of the authorities provided by subchapter IV of chapter 169 of title 10, United States Code, as added by subsection (a). The report shall assess the effectiveness of such authority in providing for the construction and improvement of military family housing and military unaccompanied housing.

APPENDIX F

DEPARTMENT OF THE ARMY (DA) FORM 337

REQUEST FOR APPROVAL OF DISPOSAL OF BUILDINGS AND IMPROVEMENTS

For use of this form, see AR 405-90; the proponent agency is USACE

DATE

NAME OF INSTALLATION	LOCATION	ACCOUNTABLE OFFICER

POST NO.	DESIGNATION AND DESCRIPTION *(Include information on installed property to be removed prior to disposal)*	TYPE OF CONSTRUCTION*	ORIGINAL COST AND YEAR BUILT *(Estimate if not known)*
		TOTAL COST	

Continue on additional sheets, if necessary.

* P - Permanent; S - Semi-permanent; T - Temporary *(See AR 420-70)*.

REMARKS *(Include conditions prompting disposal, and indicate whether land on which property is located is leased or government-owned.)*

The estimated total sale value of the property ☐ is ☐ is not in excess of $50,000.	SIGNATURE OF ESTIMATOR
TYPE NAME, GRADE, AND ORGANIZATION OF FINAL APPROVING AUTHORITY	SIGNATURE

FINAL DISPOSITION OF PROPERTY

APPENDIX G

INSTRUCTIONS FOR PREPARING A REPORT OF AVAILABILITY

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CERE-M

16 DEC 1997

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Army Regulation (AR) 405-80, Management of Title and Granting Use of Real Property

1. Reference: Army Regulation (AR) 405-80, Management of Title and Granting Use of Real Property, dated 10 October 97, effective 11 November 1997 (Encl 1).

2. In accordance with revised AR 405-80, all previous general delegations of authority are superseded, replaced, and revoked. Installation or project specific delegations remain in effect. In order to provide implementation as quickly as possible, several interim measures are provided in this Memorandum and in a Memorandum to the USACE divisions.

3. The implementing Technical Manual for military actions will be published in the near future. In the meantime, the revised Report of Availability format and two draft installation licenses are attached for immediate use (Encls 2, 3 and 4).

4. The Memorandum to the USACE divisions authorizes redelegation to execute, manage, renew, supplement, or revoke licenses or permits, which do not require an appraisal or formal estimate of value and which are for a term of 5 years or less, to individuals who meet the attached qualifying standards (Encl 5). As set out in AR 405-80, these individuals must be recommended by the appropriate MACOM, NGB, or USARC. I request that you make such recommendations directly to the geographic district for the installation, or USAR Regional Support Command, at which the individual is located.

5. Any redelegations will include appropriate oversight and control procedures to ensure that documents are signed only by qualified persons in compliance with Army policy and applicable laws. For redelegations of authority to individuals recommended by the appropriate MACOM, NGB, or USARC, the redelegation, at a minimum, will:

a. require that all documents be issued and executed under the redelegation use project- or installation-specific formats provided by the district, prepared in accordance with the formats in ER 405-1-12, Chapter 8;

b. require copies of all documents signed under the redelegation to be furnished to the USACE district;

c. be for a term of 5 years; at the end of the term, the term may be extended after review and revalidation of the qualifying criteria and of the actions performed under the redelegation; and

d. terminate, automatically, upon the resignation, retirement, or transfer of the individual to another office that has no organizational responsibilities for real estate.

6. The formats, guidance and procedures set out in Engineer Regulation (ER) 405-1-12, Chapter **8,** will continue in force, except with regard to increased redelegation of authority set out above, and except where superseded or revised by AR 405-80. Required revisions will be published as soon as possible.

7. You are encouraged to submit proposed modifications or additions to the qualifying standards.

FOR THE COMMANDER:

Encls

B. J. Frankel
B. J. FRANKEL
Director of Real Estate

DISTRIBUTION:
COMMANDER-IN-CHIEF
U.S. ARMY, EUROPE, AND SEVENTH ARMY

COMMANDER
US ARMY MILITARY TRAFFIC MANAGEMENT COMMAND, ATTN: MTPAL-FE
5611 COLUMBIA PIKE, FALLS CHURCH, VA 22041-5050
US ARMY ARMED FORCES COMMAND, ATTN: AFPI-ENP
FORT MCPHERSON, GEORGIA 30330-6000
US ARMY MEDICAL COMMAND, ATTN: HSLO-FP
FORT SAM, HOUSTON, TEXAS 78234-6000
US ARMY INTELLIGENCE AND SECURITY COMMAND, ATTN: IALOG-IF
FORT HUACHUCA, AR 85613
US ARMY MATERIAL COMMAND, ATTN: AMCEN-R
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001
US ARMY MILITARY DISTRICT OF WASHINGTON, ATTN: ANEN-PS
BUILDING 42, FORT MCNAIR, WASHINGTON, DC 20319-5050

CERE-M
SUBJECT: Army Regulation (AR) 405-80, Management of Title and Granting Use of Real Property

EIGHT US ARMY, ATTN: FKEN-FP
US ARMY, SOUTH, ATTN: ANEN-PS, BUILDING 42, FORT MCNAIR, WASHINGTON, DC 20314-5050
US ARMY TRAINING AND DOCTRINE COMMAND, ATTN: ATBO-GPL FORT MONROE, VA 23651-5000
US ARMY PACIFIC COMMAND, ATTN: USARPAC-C-PE, FORT SHAFTER, HAWAII 96858-5100
US ARMY NATIONAL GUARD BUREAU, ATTN: NGB-AEN
I I 1 SOUTH GEORGE MASON DRIVE
ARLINGTON, VA 22204-1382
US ARMY RESERVE COMMAND, ATTN: AFRC-ENP-E, 3800 NORTH CAMP CREEK PARKWAY, SW, ATLANTA, GA 30331-5099

SUPERINTENDENT, US ARMY MILITARY ACADEMY, ATTN: MAEN-E-R, WEST POINT, NEW YORK 10996-1592

HEADQUARTERS, DEPARTMENT OF THE ARMY
INSTRUCTIONS FOR PREPARING A REPORT OF AVAILABILITY (ROA)

Except for Section A, the ROA is a checklist. Certain questions may require the attachment of supporting information or documents. The final approved package is designed to incorporate all data necessary to complete an outgrant on the subject property and to show the issues which were considered throughout the chain of command. Flexibility is essential, yet still yielding a final product which can be staffed and finally put in the outgrant file. The ROA format is set up so that different sections can be prepared and staffed separately and signed by different Army elements, if required.
Section A is the Determination of Availability, and, although shown first, is signed after Sections B and C have been completed, reviewed and approved. Part 1, MACOM certification is only used if the ROA is not within the approval authority of the MACOM.

Section B is the general and operational information for making property available. This Section of the ROA would usually be the starting of the outgrant process. If the outgrant is the culmination of the Master Plan process, then this section would pull information from the Master Plan and installation data. If a private party has requested the outgrant or outgrant expansion, then the office which takes the request would fill in as much information as is available and submit it for further processing.

Section C contains environmental considerations. Section C would be added to the Section B by the appropriate environmental office or offices with expertise in the various areas. This section could be divided into more than one subpart if the installation organization involves several offices which each need to sign a portion.

The ROA, with attachments, will be forwarded to HQDA, if applicable, via a cover memo which states that staffing within required MACOM offices (BRAC, environmental, legal and real estate) has been completed. The FOSL and the Environmental Baseline Study (EBS) should be prepared in accordance with AR 200-1 and DA PAM 200-1. National Environment Policy Act (NEPA) documentation should be in accordance with AR 200-2. When responding to an item for which the answer is contained in a document previously submitted to the MACOM or to HQDA (in sufficient copies), clearly identify where the document is located and reference document title, date, page, paragraph, etc.

If the ROA is required to be forwarded to HQDA, and a Record of Consideration cites Categorical Exclusion A-21 based on a pre-existing NEPA analysis, then appropriate extracts from the NEPA document are to be attached to the ROA.

SECTION A

DETERMINATION OF AVAILABILITY

Part 1. MACOM CERTIFICATION
FOR THOSE ACTIONS TO BE EXECUTED BY ACSIM OR DASA(I&H):

The information furnished in Sections B and C has been fully coordinated with BRAC, if applicable, Environmental, legal, and real estate and is accurate and complete. I recommend that the Determination of Availability be approved by signing Section A, Part 2, of this ROA.

Date _____ MACOM Certification Authority _____

I have reviewed Section C, Environmental Considerations, including all attachments, and, if this is a lease action, the draft FOSL and EBS, and have determined that the environmental considerations are legally sufficient.

Date _____

SIGNATURE _____
(MACOM Staff Judge Advocate/Counsel)

DETERMINATION OF AVAILABILITY

Part 2. APPROVAL

1. Based upon the attached Report of Availability (ROA) and its findings, which have been reviewed for accuracy and completeness, I have determined that the intended use of this property as set out in the attached Report of Availability is in the public interest or promotes national defense and is consistent with delegated authorities, applicable laws and regulations.

2. I have determined that the proposed use is compatible with the installation mission and with the installation Master Plan. (INSERT IF APPLICABLE: The use will directly support or further the installation mission.)

3. (NON-BRAC) I have determined that the property is not excess to the overall installation purpose and has not been identified as not utilized in an ICARPUS.

4. The proposed outgrant action described in the ROA is approved **(subject to**

(INSERT ANY ADDITIONAL INSTRUCTIONS PERTAINING TO THE OUTGRANT NEGOTIATIONS OR EXECUTION AND ANY MODIFICATION TO THE ROA OR ADDITIONAL CONDITIONS WHICH MUST BE PLACED IN THE OUTGRANT DOCUMENT).

5. I determine that the property is available for the proposed use with the restrictions as stated in the Report of Availability **(and as added above)** and hereby authorize negotiation and execution of an outgrant in accordance with the attached ROA and applicable laws, regulations, and policy guidance.

_____ _____

Date (Approving Official)

SECTION B

REPORT OF AVAILABILITY
(Installation:)
GENERAL AND OPERATIONAL INFORMATION

SECTION I. OUTGRANT ADMINISTRATION:

1. Name, address and telephone number of Applicant or requestor's representative(s), if any:

2. Proposed use:

3. Proposed type of outgrant:
[ ] Lease
[ ] For BRAC: _____ Interim Lease
_____ Lease in Furtherance of Conveyance
[ ] Easement
[ ] Permit or License

4. Start date, if applicable:

5. Recommended term of outgrant:
____ years; or
____ months.

SECTION II. PROPERTY INFORMATION:

1. General property identification. Provide sufficient information to locate the property for environmental reviews and for the USACE District to develop a legal description to include in the outgrant document. Provide legal descriptions, if available. Attach existing maps or arieal photographs. Map(s) should also be attached to the Finding of Suitability to Lease (FOSL), if a lease, showing the nearest installation boundary.

2. Acreage: _____ Of only building space is being granted, there is no acreage.

3. General character of the property (short description of the uses of the property; i.e., industrial, residential, warehouse, etc.):

_____

_____

4. Are Government buildings and improvements included in the area?
[ ] No.
[ ] Yes. If yes, identify and describe all buildings, facilities and improvements, e.g., Identification Nos., square footage outgranted/percentage of building, type of construction, and condition:

---

5. Existing or preceding property use (Provide a description below for each building, facility, area, etc., in either list or table format. If the overall use is the same, i.e. industrial, then a general description is sufficient.):

---

6. United States property interest:
[ ] fee simple title
[ ] easement
[ ] in-lease
[ ] other.

7. Is the property subject to a reversionary interest which would be violated by the proposed use?
[ ] No.
[ ] Information not known. USACE District should check title documents.
[ ] Yes. If yes, describe:

---

8. Army interest:
[ ] direct control
[ ] permit from a Federal Agency
[ ] withdrawn from the public domain.

9. Type of jurisdiction:
[ ] Exclusive Federal Jurisdiction
[ ] Concurrent Federal Jurisdiction
[ ] Proprietary status

10. If Exclusive or concurrent, does jurisdiction need to be retroceded to allow for the proposed use?
[ ] No
[ ] Yes, Explain. If a retrocession action is pending, identify the status of that effort:

SECTION III. OPERATIONAL FACTORS:

1. Will the proposed use require utilities?

[ ] No. If no, go to question 2.
[ ] Yes. Will Army be providing required utilities or services on a reimbursable basis?
[ ] No. Are utilities, e.g. electricity, natural gas/propane/heating oil, potable water, wastewater treatment, telephone, etc., available from public utility companies?
( ) No
( ) Yes. If yes, identify the type, quantity, and provider of such services:
_____
_____

[ ] Yes. If yes, identify the instrument to be used to establish the terms under which such services will be provided and the type, quantity, and estimated cost. Note that this instrument should be executed prior to execution of the outgrant.
_____
_____

2. Will the proposed use require destruction, relocation, modification, or replacement of Government facilities?
[ ] No
[ ] Yes. If yes, please explain: _____
_____

3. The grant of the proposed use:
( ) a. is compatible with the operation of the installation,
( ) b. is compatible with the BRAC Implementation Plan, if BRAC,
( ) c. is compatible with with contemplated development and other activities as shown in an approved Master Plan , or
( ) d. is in support of the installation mission.

4. If it is not compatible with any of the above or in support of the installation missions, please explain why the use should be approved or list the site specific limitations, restrictions, or conditions to be included in the outgrant to make the proposed use compatible, e.g., security, access, parking, hours of operation: _____
_____

5. Non-Environmental Safety Issues and Concerns, if any: _____
_____
_____

6. Airfields and Airspace:

a. Will the planned use of the property affect the airspace over or near the property or military installation?
[ ] No
[ ] Yes. If yes, the proposed occupancy or modification may be allowed subject to the

following restrictions being incorporated in the outgrant: _____

_____

[ ] Yes, near the property or military installation but affecting property not owned by the United States. If yes, does the United States have a potential "taking of private property" issue? Explain. _____

_____

b. Will the outgrant of the property require the notification of the FAA?
[ ] No
[ ] Yes. If yes, please explain who will notify the FAA and when: _____

_____

c. Will structures be built on the property which will require an airspace study?
[ ] No
[ ] Yes. If yes, please explain who will do the study and any other requirements: ___

_____

7. REMARKS - include any legal, policy, or mission factors you are aware of which may affect the proposed use of the property: _____

_____

_____

SECTION IV. PRELIMINARY PROCEDURES:

1. Inventory and Condition Reports: A recent inventory showing the condition of the property is available:
[ ] No
[ ] Yes. Give date and location of the document: _____

2. Consideration:

[ ] For BRAC, less than fair market value is recommended for this action under authority of 10 USC 2667(f). Provide justification. Current estimated caretaker or operational costs are _____. Provide any specific recommendations:

_____

[ ] USACE district is requested to determine fair market value for the outgranted interest.
( ) Consideration should be collected in cash.
( ) Consideration should be in cash or in-kind as set out in the attached discussion of possible in-kind consideration.
( ) Consideration should be offset for the improvement, maintenance, protection, repair or restoration of the property outgranted, as shown in an attached offset plan.

3. Waiver of Competition:
[ ] Competition is not required in accordance with AR 405-80.
[ ] A waiver of competition is not recommended.
[ ] A waiver of competition is recommended. Provide full justification and proposed grantee, if waiver is recommended.

4. Other applicable laws, regulations, MOA's, etc. requiring consideration for processing this action:

_____

5. Additional information that will assist in processing this application/action: _____

_____

_____

6. Stewart B. McKinney Homeless Requirements:
[ ] McKinney Act requirements do not apply to this action.
[ ] McKinney Act requirements apply, necessary screening has been completed, and no interest was expressed. Give dates.

7. Estimated Costs to further process the outgrant:
USACE District costs: _____
Installation costs: _____

Funds are currently available [ ] Yes [ ] No
If No, how will costs be funded? _____

8. I certify that I have reviewed Section B, that is has been coordinated in accordance with applicable command guidance, and that it is accurate and complete. Based on the information provided above, I recommend that the outgrant be
[ ] APPROVED [ ] DENIED.

_____
Date

_____
SIGNATURE
Title

Enclosures:
(list)

SECTION C
REPORT OF AVAILABILITY
ENVIRONMENTAL CONSIDERATIONS

1. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REQUIREMENTS:

a. The requirements under NEPA for the proposed outgranting action have been met as follows:

[ ] CX/REC. This action falls under one of the Categorical Exclusions (CX) contained in AR 200-2 (Environmental Effects of Army Actions). The environmental effect of the action has been considered. A Record of Environmental Consideration (REC) is attached, indicating the CX pursuant to which the proposed outgrant is authorized.

[If the ROA is required to be forwarded to HQDA, and the CX is based on a pre-existing NEPA analysis, then state:

[ ] for BRAC, NEPA document is on file at HQDA (Identify location, title and date: _____)

[ ] pertinent extracts are attached from the applicable NEPA analysis.]

[ ] EA/FONSI. The impact of this action is considered to be minimal or insignificant. The Environmental Assessment (EA) with Finding of No Significant Impact (FONSI) is:

[ ] for BRAC, on file at HQDA (Identify location, title and date: _____ _____)

[ ] attached.

[ ] EIS/ROD. The impact of this action is considered to be significant. An Environmental Impact Statement (EIS), or supplement thereto, along with the Record of Decision (ROD) is:

[ ] for BRAC, on file at HQDA (Identify location, title and date: _____)

[ ] attached. (IF the EIS is too large to attach, then state where it can viewed)

b. For EA and EIS, identify mitigation actions, if any, which are required, costs, and responsible party for the mitigation: _____

_____

_____

c. If the EIS or EA covers more than the proposed outgranting action, explain how and where the outgranting action is analyzed and considered in the NEPA documentation:

_____

_____

2. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA), For Leases only:

a. Environmental Baseline Study:

[ ] An EBS has been conducted and no hazardous, toxic, radiological waste (HTRW) substances were identified as released, stored, or disposed on the property in the threshold quantities. Go to question 3. A draft FOSL is attached. A copy of the EBS is:

[ ] on file at HQDA (Identify location, title and date: _____)

[ ] attached.

[ ] An EBS has been conducted which indicates HTRW substances were released, stored, or disposed on the property in the threshold quantities. Hazardous storage, disposal, or release notification must be included in the outgrant document (reference 40 CFR Part 373). A draft FOSL is attached. A copy of the EBS containing the details is:

[ ] on file at HQDA (Identify location, title and date: _____)

[ ] attached.

b. Choose the appropriate status of remedial actions:

[ ] Remedial actions have been completed so that the property is considered safe for the proposed use.

[ ] Remedial actions are not required.

[ ] Remedial actions have not been completed. Estimate the time to complete such action: _____. Provide details and justification for outgranting in the current condition, if applicable. Attach any land use restrictions and access clauses that must be put into the outgrant.

_____

3. REAL PROPERTY CONTAMINATED WITH AMMUNITION, EXPLOSIVES OR CHEMICAL WEAPONS.

a. Does the property contain ammunition, explosives or chemical weapons?

[ ] No. If no, go to question 4.

[ ] Yes. If yes, Reference AR 385-64, "US Army Explosives Safety Program." Has a Land Disposal Site Plan (LDSP) to clean up the property been submitted through the MACOM and HQDA, DACS-SF and DAMO-SWS, the U. S. Army Technical Center for Explosives Safety, to the Department of Defense Explosives Safety Board (DDESB) for approval before cleanup and outgrant?

[ ] No.

[ ] Yes. If yes, have the ammunition, explosives, or chemical weapons been removed using the most appropriate technology consistent with the proposed use of the property?

[ ] Yes

[ ] No. Provide date when property will be cleared: _____

b. Will access rights to implement any monitoring plan or use restrictions be required?

[ ] No.

[ ] Yes. Describe. (Set out proposed language to be inserted in outgrant):

_____

_____

c. If outgrant is to another Federal agencies for compatible use of surface de-contaminated real property, list limitations, restrictions and prohibitions concerning the use of the property, to ensure personnel and environmental protection:

_____

4. WASTE DISPOSAL (The Solid Waste Recovery Act, as amended; Resource Conservation and Recovery Act (RCRA)).

a. Choose one:

[ ] The applicant will not generate hazardous waste or will not treat, dispose or store waste defined by EPA or State with RCRA primacy.

[ ] The applicant will generate hazardous waste or will produce waste defined by EPA or State with RCRA primacy. Identify all waste streams and quantities:

_____

_____

[ ] The applicant will treat or temporary store, for less than 90 days, hazardous waste as defined by EPA or State with RCRA primacy. Identify all waste streams and quantities.

_____

_____

b. If applicable, choose the appropriate:

[ ] The applicant has obtained a hazardous waste generator identification number from EPA. ID No. _____

[ ] The applicant has established records, waste management requirements, and a Spill Prevention Plan.

c. Will the grantee be required to comply with an installation's Hazardous Waste Management Plan?

[ ] No

[ ] Yes, provide date and location of plan.

5. COMPLIANCE WITH 10 USC 2692:

[ ] The applicant will not store or dispose of non-DoD toxic or hazardous materials pursuant to 10 USC 2692.

[ ] Storage or disposal of non-DoD toxic or hazardous materials has been authorized pursuant to 10 USC 2692. (Attach copy of authorization).

6. UNDERGROUND/ABOVE GROUND STORAGE TANKS.

[ ] There are no Underground Storage Tanks (USTs) on the property and the applicant will not be installing such tanks. Go to question 7.

[ ] There are no above ground storage tanks for fuel or other regulated substances and the applicant will not be installing such tanks. Go to question 7.

[ ] There are USTs on the property and/or the applicant will be installing such tanks.

a. Existing underground storage tanks are in compliance with current laws and regulations:

[ ] Yes

[ ] No. Explain: _____

b. Construction of proposed underground storage tanks have been certified for such compliance:

[ ] Yes

[ ] No. Explain: _____

[ ] There are above ground storage tanks for fuel or other regulated substances on the property and/or the applicant will be installing such tanks.

a. Existing above ground storage tanks are in compliance with current laws and regulations:

[ ] Yes

[ ] No. Explain: _____

b. Construction of proposed above ground storage tanks have been certified for such compliance:

[ ] Yes

[ ] No. Explain: _____

7. CLEAN WATER ACT (FEDERAL WATER POLLUTION CONTROL ACT):

[ ] This action will not involve the discharge of any pollutants into the waters of the United States or less than one million gallons of discharge per day will be made.

[ ] This action will entail the discharge of any pollutants into the waters of the United States or it is more than one million gallons into the waters of the United States per day.

[ ] Will the grantee's activities on the outgranted property result in a discharge of wastewater to an accumulation, collection, or drainage system?

[ ] No.

[ ] Yes. If yes, can the existing wastewater collection system and treatment system accommodate such discharge without adverse operational or environmental impacts?

[ ] Yes.

[ ] No. If not, are there other options? Describe.

[ ] Has the applicant applied for or obtained a National Pollutant Discharge Elimination System (NPDES) Permit or State equivalant from the EPA/appropriate state agency?

[ ] Yes.

[ ] No. If not, state whether the grantee must have a NPDES Permit or State equivalant to operate. [ ] No. [ ] Yes. If not received, state circumstances:

_____

[ ] Would the grantee's operations result in a violation of a NPDES permit or State

equivalant held by the United States?

[ ] No.
[ ] Yes. Explain.

[ ] The Grantee is complying with the requirements of a NPDES Permit and the Grantee has a monitoring and reporting procedure.

8. CLEAN AIR ACT (FEDERAL CONFORMITY REQUIREMENTS):

[ ] This action does not require a written conformity determination in accordance with EPA's rule because:

[ ] The installation is in an attainment area. NOTE: The EA or EIS must contain a statement that the action conforms to the applicable State or Federal Implementation Plan, if any, with adequate supporting analysis.

[ ] The installation is in a non-attainment or maintenance area and the action falls within an exemption in the rule. Attach a Record of Non-Applicability (RONA) in accordance with Army Guidance. List pollutants: _____

[ ] This action is not exempt from the conformity regulation. Attach conformity determination. Describe the mitigation requirements or other restrictions, if any, which must be incorporated in the outgrant: _____

_____

_____

9. ENDANGERED SPECIES:

[ ] Coordination with the USFWS to determine the possible presence of any federally listed endangered, threatened, or candidate species in the action area has occurred (attach correspondence). Provide date of last coordination and describe results of coordination:

_____

_____

[ ] This action will not jeopardize the habitat of any endangered, threatened or candidate species of fish, wildlife, or plants pursuant to the Endangered Species Act or a state listed species.

[ ] This action may jeopardize or affect: (identify on an attached map.)

[ ] a federally listed endangered or threatened species; list: _____
[ ] a federal candidate species; list: _____
[ ] a state listed species: _____
[ ] designated critical habitat; describe: _____

[ ] This outgranting action may affect a federally listed endangered, threatened, or candidate species and required consultation with the USFWS has been completed. Attach any biological assessment, opinion, and correspondence with the USFWS. Accordingly, the following restrictions must be incorporated in the outgrant to protect the affected species and its habitat:

_____

9. FISH AND WILDLIFE COORDINATION ACT (FWCA):

[ ] This action will not jeopardize fish and wildlife species or habitat integral to Congressionally authorized mitigation or General Plans, or Army agreed to recommendations in Fish and Wildlife reports prepared under the provisions of the FWCA.

[ ] This action will jeopardize fish and wildlife species or habitat integral to Congressionally authorized mitigation or General Plans, or Army agreed to recommendations in Fish and Wildlife reports prepared under the provisions of the FWCA. Impact description, and recommended actions prior to availability:

_____

10. COASTAL ZONE MANAGEMENT (CZM) (if applicable):

[ ] CZM is not applicable.

[ ] CZM is applicable, and a CZM Act determination with the approved state CZM Plan has/will be obtained.

11. FLOODPLAIN:

[ ]This property is not located within the 100 year floodplain and does not fall under the purview of Executive Order 11988.

[ ] This property is located within the 100 year floodplain and does fall under the purview of Executive Order 11988 and (check the appropriate):

( ) The proposed occupancy or modification will not adversely impact the floodplain.

( ) There is no other practicable alternative available for this intended use.

( ) The proposed occupancy or modification may be allowed subject to the following restrictions being incorporated in the outgrant document:

_____

12. WETLANDS:

Does the property to be outgranted contain wetlands regulated under Section 404 of the Clean Water Act (CWA) or falling under the purview of Executive Order 11990:

[ ] No.

[ ] Yes. Attach map showing wetland areas. The following restrictions must be incorporated in the outgrant document:

_____

_____

Does the action require a 404 Permit?

( ) No

( ) Yes. State status of Section 404 permit process: _____

13. HISTORICAL AND CULTURAL RESOURCES:

[ ] No historical, cultural, or archaeological sites or resources have been identified on this property.

[ ] Historical and/or cultural resources may be present on this property. This action has

been coordinated with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation, if applicable, in accordance with 36 CFR 800, and not restrictions apply. (Attach relevant correspondence).

[ ] Historical and/or cultural resources have been identified by a survey of this property. This action has been coordinated with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation, if applicable, in accordance with 36 CFR 800. The following restrictions must be incorporated into the outgrant document to protect the property (attach any Programmatic Agreement, MOA, and relevant correspondence):

_____

[ ] Native American graves have been identified on this property. (Refer to requirements of the American Indian Religious Freedom Act and Native American's Graves Protection and Repatriation Act). Consultation on the disposition of Native American graves and objects has been initiated with interested Native American organizations; correspondence attached.

[ ] Archaeological sites or resources have been identified on this property. Refer to the Antiquities Act; Archaeological and Historical Preservation Act; and Archaeological Resources Protection Act. The plan for curation and disposition of these resources is attached.

14. LEAD-BASED PAINT:

a. Are there improvements constructed prior to 1960 which are considered to contain lead-based paint or which have been determined to contain lead-based paint?

[ ] No

[ ] Yes. If there has been a survey, attach.

b. Are there improvements constructed between 1960 and 1978 which are considered to contain lead-based paint or which have been determined to contain lead-based paint?

[ ] No

[ ] Yes. If there has been a survey, attach.

c. Are these improvements the type that children under age seven frequently inhabit, e.g. housing, child care? [ ] No [ ] Yes, lead-based paint notice is required.

15. OTHER ENVIRONMENTAL CONSIDERATIONS:

a. Is there any Asbestos Containing Material (ACM) on the property?

[ ] No

[ ] Yes. If yes, attach any surveys, condition and type.

b. Will the proposed outgrant activity impact an area designated under the Wild and Scenic Rivers Act?

[ ] No

[ ] Yes. If yes, what conditions may need to be included in the outgrant?

_____

c. Will the proposed outgrant activity involve the use of insecticide, fungicide, and rodenticide so that compliance with the Federal Insecticide, Fungicide, and Rodenticide Act is

necessary, e.g. Agricultural, golf courses, restaurants?

[ ] No

[ ] Yes. If yes, list:

_____

d. Are there polychlorinated biphenyls (PCBs) present?

[ ] No

[ ] Yes.

e. Has a radon survey been completed for the buildings to be outgranted?

[ ] No.

[ ] Yes. Choose one:

[ ] no buildings have radon in excess of applicable standards.

[ ] the following buildings exceed standards: List with appropriate use restrictions:

_____

_____

f. Are there any other special-purpose environmental laws applicable to the proposed activity?

[ ] No

[ ] Yes. Explain: _____

g. Is further environmental study required?

[ ] No

[ ] Yes. Explain: _____

16. ADDITIONAL COMMENTS: _____

_____

_____

17. I certify that I have reviewed Section C, that is has been coordinated in accordance with applicable command guidance, and that it is accurate and complete. Based on the information provided above, I recommend that the outgrant be

[ ] APPROVED [ ] DENIED.

_____ _____

Date SIGNATURE

Title

18. I have reviewed Section C, Environmental Considerations, including all attachments, and, if this is a lease action, the draft FOSL and EBS, and have determined that the environmental considerations are legally sufficient.

Date

SIGNATURE
(Installation JAG/Counsel)

APPENDIX H

SAMPLE FINDINGS OF SUITABILITY TO LEASE AND TO TRANSFER

FINDING OF SUITABILITY TO LEASE
(FOSL)

Family Housing Land
at
Fort Academic, Virginia

July 10, 2000

[Note: The enclosed FOSL is tailored to the scenario constructed for the fictitious Fort Academic. The scenario may or may not encompass all the peculiarities to be found at Army installations implementing the Residential Communities Initiative. The attached FOSL is a good faith effort in seeking to be representative of the types of issues that will be encountered. It only generally demonstrates concepts applicable to making the required determinations prior to transfer of property. Moreover, the "art" of preparing FOSLs continues to evolve; there appear to be slight differences in content and approach among Army major commands. Staff members in the RCI process are urged to consult with their legal counsel in developing information for inclusion in the FOSL.]

FINDING OF SUITABILITY TO LEASE
Family Housing Land
Fort Academic, Virginia

July 10, 2000

1.0 PURPOSE

The purpose of this Finding Of Suitability To Lease (FOSL) is to document the environmental suitability of certain parcels of land at Fort Academic, Virginia for leasing to the Upright Development Corporation for use in conjunction with the Army Residential Communities Initiative consistent with DOD and Army policy. In addition, the FOSL identifies use restrictions as specified in the attached Environmental Protection Lease Provisions necessary to protect human health or the environment and to prevent interference with any existing or planned environmental restoration activities.

2.0 PROPERTY DESCRIPTION

The land proposed to be leased consists of 270 acres. A site map is at Enclosure 1. Parcel sizes and descriptions of development are shown in Table 1, Description of Property at Enclosure 2.

3.0 ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the land has been made based on an Environmental Baseline Survey (EBS)(dated July 22, 1999) and a Community Environmental Response Facilitation Act (CERFA) Report (dated July 22, 1999). The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Fort Academic Asbestos Management Plan (dated October 4, 1994), Residential Asbestos Survey (dated January 19, 1996), Fort Academic Master Plan (dated March 25, 1996), Residential Radon Survey (dated October 3, 1996), Fort Academic Lead Hazard Management Plan (dated June 2, 1996), Fort Academic Lead-Based Paint Report (December 3, 1996), Storage Tank Inventory and Condition Report (dated May 20, 1992), Fort Academic Remedial Investigation and Feasibility Study Report (dated June 1, 1995), Fort Academic Remedial Investigation and Feasibility Study Supplement (dated August 3, 1997), Interim Record of Decision No. 4 (dated May 15, 1999), Interim Record of Decision No. 5 (dated May 25, 1999), Polychlorinated Biphenyl Transformer Incident Report (dated September 1, 1996), and Polychlorinated Biphenyl Electrical Transformers Status Survey (dated April 2, 1993).

3.1 ENVIRONMENTAL CONDITION OF PROPERTY CATEGORIES

The Department of Defense (DOD) Environmental Condition of Property (ECP) Categories for the

property are as follows:

ECP Category 1: Bayside, Patton Village, Historic District, Kit Carson, West Tidewater, East Tidewater, and Parcel 2 land parcels.

ECP Category 2: Crofton Village Parcel.

ECP Category 4: Parcel 3.

A summary of the ECP Categories is provided in Table 1, Description of Property at Enclosure 2.

3.2 STORAGE, RELEASE, OR DISPOSAL OF HAZARDOUS SUBSTANCES

A hazardous substance was released in excess of the 40 CFR Part 373 reportable quantities at Parcel 3. The release of the hazardous substance was subsequently remediated as part of the installation restoration program. A summary of areas in which hazardous substances activities occurred is provided in Table 2, Notification of Hazardous Substance Storage, Release, or Disposal in Enclosure 3.

3.3 PETROLEUM AND PETROLEUM PRODUCTS

3.3.1 Storage, Release, or Disposal of Petroleum Products

A petroleum product release (heating fuel) in excess of 55 gallons occurred adjacent to the Crofton Village parcel near Building 227 and migrated onto the parcel and a petroleum product release (heating fuel) in excess of 55 gallons occurred adjacent to the Bradley Village parcel near Building 420 and migrated onto the parcel. Both sites were remediated in August 1999. A summary of the buildings or areas in which petroleum products were stored, released, or disposed is provided in Table 3, Notification of Petroleum Products Storage, Release or Disposal at Enclosure 4.

3.3.2 Underground and Above-Ground Storage Tanks

There are 255 aboveground storage tanks (AST) on the property used for storage of petroleum products (#2 fuel oil). There is no evidence of petroleum product releases at any of these locations.

3.4 Polychlorinated Biphenyls (PCB) Equipment

The land proposed for lease contains PCB-containing equipment. Nine pole-mounted transformers with PCB dielectric fluid are located on the Crofton Village parcel, three pole-mounted transformers containing PCB dielectric fluid are located on Parcel 3, and one pole-mounted transformer with PCB dielectric fluid is located on the Bayside parcel. This equipment is operational, properly labeled in accordance with federal and state regulations, and has been determined not to be leaking. A pole-mounted transformer containing PCB dielectric fluid on Parcel 3 exploded in August 1996. Debris and contaminated fluids were remediated in August 1999 as part of the installation restoration

program. The lease will include the PCB notification provision in the Environmental Protection Lease Provisions shown in Enclosure 5.

3.5 ASBESTOS

There is asbestos-containing material in buildings on the land proposed for lease. The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The lease will include the asbestos warning and covenant in the Environmental Protection Lease Provisions shown in Enclosure 5.

3.6 LEAD-BASED PAINT

Based on the age of the buildings (constructed prior to 1978) and survey report of December 1996, the following buildings on the land proposed to be leased are presumed or known to contain lead-based paint (LBP):

Buildings 220 through 254, family housing in the Crofton Village Housing Area
Buildings 410 through 469, family housing in Bradley Village Housing Area
Buildings 501 through 530, family housing in the Kit Carson Housing Area
Buildings 701 through 750, family housing in the West Tidewater Housing Area
Buildings 751 through 780, family housing in the East Tidewater Housing Area
Buildings 870 through 789, family housing in the Bayside Housing Area
Buildings 1214 through 1223, family housing in the Historic District

Of the foregoing buildings, LBP has been removed from the following buildings: 504, 519, 520, 521, 525, 721, 724, 737, 738, 739, 753, 770, 1219, and 1220. LBP is known not to exist in Buildings 344 through 373. Soils surrounding the buildings are presumed to contain LBP residue and contamination. The lease will include the lead-based paint warning and covenant provided in the Environmental Protection Lease Provisions in Enclosure 5.

3.7 RADIOLOGICAL MATERIALS

There is no evidence that the Army used or stored radioactive materials on the property proposed for lease.

3.8 RADON

Radon surveys were conducted in buildings on the land proposed for lease. Radon was detected at levels above 4 picocuries per liter in buildings occupying the Patton Village and Bradley Village parcels. The lease will include the radon notification in the Environmental Protection Lease Provisions shown in Enclosure 5.

3.9 UNEXPLODED ORDNANCE

Based on a review of existing records and available information, none of the land proposed for lease is known to contain unexploded ordnance.

3.10 OTHER HAZARDOUS CONDITIONS

There are no other hazardous conditions that present an unacceptable threat to human health or the environment on the land proposed for lease.

4.0 REMEDIATION

Pursuant to section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, Fort Academic entered into a Federal Facilities Agreement (FFA) with the U.S. Environmental Protection Agency and the Virginia Department of Environmental Quality on November 4, 1995. The FFA addresses procedures for evaluation and remediation of hazardous contaminants releases on the installation. While the FFA remains in effect for other portions of the installation, all known remediation requirements with respect to the property proposed for lease have been completed. In addition, environmental conditions on parcels adjacent to those proposed for lease do not present a hazard to the leasing of the property. The lease will reserve the Army"s right to conduct remediation activities as shown in the Environmental Protection Lease Provisions in Enclosure 5.

5.0 REGULATORY/PUBLIC COORDINATION

The U.S. EPA Region III, the Virginia Department of Environmental Quality, and the public were notified of the initiation of the FOSL. Regulatory/public comments received during the FOSL development were reviewed and incorporated as appropriate. All regulatory comments were resolved. A copy of the regulatory/public comments is at Enclosure 6.

6.0 NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE AND CONSISTENCY WITH THE COMMUNITY DEVELOPMENT MANAGEMENT PLAN

The potential environmental impacts associated with proposed lease of the land parcels have been analyzed in accordance with the National Environmental Policy Act. The results of the analysis have been documented in the *Environmental Assessment of Implementation of the Army Residential Communities Initiative at Fort Academic, Virginia*. Any encumbrances or conditions identified in the analysis as necessary to protect human health or the environmental have been incorporated into the FOSL. In addition, the proposed lease is consistent with the intended use of the property as set forth in the Fort Academic Community Development Management Plan prepared jointly by the Upright Development Corporation and Fort Academic.

7.0 ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies, and in consideration of the intended use of the property, certain terms and conditions are required for the proposed lease of land parcels. These terms and conditions, set forth in the Environmental Protection Lease Provisions shown in Enclosure 5, will be included in the lease.

8.0 FINDING OF SUITABILITY TO LEASE

Based on the above information, I have concluded that all Department of Defense requirements to reach a Finding of Suitability to Lease land parcels to the Upright Development Corporation for use in conjunction with the Army Residential Communities Initiative have been fully met, subject to the terms and conditions in the Environmental Protection Lease Provisions in Enclosure 6.

As required by CERCLA section 120(h)(3)(B), I have determined that the property is suitable for lease for the intended purpose, the uses contemplated for the lease are consistent with protection of human health and the environment, and there adequate assurances that the United States will take any additional remedial action found to be necessary that has not been taken on the date of the lease.

As required under the DOD FOSL Guidance, notification of hazardous substance activities and petroleum product activities shall be provided in the lease documents. These notifications include Table 2, Notification of Hazardous Substance Storage, Release, or Disposal in Enclosure 3 and Table 3, Notification of Petroleum Product Storage, Release, or Disposal in Enclosure 4.

I. M. HEADLEY
Colonel, GS
Deputy Chief of Staff for Engineering, Housing, Environment, and Installation Logistics

Enclosures

Enclosure 1 - Site Map
Enclosure 2 - Table 1, Description of Property
Enclosure 3 - Table 2, Notification of Hazardous Substance Storage, Release, or Disposal
Enclosure 4 - Table 3, Notification of Petroleum Product Storage, Release, or Disposal
Enclosure 5 - Environment Protection Lease Provisions
Enclosure 6 - Regulatory/Public Comments

Enclosure 1

Site Map
Land Proposed for Lease
Fort Academic, Virginia

[*Omitted*]

Enclosure 2

Table 1
Description of Property

Property Location	Acreage[1]	Condition Code[2]	Environmental Condition of Property, Remedial Action, and Remarks
Bayside	8	1	Property developed with 10 buildings (10 family housing units).
Crofton Village	45	2	Property developed with 35 buildings (200 family housing units). Heating fuel in leaking underground storage tank (site UT-92) near Building 227 migrated onto parcel. Site remediated in August 1999.
Patton Village	8	1	Property developed with 30 buildings (30 family housing units).
Historic District	5	1	Property developed with 10 buildings (10 family housing units).
Bradley Village	46	2	Property developed with 60 buildings (212 family housing units). Heating fuel in leaking underground storage tank (site UT-19) near Building 420 migrated onto parcel. Site remediated in August 1999.
Kit Carson	14	1	Property developed with 30 buildings (60 family housing units).
West Tidewater	52	1	Property developed with 50 buildings (308 family housing units).
East Tidewater	32	1	Property developed with 30 buildings (120 family housing units).
Parcel 2	35	1	Property not developed.
Parcel 3	25	4	Property formerly developed for administrative use purposes. Buildings removed in 1985. Debris and dielectric fluids from exploded pole-mounted PCB transformer at northeast corner of parcel remediated in September 1999.

[1] Acreage approximate, subject to final survey.

[2] Department of Defense Environmental Condition Codes:

Category 1. Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent properties). However, the area may have been used to store hazardous substances or petroleum products.

Category 2. Areas where only release or disposal of petroleum products has occurred (including migration of petroleum products from adjacent areas).

Category 3. Areas where storage, release, disposal, or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remediation action.

Category 4. Areas where storage, release, disposal, or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5. Areas where storage, release, disposal, or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required actions have not yet been implemented.

Category 6. Areas where storage, release, disposal, or migration of hazardous substances has occurred, but required removal or remedial actions have not been initiated.

Category 7. Areas that are not evaluated or require additional evaluation.

Enclosure 3

Table 2
Notification of Hazardous Substance Storage, Release, and Disposal

Location	Name of Hazardous Substance	Date of Storage, Release, or Disposal	Remedial Actions
Pole-mounted transformer at N.E. corner of Parcel 3	Polychlorinated biphenyl (PCB)	Release of dielectric fluids in August 1996	Final remedial action completed August 1999

Enclosure 4

Table 3
Notification of Petroleum Product Storage, Release, or Disposal

Location	Date of Storage, Release, or Disposal	Remedial Actions
Adjacent to Crofton Village (Site UT-92)	Minor portion of heating fuel that leaked from an underground storage tank for an unknown period prior to 1996 migrated onto Crofton Village parcel near Building 227.	Site remediation completed in August 1999
Adjacent to Bradley Village (Site UT-19)	Minor portion of heating fuel that leaked from an underground storage tank for an unknown period prior to 1995 migrated onto Bradley Village parcel near Building 420.	Site remediation completed in August 1999

Enclosure 5

ENVIRONMENTAL PROTECTION LEASE PROVISIONS

The following conditions will be placed in the lease to ensure there will be no unacceptable risk to human health or the environment and no interference with the missions of, or to the ongoing Installation Restoration Program (IRP) at Fort Academic, Virginia, and to ensure regulatory requirements for the IRP and other compliance programs administered by the Army are met.

1. The sole purposes for which the leased premises and any improvements thereon may be used, in the absence of prior written approval of the Government for any other uses, are in conjunction with implementation of the Army Residential Communities Initiative at Fort Academic, Virginia.

2. The Lessee shall neither transfer nor assign this Lease or any interest therein or any property on the leased premises, nor sublet the leased premises or any part thereof or any property thereon, nor grant any interest, privilege, or license whatsoever in connection with this Lease without the prior written consent of the Government. Such consent shall not be unreasonably withheld or delayed. Every sublease shall contain the Environmental Protection Provisions herein.

3. The Lessee and any sublessee shall comply with the applicable Federal, state, and local laws, regulations, and standards that are or may become applicable to Lessee's or sublessee"s activities on the Leased Premises.

4. The Lessee and any sublessee shall be solely responsible for obtaining at its cost and expense any environmental permits required for its operations under the Lease, independent of any existing permits.

5. The Government's rights under this Lease specifically include the right for Government officials to inspect upon reasonable notice the Leased Premises for compliance with environmental, safety, and occupational health laws and regulations, whether or not the Government is responsible for enforcing them. Such inspections are without prejudice to the right of duly constituted enforcement officials to make such inspections. The Government normally will give the Lessee or sublessee twenty-four (24) hours prior notice of its intention to enter the Leased Premises unless it determines the entry is required for safety, environmental, operations, or security purposes. The Lessee shall have no claim on account of any entries against the United States or any officer, agent, employee, or contractor thereof.

6. The Government acknowledges that Fort Academic, Virginia has been identified as a National Priority List (NPL) Site under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. The Lessee acknowledges that the Government has provided it with a copy of the Fort Academic Federal Facility Agreement (FFA) entered into by the United States Environmental Protection Agency (EPA) Region III, the State of Virginia, and the Department of the Army and effective on November 4, 1995, and will provide the Lessee with a copy of any amendments thereto. The Lessee agrees that should any conflict arise between the terms of such agreement as it presently exists or may be amended and the provisions of this Lease, the terms of the FFA will take

precedence. The Lessee further agrees that notwithstanding any other provisions of the Lease, the Government assumes no liability to the Lessee or its sublessees or licensees should implementation of the FFA interfere with the Lessee's or any sublessee's or licensee's use of the Leased Premises. The Lessee shall have no claim on account of any such interference against the United States or any officer, agent, employee or contractor thereof, other than for abatement of rent.

7. The Government, EPA, and the Virginia Department of Environmental Quality and their officers, agents, employees, contractors, and subcontractors, have the right, upon reasonable notice to the Lessee and any sublessee, to enter upon the Leased Premises for the purposes enumerated in the following subparagraphs and for such other purposes consistent with any provision of the FFA: (a) To conduct investigations and surveys, including, where necessary, drilling, soil and water sampling, test-pitting, testing soil borings, and other activities related to the Fort Academic Installation Restoration Program (IRP) or FFA;

(b) To inspect field activities of the Government and its contractors and subcontractors in implementing the Fort Academic IRP or FFA;

(c) To conduct any test or survey required by the EPA or Virginia Department of Environmental Quality relating to the implementation of the FFA or environmental conditions at the Leased Premises or to verify any data submitted to the EPA or Virginia Department of Environmental Quality by the Government relating to such conditions;

(d) To construct, operate, maintain, or undertake any other response or remedial action, as required or necessary under the Fort Academic IRP or the FFA, including, but not limited to monitoring wells, pumping wells, and treatment facilities; and

(e) To conduct Environmental Compliance Assessment System Surveys (ECAS).

8. The Lessee and any sublessee shall comply with the provisions of any health and safety plan in effect under the IRP or the FFA during the course of any of the above described response or remedial actions. Any inspection, survey, investigation, or other response or remedial action will, to the extent practicable, be coordinated with representative designated by the Lessee and any sublessee The Lessee and any sublessee shall have no claim on account of such entries against the United States or any office, agent, employee, contractor, or subcontractor thereof. In addition, the Lessee and any sublessee shall comply with all applicable Federal, state, and local occupational safety and health regulations.

9. The Lessee further agrees that in the event of any assignment or sublease of the Leased Premises, it shall provide to the EPA and the Virginia Department of Environmental Quality by certified mail a copy of the agreement or sublease of the Leased Premises (as the case may be) within fourteen (14) days after the effective date of such transaction. The Lessee may delete the financial terms and any other proprietary information from the copy of any agreement of assignment or sublease furnished pursuant to this condition.

10. The Lessee shall strictly comply with the hazardous waste requirements under Resource Conservation and Recovery Act (RCRA) and implementing regulations issued by the State of Virginia. Except as specifically authorized by the Government in writing, the Lessee must provide at its own expense hazardous waste management facilities, complying with all laws and regulations. Government hazardous waste management facilities will not be available to the Lessee. Any violation of the requirements of this condition shall be deemed a material breach of this Lease.

11. Fort Academic accumulation points for hazardous and other wastes will not be used by the Lessee or any sublessee. Neither will the Lessee or sublessee permit its hazardous wastes to be commingled with hazardous waste of the Department of the Army.

12. The Lessee shall prepare and maintain a Government-approved plan for responding to hazardous waste, fuel, and other chemical spills prior to commencement of operations on the leased premises. Such a plan shall be independent of the Fort Academic plan and, except for initial fire response and/or spill containment, shall not rely on installation personnel or equipment. Should the Government provide any personnel or equipment, whether for initial fire response and/or spill containment, or otherwise on request of any Government officer conducting timely cleanup actions, the Lessee agrees to reimburse the Government for its costs.

13. The Lessee shall not construct or make or permit its sublessees or assigns to construct or make any alterations, additions, or improvements to, or installations upon or otherwise modify or alter the leased premises in any way which may adversely affect the Fort Academic environmental program, environmental cleanup, human health, or the environment without the prior written consent of the Government. Such consent may include a requirement to provide the Government with a performance and payment bond satisfactory to it in all respects and other requirements deemed necessary to protect the interests of the Government. For construction or alterations, additions, modifications, improvements, or installations (collectively "work") in the proximity of operable units that are a part of an NPL site, such consent may include a requirement for written approval by the Government's Remedial Project Manager. Except as such written approval shall expressly provide otherwise, all such approved alterations, additions, modifications, improvements, and installations shall become Government property when annexed to the Leased Premises.

14. The Lessee shall not conduct or permit its sublessees to conduct any subsurface excavation, digging, drilling, or other disturbance of the surface without the prior written approval of the Government.

15. The Lessee shall strictly comply with the hazardous waste permit requirements under the Resource Conservation and Recovery Act (RCRA), or its state equivalent and any other applicable laws, rules or regulations. The Lessee must provide at its own expense such hazardous waste storage facilities which comply with all laws and regulations as it may need for such storage. Any violation of the requirements of this provision shall be deemed a material breach of this Lease.

16. Notice of the Presence of Lead-Based Paint and Covenant: (a) The Lessee is hereby informed and does acknowledge that all buildings present on the Leased Premises, which were constructed or rehabilitated prior to 1978, are presumed to contain lead-based paint. Lead from paint, paint chips, and

dust can pose health hazards if not managed properly. Lead exposure is especially harmful to young children and pregnant women. Before renting pre-1978 residential housing, lessors must disclose to lessees and sublessees the presence of lead-based paint and/or lead-based paint hazards therein. "Residential Housing" means any housing constructed prior to 1978, except housing for the elderly (households reserved for and composed of one or more persons 62 years of age or more at the time of initial occupancy) or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing) or any 0-bedroom dwelling. A risk assessment or inspection for possible lead-based paint hazards by the Lessee is recommended prior to lease.

(b) Available information concerning known lead-based paint and/or lead-based paint hazards, the location of lead-based paint and/or lead-based paint hazards, and the condition of painted surfaces is contained in the Environmental Baseline Survey, which has been provided to the Lessee. All lessees and sublessees must also receive the federally-approved pamphlet on lead poisoning prevention. The Lessee hereby acknowledges receipt of all of the information described in this subparagraph.

(c) The Lessee acknowledges that it has received the opportunity to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards prior to execution of this Lease.

(d) The Lessee shall not permit the occupancy or use of any buildings or structures located on the leased premises as residential housing without complying with this section and all applicable federal, state, and local laws and regulations pertaining to lead-based paint and/or lead-based paint hazards. Prior to permitting the occupancy of residential housing, if required by law or regulation, the Lessee, at its sole expense, will abate and eliminate lead-based paint hazards in accordance with all applicable laws and regulations. The Lessee agrees to be responsible for any future remediation of lead-based paint found to be necessary on the Leased Premises.

(e) The Army assumes no liability for remediation or damages for personal injury, illness, disability, or death, to the Lessee, its successors or assigns, sublessees or to any other person, including members of the general public, arising from or incident to possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. The Lessee further agrees to indemnify and hold harmless the Army, its officers, agents and employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicated upon, personal injury, death or property damage resulting from, related to, caused by or arising out of the possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. This clause and the obligations of the Lessee hereunder shall survive the expiration or termination of this Lease and any conveyance of the Leased Premises to the Lessee. The Lessee"s obligation hereunder shall apply whenever the United States of America incurs costs or liabilities for actions giving rise to liability under this section.

17. Notice of the Presence of Asbestos and Covenant: (a) The Lessee is hereby informed and does acknowledge that friable and non-friable asbestos or asbestos-containing materials ("ACM") has been found in buildings on the Leased Premises, as described in the final base-wide EBS. The ACM in the

buildings on the Leased Premises does not currently pose a threat to human health or the environment. All friable asbestos that posed a risk to human health has either been removed or encapsulated.

(b) The Lessee covenants and agrees that its use and occupancy of the Leased Premises will be in compliance with all applicable laws relating to asbestos; and that the Grantor assumes no liability for future remediation of asbestos or damages for personal injury, illness, disability, or death, to the Lessee, its successors or assigns, sublessees, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with asbestos on the Leased Premises described in this Lease, whether the Lessee, its successors or assigns have properly warned or failed to properly to warn the individual(s) injured. The Lessee agrees to be responsible for any future remediation of asbestos found to be necessary on the Leased Premises.

18. Notice of Polychlorinated Biphenyl Equipment and Covenant: (a) The Lessee is hereby informed and does acknowledge that equipment containing polychlorinated biphenyls (PCBs) exists on the Leased Premises, as described in the final base-wide Environmental Baseline Survey (EBS). All PCB-containing equipment has been properly labeled in accordance with applicable law and regulation. Any PCB contamination or spills related to such equipment has been properly remediated prior to execution of the Lease. The PCB equipment does not currently pose a threat to human health or the environment.

(b) Upon request, the Army agrees to furnish to the Lessee any and all records in its possession related to such PCB equipment necessary for the continued compliance by the Lessee with applicable laws and regulations related to the use and storage of PCBs or PCB-containing equipment.

(c) The Lessee covenants and agrees that its continued possession, use, and management of any PCB-containing equipment will be in compliance with all applicable laws relating to PCBs and PCB- containing equipment, and that the Army assumes no liability for the remediation of PCB contamination or damages for personal injury, illness, disability, or death to the Lessee, its successors or assigns, sublessees or to any other person, including members of the general public, arising from or incident to use, handling, management, disposition, or other activity causing or leading to contact of any kind whatsoever with PCBs or PCB-containing equipment, whether the Lessee, its successors or assigns have property warned or failed to properly warn the individual(s) insured. The Lessee agrees to be responsible for any remediation of PCBs or PCB-containing equipment found to be necessary from its use or possession during the term of the Lease. This clause and the obligations of the Lessee hereunder shall survive the expiration or termination of this lease and any conveyance of the Leased Premises to the Lessee.

19. Notice of the Presence of Radon and Covenant: (a) The Lessee is hereby informed and does acknowledge that radon has been found on the Property, as described in the final base-wide EBS. Unprotected or unregulated exposure to elevated levels of indoor radon may contribute to increased risk of contracting lung cancer. The Environmental Protection Agency recommends reduction of indoor radon levels when they exceed 4.0 picocuries per liter. The radon on the property does not currently pose a threat to human health or the environment. All buildings in which radon has been measured in excess of 4.0 picocuries per liter have been vented.

(b) Upon request, the Army agrees to furnish to the Lessee any and all records in its possession related to such indoor radon levels and equipment necessary for the continued compliance by the Lessee with applicable laws and regulations related to abatement of indoor radon levels.

(c) The Lessee covenants and agrees that its continued possession, use, and management of the Leased Premises will be in compliance with all applicable laws relating to radon and radon exposure, and that the Army assumes no liability for the abatement of radon or damages for personal injury, illness, disability, or death to the Lessee, its successors or assigns, sublessees or to any other person, including members of the general public, arising from or incident to use, handling, management, disposition, or other activity causing or leading to exposure of any kind whatsoever with radon, whether the Lessee, its successors or assigns have property warned or failed to properly warn the individual(s) insured. The Lessee agrees to be responsible for any abatement of radon found to be necessary from its use or possession during the term of the Lease. This clause and the obligations of the Lessee hereunder shall survive the expiration or termination of this lease and any conveyance of the Leased Premises to the Lessee.

20. The Lessee shall not use the Leased Premises for the storage or disposal of non-Department of Defense-owned hazardous or toxic materials, as defined in 10 U.S.C. 2692, unless authorized under 10 U.S.C. 2692 and properly approved by the Government.

21. The Army may impose any additional environmental protection conditions and restrictions during the terms of this lease that it deems necessary by providing written notice of such conditions or restrictions to the Lessee.

Enclosure 6

Regulatory/Public Comments

[*Omitted*]

FINDING OF SUITABILITY TO TRANSFER (FOST)

Family Housing Buildings at Fort Academic, Virginia

July 10, 2000

[Note: The enclosed FOST is tailored to the scenario constructed for the fictitious Fort Academic. The scenario may or may not encompass all the peculiarities to be found at Army installations implementing the Residential Communities Initiative. The attached FOST is a good faith effort in seeking to be representative of the types of issues that will be encountered. It only generally demonstrates concepts applicable to making the required determinations prior to transfer of property. Moreover, the "art" of preparing FOSTs continues to evolve; there appear to be slight differences in content and approach among Army major commands. Staff members in the RCI process are urged to consult with their legal counsel in developing information for inclusion in the FOST.]

FINDING OF SUITABILITY TO TRANSFER
Family Housing Buildings
Fort Academic, Virginia

July 10, 2000

1.0 PURPOSE

The purpose of this Finding Of Suitability To Transfer (FOST) is to document the environmental suitability of certain property at Fort Academic, Virginia, for transfer to the Upright Development Corporation for construction, maintenance, management, renovation, replacement, rehabilitation, and development of Army family housing and ancillary supporting facilities consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h) and Department of Defense policy. In addition, the FOST identifies use restrictions as specified in the attached Environmental Protection Deed Provisions necessary to protect human health or the environment after such transfer.

2.0 PROPERTY DESCRIPTION

The property proposed to be transferred consists of 255 buildings containing 950 family housing units. The buildings are identified as follows:

Buildings 220 through 254 (family housing in the Crofton Village Housing Area)
Buildings 344 through 373 (family housing in Patton Village Housing Area)
Buildings 410 through 469 (family housing in Bradley Village Housing Area)
Buildings 501 through 530 (family housing in the Kit Carson Housing Area)
Buildings 701 through 750 (family housing in the West Tidewater Housing Area)
Buildings 751 through 780 (family housing in the East Tidewater Housing Area)
Buildings 870 through 789 (family housing in the Bayside Housing Area)
Buildings 1214 through 1223 (family housing in the Historic District)

Enclosure 1 is a Site Map showing the locations of the family housing buildings.

3.0 ENVIRONMENTAL CONDITION OF THE PROPERTY

A determination of the environmental condition of the buildings has been made based on an Environmental Baseline Survey (EBS)(dated July 22, 1999) and a Community Environmental Response Facilitation Act (CERFA) Report (dated July 22, 1999). The information provided is a result of a complete search of agency files during the development of these environmental surveys. The following documents also provided information on environmental conditions of the property: Fort Academic Asbestos Management Plan (dated October 4, 1994), Residential Asbestos Survey (dated January 19, 1996), Fort Academic Master Plan (dated March 25, 1996), Residential Radon Survey (dated October 3, 1996), Fort Academic Lead Hazard Management Plan (dated June 2, 1996), Fort

Academic Lead-Based Paint Report (December 3, 1996), Storage Tank Inventory and Condition Report (dated May 20, 1992), Fort Academic Remedial Investigation and Feasibility Study Report (dated June 1, 1995), Fort Academic Remedial Investigation and Feasibility Study Supplement (dated August 3, 1997), Interim Record of Decision No. 4 (dated May 15, 1999), Interim Record of Decision No. 5 (dated May 25, 1999), Polychlorinated Biphenyl Transformer Incident Report (dated September 1, 1996), and Polychlorinated Biphenyl Electrical Transformers Status Survey (dated April 2, 1993).

3.1 ENVIRONMENTAL CONDITION OF PROPERTY CATEGORIES

All buildings proposed for transfer are categorized as Category 1 under Department of Defense (DOD) Environmental Condition of Property (ECP) Categories. Category 1 properties are those where there has been no release or disposal of hazardous substances or petroleum products (including no migration of these substances from adjacent properties); the property may have been used, however, to store hazardous substances or petroleum products. A summary of all the ECP Category Codes is provided in Table 1, Description of Property in Enclosure 2.

3.2 STORAGE, RELEASE, OR DISPOSAL OF HAZARDOUS SUBSTANCES

There is no evidence that hazardous substances were stored, released, or disposed of in the buildings in excess of the reportable quantities listed in 40 CFR Part 373. Enclosure 3 contains Table 2, Notification of Hazardous Substance Storage, Release, or Disposal to document compliance with 40 CFR 373.

3.3 PETROLEUM AND PETROLEUM PRODUCTS

3.3.1 Storage, Release, or Disposal of Petroleum Products

All buildings proposed for transfer consist of family housing units heated by fuel oil furnaces. Petroleum products (#2 fuel oil) were stored in aboveground storage tanks (ASTs) in excess of 55 gallons at each of the buildings. There have been no known releases of fuel oil. Enclosure 4 contains Table 3, Notification of Petroleum Products Storage, Release, or Disposal.

3.3.2 Underground and Above-Ground Storage Tanks (UST/AST)

There is no evidence that petroleum products were stored in underground or above-ground storage tanks in the buildings proposed for transfer.

3.4 POLYCHLORINATED BIPHENYLS (PCB) EQUIPMENT

There are no PCB-containing transformers or other PCB containing equipment located in the buildings and no evidence of unremediated releases from PCB equipment.

3.5 ASBESTOS

There is asbestos-containing material (ACM) in the following buildings:

Buildings 220 through 254 (Crofton Village)
Buildings 501 through 530 (Kit Carson)
Buildings 701 through 750 (West Tidewater)
Buildings 751 through 780 (East Tidewater)
Buildings 870 through 789 (Bayside)
Buildings 1214 through 1223 (Historic District)

The ACM is found in floor covering, pipe insulation, pipe-wrap, blown-in insulation, floor mastic, and siding in the buildings. The ACM does not currently pose a threat to human health or the environment because all friable asbestos that posed an unacceptable risk to human health has been removed or encapsulated. The deed will include the asbestos warning and covenant in the Environmental Protection Deed Provisions shown in Enclosure 5.

3.6 LEAD-BASED PAINT (LBP)

Based on the age of the buildings (constructed prior to 1978) and survey report of December 1996, the following buildings are presumed or known to contain lead-based paint:

Buildings 220 through 254 (Crofton Village)
Buildings 410 through 469 (Bradley Village)
Buildings 501 through 530 (Kit Carson)
Buildings 701 through 750 (West Tidewater)
Buildings 751 through 780 (East Tidewater)
Buildings 870 through 789 (Bayside)
Buildings 1214 through 1223 (Historic District)

Of the foregoing, LBP has been removed from Buildings 504, 519, 520, 521, 525, 721, 724, 737, 738, 739, 753, 770, 1219, and 1220. LBP is known not to exist in Buildings 344 through 373. The deed will include the lead-based paint warning and covenant provided in the Environmental Protection Deed Provisions in Enclosure 5.

3.7 RADIOLOGICAL MATERIALS

There is no evidence that radioactive material or sources were used or stored in the buildings.

3.8 RADON

Radon surveys were conducted in the buildings proposed for transfer and was detected above the EPA residential action level of 4 picocuries per liter (pCi/L) in the following buildings: 220, 224 through 227, 229, 231, 233, 234, 236, 241 through 245, 248, 253, 344 through 373, and 410 through

469. The deed will include the radon notification shown in the Environmental Protection Deed Provisions in Enclosure 5.

3.9 OTHER HAZARDOUS CONDITIONS

There are no other hazardous conditions which required remediation or a response action for the property to be suitable for transfer for the intended use.

4.0 REMEDIATION

There are no environmental remediation orders or agreements applicable to the property being transferred.

5.0 REGULATORY/PUBLIC COORDINATION

The U.S. EPA Region III, the Virginia Department of Environmental Quality, and the public were notified of the initiation of the FOST. Regulatory/public comments received during the FOST development were reviewed and incorporated as appropriate. All regulatory comments were resolved. A copy of the regulatory/public comments is at Enclosure 6.

6.0 NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE AND CONSISTENCY WITH THE COMMUNITY DEVELOPMENT MANAGEMENT PLAN

The potential environmental impacts associated with proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act. The results of the analysis have been documented in the *Environmental Assessment of Implementation of the Army Residential Communities Initiative at Fort Academic, Virginia*. Any encumbrances or conditions identified in the analysis as necessary to protect human health or the environmental have been incorporated into the FOST. In addition, the proposed transfer is consistent with the intended use of the property as set forth in the Fort Academic Community Development Management Plan prepared jointly by the Upright Development Corporation and Fort Academic.

7.0 ENVIRONMENTAL PROTECTION DEED PROVISIONS

On the basis of the above results from the site-specific EBS and other environmental studies, and in consideration of the intended use of the property, certain terms and conditions are required for the proposed transfer. These terms and conditions, set forth in the attached Environmental Protection Deed Provisions shown in Enclosure 5, will be included in the deed.

8.0 FINDINGS OF SUITABILITY TO TRANSFER

Based on the information above, I conclude that the property qualifies as CERCLA "120(h)(4) uncontaminated property, is transferable under that section, and that all Department of Defense requirements to reach a Finding of Suitability to Transfer have been met, subject to the terms and conditions in the attached Environmental Protection Deed Provisions shown in Enclosure 5. In

addition, the deed for this transaction will contain the covenant under CERCLA "120(h)(4)(D)(I) warranting that any response action or corrective action found to be necessary after the date of transfer shall be conducted by the United States and a clause as required by CERCLA "120(h)(4)(D)(ii) granting the United States access to the property in any case in which a response action or correction action is found to be necessary after the date of transfer for the Property, or such access is necessary to carry out a response action or corrective action on adjoining property.

I. M. HEADLEY
Colonel, GS
Deputy Chief of Staff for Engineering, Housing, Environment, and Installation Logistics

Enclosures

Enclosure 1 - Site Map
Enclosure 2 - Table 1, Description of Property
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Enclosure 1

Site Map
Buildings Proposed for Transfer
Fort Academic, Virginia

[*Omitted*]

Enclosure 2

Table 1
Description of Property

Bldg No.	Units	Condition Code[1]	Environmental Condition of Property, Remedial Action, and Remarks
Bayside (Command Group)			
870	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
871	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
872	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
873	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
874	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
875	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
876	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
877	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
878	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
879	1	1	Possible LBP on exterior and interior. Non-friable asbestos floor covering.
Crofton Village			
220	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
221	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
222	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
223	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.

224	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
225	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
226	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
227	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
228	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
229	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
230	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
231	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
232	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
233	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
234	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
235	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
236	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
237	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
238	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
239	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP

			on exterior, possible LBP on interior.
240	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
241	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
242	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
243	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
244	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
245	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
246	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
247	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
248	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
249	8	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
250	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
251	6	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
252	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.
253	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior. Vented for radon.
254	4	1	Friable asbestos pipe insulation (encapsulated) and non-friable floor covering. LBP on exterior, possible LBP on interior.

Patton Village			
344	1	1	Vented for radon.
345	1	1	Vented for radon.
346	1	1	Vented for radon.
347	1	1	Vented for radon.
348	1	1	Vented for radon.
349	1	1	Vented for radon.
350	1	1	Vented for radon.
351	1	1	Vented for radon.
352	1	1	Vented for radon.
353	1	1	Vented for radon.
354	1	1	Vented for radon.
355	1	1	Vented for radon.
356	1	1	Vented for radon.
357	1	1	Vented for radon.
358	1	1	Vented for radon.
359	1	1	Vented for radon.
360	1	1	Vented for radon.
361	1	1	Vented for radon.
362	1	1	Vented for radon.
363	1	1	Vented for radon.
364	1	1	Vented for radon.
365	1	1	Vented for radon.

366	1	1	Vented for radon.
367	1	1	Vented for radon.
368	1	1	Vented for radon.
369	1	1	Vented for radon.
370	1	1	Vented for radon.
371	1	1	Vented for radon.
372	1	1	Vented for radon.
373	1	1	Vented for radon.
Historic District			
1214	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1215	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1216	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1217	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1218	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1219	1	1	Asbestos pipe insulation (encapsulated) and floor mastic.
1220	1	1	Asbestos pipe insulation (encapsulated) and floor mastic.
1221	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1222	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
1223	1	1	LBP interior. Asbestos pipe insulation (encapsulated) and floor mastic.
Bradley Village			
410	4	1	LBP exterior. Vented for radon.
411	4	1	LBP exterior. Vented for radon.
412	4	1	LBP exterior. Vented for radon.

413	4	1	LBP exterior. Vented for radon.
414	4	1	LBP exterior. Vented for radon.
415	4	1	LBP exterior. Vented for radon.
416	4	1	LBP exterior. Vented for radon.
417	4	1	LBP exterior. Vented for radon.
418	4	1	LBP exterior. Vented for radon.
419	4	1	LBP exterior. Vented for radon.
420	4	1	LBP exterior. Vented for radon.
421	4	1	LBP exterior. Vented for radon.
422	4	1	LBP exterior. Vented for radon.
423	4	1	LBP exterior. Vented for radon.
424	4	1	LBP exterior. Vented for radon.
425	4	1	LBP exterior. Vented for radon.
426	4	1	LBP exterior. Vented for radon.
427	4	1	LBP exterior. Vented for radon.
428	4	1	LBP exterior. Vented for radon.
429	4	1	LBP exterior. Vented for radon.
430	2	1	LBP exterior. Vented for radon.
431	2	1	LBP exterior. Vented for radon.
432	2	1	LBP exterior. Vented for radon.
433	2	1	LBP exterior. Vented for radon.
434	2	1	LBP exterior. Vented for radon.
435	4	1	LBP exterior. Vented for radon.

436	4	1	LBP exterior. Vented for radon.
437	4	1	LBP exterior. Vented for radon.
438	4	1	LBP exterior. Vented for radon.
439	4	1	LBP exterior. Vented for radon.
440	4	1	LBP exterior. Vented for radon.
441	4	1	LBP exterior. Vented for radon.
442	4	1	LBP exterior. Vented for radon.
443	4	1	LBP exterior. Vented for radon.
444	4	1	LBP exterior. Vented for radon.
445	4	1	LBP exterior. Vented for radon.
446	4	1	LBP exterior. Vented for radon.
447	4	1	LBP exterior. Vented for radon.
448	4	1	LBP exterior. Vented for radon.
449	4	1	LBP exterior. Vented for radon.
450	4	1	LBP exterior. Vented for radon.
451	2	1	LBP exterior. Vented for radon.
452	2	1	LBP exterior. Vented for radon.
453	2	1	LBP exterior. Vented for radon.
454	2	1	LBP exterior. Vented for radon.
455	2	1	LBP exterior. Vented for radon.
456	2	1	LBP exterior. Vented for radon.
457	2	1	LBP exterior. Vented for radon.
458	2	1	LBP exterior. Vented for radon.

459	2	1	LBP exterior. Vented for radon.
460	4	1	LBP exterior. Vented for radon.
461	4	1	LBP exterior. Vented for radon.
462	4	1	LBP exterior. Vented for radon.
463	4	1	LBP exterior. Vented for radon.
464	4	1	LBP exterior. Vented for radon.
465	4	1	LBP exterior. Vented for radon.
466	4	1	LBP exterior. Vented for radon.
467	4	1	LBP exterior. Vented for radon.
468	4	1	LBP exterior. Vented for radon.
469	4	1	LBP exterior. Vented for radon.
Kit Carson			
501	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
502	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
503	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
504	2	1	Asbestos insulation (blown-in) and siding.
505	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
506	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
507	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
508	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
509	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
510	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
511	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.

512	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
513	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
514	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
515	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
516	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
517	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
518	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
519	2	1	Asbestos insulation (blown-in) and siding.
520	2	1	Asbestos insulation (blown-in) and siding.
521	2	1	Asbestos insulation (blown-in) and siding.
522	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
523	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
524	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
525	2	1	Asbestos insulation (blown-in) and siding.
526	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
527	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
528	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
529	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
530	2	1	Asbestos insulation (blown-in) and siding. LBP interior and exterior.
West Tidewater			
701	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
702	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
703	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.

704	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
705	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
706	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
707	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
708	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
709	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
710	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
711	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
712	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
713	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
714	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
715	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
716	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
717	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
718	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
719	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
720	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
721	4	1	Asbestos pipe-wrap and insulation (blown-in).
722	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
723	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
724	8	1	Asbestos pipe-wrap and insulation (blown-in).
725	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
726	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.

727	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
728	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
729	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
730	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
731	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
732	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
733	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
734	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
735	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
736	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
737	8	1	Asbestos pipe-wrap and insulation (blown-in).
738	8	1	Asbestos pipe-wrap and insulation (blown-in).
739	8	1	Asbestos pipe-wrap and insulation (blown-in).
740	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
741	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
742	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
743	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
744	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
745	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
746	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
747	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
748	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
749	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.

750	8	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
East Tidewater			
751	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
752	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
753	4	1	Asbestos pipe-wrap and insulation (blown-in).
754	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
755	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
756	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
757	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
758	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
759	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
760	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
761	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
762	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
763	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
764	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
765	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
766	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
767	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
768	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
769	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
770	4	1	Asbestos pipe-wrap and insulation (blown-in).
771	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.

772	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
773	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
774	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
775	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
776	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
777	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
778	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
779	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.
780	4	1	Asbestos pipe-wrap and insulation (blown-in). LBP interior.

[1] Department of Defense Environmental Condition Codes:

Category 1. Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent properties). However, the area may have been used to store hazardous substances or petroleum products.

Category 2. Areas where only release or disposal of petroleum products has occurred (including migration of petroleum products from adjacent areas).

Category 3. Areas where storage, release, disposal, or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remediation action.

Category 4. Areas where storage, release, disposal, or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5. Areas where storage, release, disposal, or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required actions have not yet been implemented.

Category 6. Areas where storage, release, disposal, or migration of hazardous substances has occurred, but required removal or remedial actions have not been initiated.

Category 7. Areas that are not evaluated or require additional evaluation.

Enclosure 3

Table 2
Notification of Hazardous Substance Storage, Release, or Disposal

Building	Name of Hazardous Substance	Date of Storage, Release, or Disposal	Remedial Actions
870 - 879 Bayside)	None	None	None
220 - 254 (Crofton Village)	None	None	None
344 - 373 (Patton Village)	None	None	None
1214 - 1223 (Historic District)	None	None	None
410 - 469 (Bradley Village)	None	None	None
501 - 530 (Kit Carson)	None	None	None
701 - 750 (West Tidewater)	None	None	None
751 - 780 (East Tidewater)	None	None	None

The information contained in this notice is required under the authority of regulations promulgated under Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S. Code section 9120(h). This table provides information on the storage of hazardous substances for one year or more in quantities greater than or equal to 1000 kilograms or the substance"s CERCLA reportable quantity (whichever is greater). In addition, it provides information on the known release of hazardous substances in quantities greater than or equal to the substance"s CERCLA reportable quantity. See 40 CFR Part 373.

Enclosure 4

Table 3
Notification of Petroleum Product Storage, Release, or Disposal

Buildings	Storage	Remedial Actions
870 - 879 (Bayside)	Each building served by a 100 gallon AST to store #2 fuel oil since 1945.	No known releases.
220 - 254 (Crofton Village)	Each 8-plex and each 6-plex served by a 550 gal AST and each 4-plex served by a 275 gal AST to store #2 fuel oil since 1962.	No known releases.
344 - 373 (Patton Village)	Each building served by a 100 gallon AST to store #2 fuel oil since 1973.	No known releases.
1214 - 1223 (Historic District)	Each building served by a 100 gallon AST to store #2 fuel oil since 1942.	No known releases.
410 - 469 (Bradley Village)	Each building served by a 350 gal AST to store #2 fuel oil since 1955.	No known releases.
501 - 530 (Kit Carson)	Each building served by a 275 gallon AST to store #2 fuel oil since 1961.	No known releases.
701 - 751 (West Tidewater)	Each 8-plex served by a 550 gal AST and each 4-plex served by a 350 gal AST to store #2 fuel oil since 1970.	No known releases.
750 - 780 (East Tidewater)	Each 8-plex served by a 550 gal AST and each 4-plex served by a 350 gal AST to store #2 fuel oil since 1970.	No known releases.

Enclosure 5

Environmental Protection Deed Provisions

The following conditions, restrictions, and notifications will be placed in the deed to ensure protection of human health and the environment and to preclude any interference with ongoing or completed remediation activities at Fort Academic, Virginia.

INCLUSION OF PROVISIONS: The person or entity to whom the property is transferred shall neither transfer the property, lease the property, nor grant any interest, privilege, or license whatsoever in connection with the property without the inclusion of the environmental protection provisions contained herein, and shall require the inclusion of such environmental protection provisions in all further deeds, transfers, leases, or grant of any interest, privilege, or license.

NPL PROPERTY: The United States acknowledges that Fort Academic, Virginia, has been identified as a National Priority List (NPL) site under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. The Grantee acknowledges that the United States has provided it with a copy of the Installation Federal Facility Agreement (FFA) entered into by the United States Environmental Protection Agency (EPA), Region III, the State of Virginia, and the Department of the Army, effective on November 4, 1995, and will provide the Grantee with a copy of any amendments thereto. The person or entity to whom the property is transferred agrees that should any conflict arise between the terms of the FFA as they presently exist or may be amended, and the provisions of this property transfer, the terms of the FFA will take precedence. The person or entity to whom the property is transferred further agrees that notwithstanding any other provisions of the property transfer, the United States assumes no liability to the person or entity to whom the property is transferred should implementation of the FFA interfere with their use of the property. The person or entity to whom the property is transferred or any subsequent Transferee shall have no claim on account of any such interference against the United States or any officer, agent, employee or contractor thereof.

CERCLA COVENANTS AND NOTICE: (1) Pursuant to Section 120(h)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, the Grantor hereby covenants that all remedial action necessary to protect human health and the environment with respect to any such hazardous substances remaining on the property has been taken before the date of conveyance hereunder and any additional remedial action found to be necessary with regard to such hazardous substances remaining on the property after the date of the conveyance that resulted from past activities of the grantor shall be conducted by the Grantor. This covenants shall not apply to the extent such remedial actions are caused by activities of the Grantee, its successor or assigns.

(2) The Grantor reserves a right and easement for access to the property in any case in which remedial action or corrective action is found to be necessary after the date of this Deed. In exercising these rights of access, except in case of imminent endangerment to human health or the environment, the Grantor shall give the Grantee, or the then record owner, at least 30 days prior written notice of actions to be taken in remediation of the property, and shall use reasonable means, without significant additional cost to the Grantor,

to avoid or to minimize interference with the use of the property by the Grantee, its successor or assigns. Furthermore, any such actions undertaken by the Grantor pursuant to this Section will, to the maximum extent practicable, be coordinated with a representative of the Grantee, its successor and assigns. Grantee agrees that, notwithstanding any other provisions of the Deed, that the Grantor assumes no liability to the Grantee, its successors and assigns, or any other person, should remediation of the property interfere with the use of the property by the Grantee, its successors and assigns.

(3) The Grantee and its successors and assigns covenant and agree that all leases, transfers, or conveyances of the property occurring subsequent to the date of this Deed shall be made expressly subject to, and shall have the benefit of, the provisions contained in this covenant and notice section.

NO LIABILITY FOR NON-ARMY CONTAMINATION: The Army shall not incur liability for additional response action or corrective action found to be necessary after the date of transfer in any case in which the person or entity to whom the property is transferred, or other non-Army entities, is identified as the party responsible for contamination of the property.

LEAD-BASED PAINT WARNING AND COVENANT: (1) The Transferee, its successors and assigns, is hereby informed and does acknowledge that all buildings on the property, which were constructed or rehabilitated prior to 1978, are presumed to contain lead-based paint. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. Lead exposure is especially harmful to young children and pregnant women. Such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems and impaired memory.

(2) Available information concerning known lead-based paint and/or lead-based paint hazards, the location of lead-based paint and/or lead-based paint hazards, and the condition of painted surfaces is contained in the Environmental Baseline Survey, which has been provided to the Grantee. Additionally, the Finding of Suitability to Transfer (FOST) has been provided to the Grantee. The Grantee has been provided with a copy of the federally-approved pamphlet on lead poisoning prevention. The Grantee hereby acknowledges receipt of all of the information described in this paragraph.

(3) A risk assessment or inspection by the Grantee, its successors and assigns, for possible lead-based paint hazards is recommended prior to the transfer of the Property. The Grantee, its successors and assigns, acknowledge that they have received the opportunity to conduct a risk assessment of inspection for the presence of lead-based paint and/or lead-based paint hazards prior to execution of the transfer.

(4) The Grantee, its successors and assigns, shall comply with all applicable federal, state, and local laws and regulations pertaining to lead-based paint and/or lead-based paint hazards. The Grantee shall not permit use of any buildings or structures on the Property for residential habitation without: (I) inspecting for the presence of lead-based paint and/or lead-based paint hazards; (ii) abating and eliminating lead-based hazards as required by and in accordance with all applicable laws and regulations; and (iii) complying with the notice and disclosure requirements under applicable Federal and state law. The Grantee agrees to be responsible for any future remediation of lead-based paint found to be necessary on the Property.

(5) The Army assumes no liability for remediation or damages for personal injury, illness, disability, or death, to the Grantee, its successors and assigns, sublessees or to any other person, including members of the general public, arising from or incident to possession and/or use of any portion of the Property containing lead-based paint. The Grantee, its successors and assigns, further agrees to indemnify and hold harmless the Army, its officers, agents and employees, from and against all suits, claims, demands or actions liabilities, judgments, costs and attorneys" fees arising out of, or in any manner predicated upon, personal injury, death or property damage resulting from, related to, caused by or arising out of the possession and/or use of any portion of the Property containing lead-based paint. The obligation of the Grantee, its successors and assigns, shall apply whenever the United States incurs costs or liabilities for actions giving rise to liability under this section.

NOTICE OF THE PRESENCE OF ASBESTOS AND COVENANT: (1) The Grantee is hereby informed and does acknowledge that friable and non-friable asbestos or asbestos-containing materials ("ACM") have been found on the Property, as described in the final base-wide EBS. The ACM on the property does not currently pose a threat to human health or the environment. All friable asbestos that posed a risk to human health has either been removed or encapsulated.

(2) The Grantee covenants and agrees that its use and occupancy of the Property will be in compliance with all applicable laws relating to asbestos; and that the Army assumes no liability for future remediation of asbestos or damages for personal injury, illness, disability, or death, to the Grantee, its successors or assigns, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with asbestos on the Property, whether the Grantee, its successors or assigns have properly warned or failed to properly warn the individual(s) injured. The Grantee agrees to be responsible for any future remediation of asbestos found to be necessary on the Property.

(3) Unprotected or unregulated exposures to asbestos in product manufacturing, shipyard, building construction workplaces have been associated with asbestos-related diseases. Both the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) regulate asbestos because of the potential hazards associated with exposure to airborne asbestos fibers. Both OSHA and EPA have determined that such exposure increases the risk of asbestos-related diseases, which include certain cancers and which can result in disability or death.

(4) The Transferee acknowledges that it has inspected the property as to its asbestos content and condition and any hazardous or environmental conditions relating thereto. The Transferee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the property, including, without limitation, any asbestos hazards or concerns.

(5) No warranties, either express or implied, are given with regard to the condition of the property, including, without limitation, whether the property does or does not contain asbestos or is or is not suitable for a particular purpose. The failure of the Grantee to inspect, or to be fully informed as to the condition of all or any portion of the property offered, will not constitute grounds for any claim or demand against the United States.

NOTICE OF THE PRESENCE OF RADON AND COVENANT: (1) The Grantee is hereby informed and does acknowledge that radon has been found on the Property, as described in the final base-wide EBS. Unprotected or unregulated exposure to elevated levels of indoor radon may contribute to increased risk of contracting lung cancer. The Environmental Protection Agency recommends reduction of indoor radon levels when they exceed 4.0 picocuries per liter. The radon on the property does not currently pose a threat to human health or the environment. All buildings in which radon has been measured in excess of 4.0 picocuries per liter have been vented.

(2) The Grantee covenants and agrees that its use and occupancy of the Property will be in compliance with all applicable laws relating to radon; and that the Army assumes no liability for future remediation of radon or damages for personal injury, illness, disability, or death, to the Grantee, its successors or assigns, or to any other person, including members of the general public, arising from or incident of exposure to or any other activity causing or leading to contact of any kind whatsoever with radon on the Property, whether the Grantee, its successors or assigns have properly warned or failed to properly warn the individual(s) injured. The Grantee agrees to be responsible for any future remediation of radon found to be necessary on the Property.

(3) The Transferee acknowledges that it has inspected the property as to its radon exposure condition and any hazardous or environmental conditions relating thereto. The Transferee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the property, including, without limitation, any radon hazards or concerns.
(4) No warranties, either express or implied, are given with regard to the condition of the property, including, without limitation, whether the property does or does not contain elevated levels of radon or is or is not suitable for a particular purpose. The failure of the Grantee to inspect, or to be fully informed as to the condition of all or any portion of the property offered, will not constitute grounds for any claim or demand against the United States.

INDEMNIFICATION: Notwithstanding any other provision of this Deed, the Grantor recognizes its obligation to comply with Section 330 of the Department of Defense Authorization Act of 1993, as amended.

Enclosure 6

Regulatory/Public Comments

[*Omitted*]

APPENDIX I

MEMORANDUM ON GENERAL CONFORMITY UNDER THE CLEAN AIR ACT—POLICY AND GUIDANCE

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON DC 20310-0600

DAIM-ED-C (200-1a) 27 JUN 1995

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: General Conformity Under the Clean Air Act -- Policy and Guidance

1. Reference U.S. Environmental Protection Agency (EPA) Final Rule: Determining Conformity of General Federal Actions to State or Federal Implementation Plans, 58 FR 63214 (30 Nov 93). This rule is codified as 40 CFR 51, Subpart W; and 40 CFR 93, Subpart B.

2. The purpose of this memorandum is to provide Department of the Army (DA) policy and guidance for complying with the reference EPA environmental regulation, hereinafter referred to as the "General Conformity Rule."

3. At encl 1 is DA policy for compliance with the General Conformity Rule. This policy addresses various Army requirements, such as internal review and subsequent processing of conformity determinations, appropriate recordkeeping, and funding sources.

4. At encl 2 is DA guidance for compliance with the General Conformity Rule. The purpose of this document is to provide assistance to Army Environmental planners in deciding whether the EPA rule requires conformity determinations for proposed projects, and to provide guidance on how to conduct such determinations.

5. The points of contact are Mr. Emery Lazar, Office of the Assistant Chief of Staff for Installation Management, at DSN 226-8078 or (703) 696-8078; and Mr. Lawrence Webber, U.S. Army Environmental Center, at DSN 584-1204 or (410) 671-1204.

FOR THE ASSISTANT CHIEF OF INSTALLATION MANAGEMENT:

2 Encls

/signed-Robert Bassler, LTC/
for FRANK R. FINCH, P.E.
Colonel, GS
Director, Environmental Programs

ENCL 1

Army Policy for Complying with
the General Conformity Rule

1. Background

a. Certain areas of the country have been designated as "Nonattainment" or Maintenance", with regard to whether the areas meet National Ambient Air Quality Standards (NAAQS). States with areas to designated must develop State Implementation Plans (SIP), for the purpose of attaining or maintaining the NAAQS. Where a SIP has not been developed as required, a Federal Implementation Plan (FIP) is promulgated and enforced by the U.S. Environmental Protection Agency (EPA).

b. To ensure that activities of Federal agencies do not inhibit reaching the goals of a SIP of FTP in nonattainment and maintenance areas, EPS promulgated the General Conformity Rule. This rule became effective 31 January 1994. The rule requires all Federal agencies (including Department of the Army) to review new actions and decide whether the actions would worsen an existing NAAQS violation, cause a new NAAQS violation, delay the SIP attainment schedule of the NAAQS, or otherwise contradict SIP requirements. The review must take place prior to the action. The term "action" has a very broad meaning and includes what the Army "engages in, supports, provides financial assistance for, licenses, permits, or approves. "To the extent that Army allows an action to occur (whether on its property or by providing finds or permission, even in part), the Army must review the action for conformity.

c. In order for an action in an attainment or maintenance area to proceed, the review must result in a determination of one of the following:

(1) The action is addressed by the Transportation Conformity Rule. Examples include road construction projects that are part of a conforming transportation plan and subject to approval or funding under the Federal Transit Act.

(2) The action is specifically exempted by the rule. Most exemptions cover administrative-type actions; however, recurring activities, emergencies, and certain research and development activities are exempted.

(3) The total direct and indirect emissions caused by the action will be less than de minimus levels established in the rule. These levels are generally the same as those for major source determination and vary depending on the severity of the nonattainment status of the area.

(4) A conformity determination has been made that the action conforms to the applicable SIP or FIP. A conformity determination may involve modeling analysis, installing additional pollution controls, or trading the ability to perform one activity for another. The Conformity Rule requires public notice and opportunity for comment in making conformity determinations.

2. Policy

a. If the action review results in a determination described in paragraphs 1c(1)m 1c(2)m or 1c(3)* above, a Record of Non-applicability (RONA) will be signed by the environmental coordinator. A RONA consists of a description of the project and adequate documentation supporting the decision not to prepare a conformity determination [1c(4) above]. (See 2c below for maintenance of records.)

b. In cases where a conformity determination is required [1c(4) above], the Draft Conformity Determination must be forwarded through command channels to the U.S. Army Environmental Center (USAEC) for review and comment. The USAEC comments are to be incorporated in the draft prior to the draft being offered for public comment. After the public comments have been adequately addressed, the Final Conformity Determination, along with the public comments and Army responses, will be forwarded through command channels for signature by the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health).

c. All RONA, Final Conformity Determinations, and supporting documentation will be retained at the installation level for a period of six years after completion of the conformity review or, for construction projects, six years after completion of the project.

3. Coordination with National Environmental Policy Act (NEPA). The General conformity Rule and NEPA set different legal requirements for evaluating air quality impacts from proposed actions. However, there are opportunities for conserving resources where both rules apply. These occur particularly in the use of analyses and in the public participation process. The opportunities for effective integration of NEPA and conformity are further discussed in the Department of the Army Guide for Compliance with the General Conformity Rule of the Clean Air Act.

4. Applicability in attainment Areas. Although the General Conformity Rule does not apply to Army activities in attainment areas, Section 176 of the Clean Air Act (CAA), which mandates conformity, applies in all areas. Until EPA promulgates a conformity rule for attainment areas, installations in those areas must ensure the conformity of actions through thorough NEPA documentation.

5. Funding. The costs of performing the analyses described in section 1c(4) are imposed by environmental regulation. Consequently, pertinent requirements should be identified in the RCS 1383 defining anticipated project level projection. Project funding will be identified to the installation's base operations accounts under the appropriate AMS code defining environmental accounts. This is consistent with the use of these accounts for NEPA documentation.

6. Guidance. The USAEC has produced a technical guidance document to address many of the technical issues associated with the rule. This April 1995 guidance document, entitled "Department of the Army Guide for Compliance with the General Conformity Rule of the Clean Air Act," is designed to supplement the regulations and does not address all issues relating to the General Conformity Rule.

Encl 2

(This document consists of about fifty pages. Copies can be obtained by contacting Mr. Emery Lazar at 703-696-8078)

DEPARTMENT OF THE ARMY GUIDE FOR COMPLIANCE WITH THE GENERAL CONFORMITY RULE UNDER THE CLEAN AIR ACT

by

Lawrence L. Webber
U.S. Army Environmental Center

and

Laura L. Peters
U.S. Army Center for
Health Promotion and Preventative Medicine

15 June 1995