DCN 1536

FORT LEONARD WOOD

Best Large Installation in TRADOC

Leading the way, ensuring EXCELLENCE!

FOR OFFICIAL USE ONLY

EXCELLENCE STARTS HERE

U.S. ARMY ENGINEER CENTER

PROTOCOL OFFICE
FORT LEONARD WOOD, MO 65473-5000

PHONE (314)563-5161
AV 676-5161

ATZT-CS-P

241434 March 1995

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Itinerary for S. Lee Kling, Defense Base Closure and Realignment Commission, Arlington, VA; accompanied by Mr. Ed Brown, Chief, Army Team

ACTION ACTIVITY: Protocol Office / BRAC Office

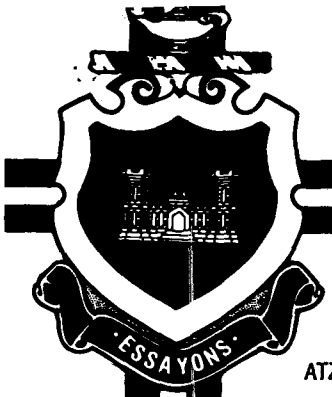
ESCORT OFFICER: Major General Joe N. Ballard, Commanding General

DATE(S) OF VISIT: 27 March 1995

UNIFORM: Duty Uniform (BDU)

TIME	FUNCTION	LOCATION	RESPONSIBILITY	COMMAND GROUP
Monday, 27 March 1995				
0850-	Arrive Fort Leonard Wood via POV.	Sverdrup Gate	LTC John P. Johnson Dir, DPW	
0850-0900 (10 min)	Travel to Hoge Hall.	En route	LTC Johnson	
0900-0915 (15 min)	Media Opportunity.	Hoge Hall Atrium	LTC Jeff Davis Public Affairs Officer	MG Joe N. Ballard Commanding General
0915-1045 (1hr,30min)	Fort Leonard Wood Overview. Items of Interest: -Command Brief Video -Update Attendees: COL Gerald R. Thiessen Cdr, Garrison Command COL Hans A. Van Winkle Dir, DOT LTC Johnson LTC Davis Mr. John Mahaffey, Civilian Aide to SECARMY Mr. Claire Elsberry, Representing Senators Bond and Ashcroft Mr. Bob Hagedorn, Representing Congressman Skelton Ms. Mary Winter, General Counsel to Missouri Department of Economic Development	Command Briefing Room	Nancy J. Gregory Ch, Exec Svcs	MG Ballard COL Anders B. Aadland Chief of Staff LTC Robert S. Kirsch Executive Officer

TRADOC



PROTOCOL OFFICE
FORT LEONARD WOOD, MO 65473-5000

PHONE (314)563-5161
AV 676-5161

ATZT-CS-P

241438 March 1995

TIME	FUNCTION	LOCATION	RESPONSIBILITY	COMMAND GROUP
1045-1215 (1hr,30min)	Windshield Tour of Fort Leonard Wood. Mr. Mahaffey COL Thiessen LTC Davis Mr. Elsberry Mr. Hagedorn Ms. Winter	En route	LTC Johnson	MG Ballard
1215-1300 (45 min)	Working Luncheon. with Community Presentation. Attendees: COL Thiessen LTC Johnson LTC Davis Mr. Mahaffey Mr. Elsberry Mr. Hagedorn Ms. Winter Mr. Keith Pritchard, Chairman , Committee of Fifty Mr. Larry Sexton, President, Mid-Missouri Chapter of AUSA	Command Briefing Room	Nancy J. Gregory	MG Ballard COL Aadland
1300-	Depart Fort Leonard Wood via POV.			

EXCELLENCE STARTS HERE

U.S. ARMY ENGINEER CENTER

PROTOCOL OFFICE
FORT LEONARD WOOD, MO 65473-5000

PHONE (314)563-5161
AV 676-5161

ATZT-CS-P

241438 March 1995

TIME	FUNCTION	LOCATION	RESPONSIBILITY	COMMAND GROUP

COORDINATING INSTRUCTIONS:

1. Commanders, Directors, and Staff Agencies are responsible for their portion of the itinerary and will be prepared on the date and time indicated to conduct the briefings and/or visits scheduled.

2. Purpose of visit is to receive Fort Leonard Wood overview and update on BRAC.

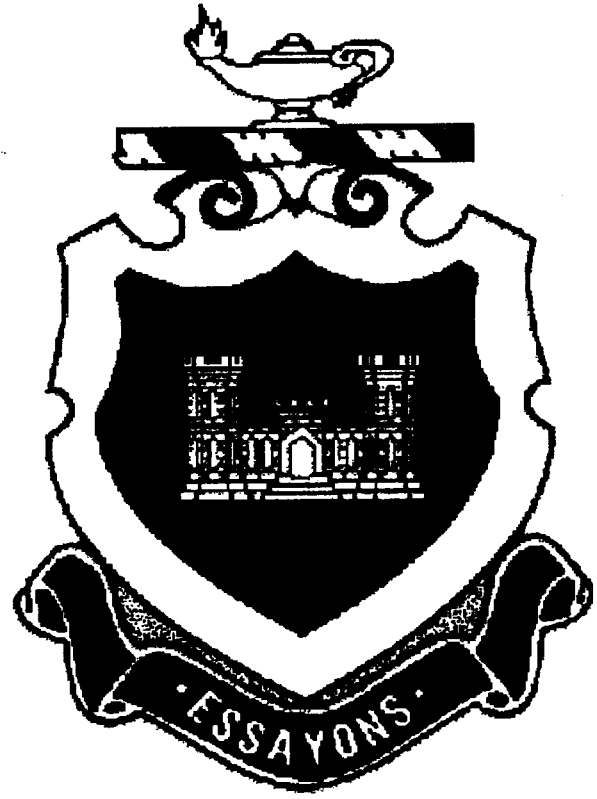
FOR THE COMMANDER:

Nancy J. Gregory

NANCY J. GREGORY
Protocol Officer

DISTRIBUTION:
1-CG
1-DCG
1-CofS
1-XO
1-ECCSM
1-DOT
1-DPTM
1-FAAF
1-PAO
1-Billeting
1-OIS
1-BRAC Office
1-Cdr, 1st Engr Bde
1-Cdr, 3d Tng Bde
1-Cdr, Gar Cmd
1-Cdr, MP Cmd

UNITED STATES ARMY ENGINEER CENTER
and
FORT LEONARD WOOD



COMMISSIONER S. LEE KLING

AGENDA

- Fort Leonard Wood Overview
  - Mission
  - Objectives
  - Core Functions
  - Organization
  - Demographics
  - New Missions
  - Military Value
- Installation Tour

- Community Presentation (Luncheon)

UNITED STATES ARMY ENGINEER CENTER

FORT LEONARD WOOD

Engineer Center of Excellence

- QUALITY PEOPLE DOING
  QUALITY WORK ON A
  QUALITY INSTALLATION

- A Community Everyone is Proud to Call Home

- The Assignment of Choice
  - Best Training and Working Environment

- A First-class Military Training Institution Preparing Professionals for Service to Country

- Poised to Answer America's Call

ESSAYONS— *"Let us try"*

UNITED STATES ARMY ENGINEER CENTER

TRAINING MISSION

DTLOMS

- **DOCTRINE - Develop and Write Engineer Doctrine**
- **TRAINING - Develop/Conduct Soldier Training (BT, AIT, OSUT, NCOES, OES, PCC)**
- **LEADER DEVELOPMENT - Produce Engineer Leaders Competent, Confident, Professional**
- **ORGANIZATIONS - Tailor Engineer Organizations Meet Total Army Needs**
- **MATERIEL - Develop/Maintain Engineer Systems Support Engineer Missions Worldwide**
- **SOLDIERS - Focus on the Soldier**

UNITED STATES ARMY ENGINEER CENTER

INSTALLATION MISSION
BASOPS

- Power Projection Platform for U.S. Army
- Support Civil Authorities for Domestic Emergencies (Disaster Control Office)
- Maintain Combat Readiness of FORSCOM Units
- Logistical Support to Reserve Components
- First-class Regional Support for DOD
- Consciencious Stewards of Public Trust
- Enduring Army Community of Excellence

UNITED STATES ARMY ENGINEER CENTER

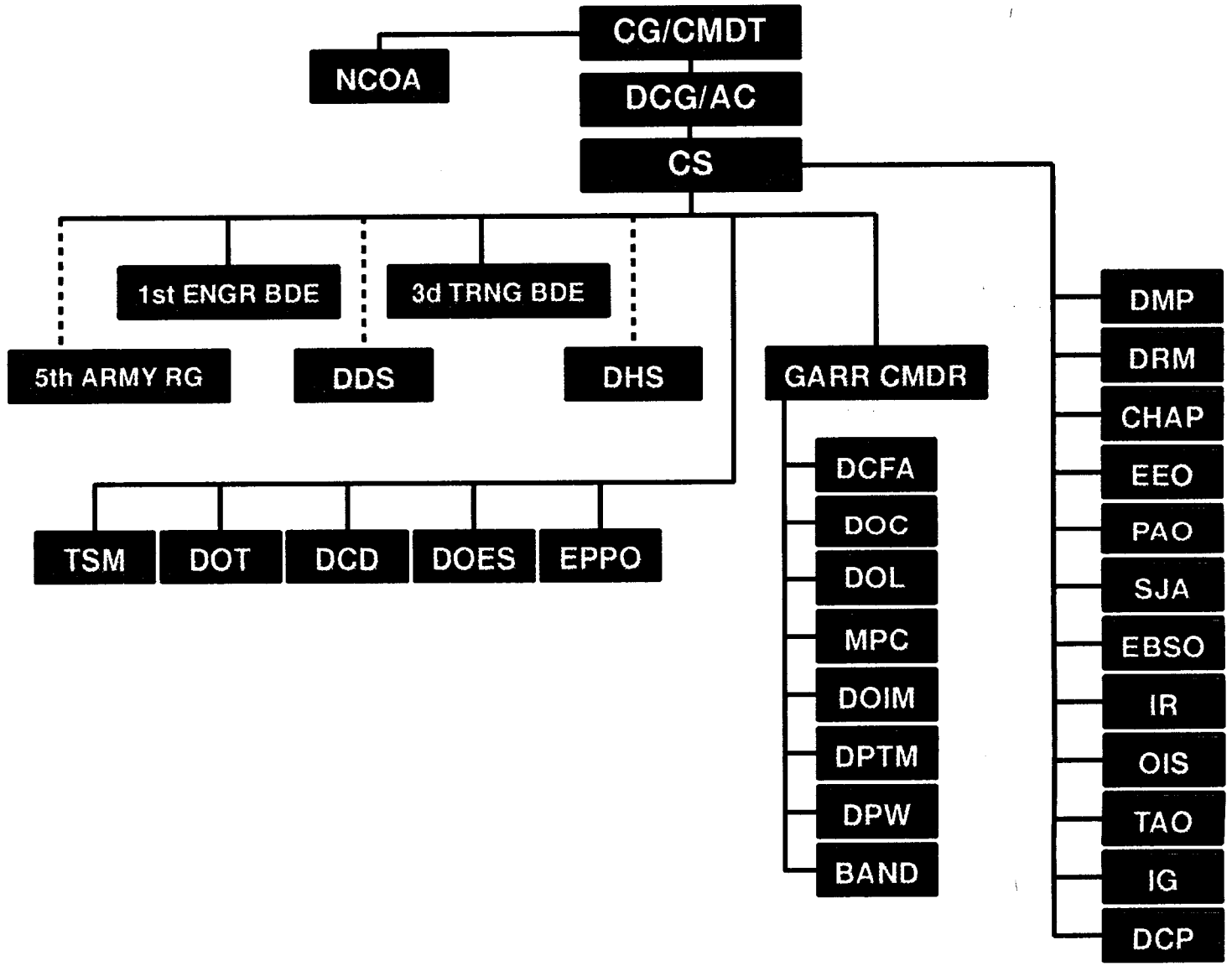
FY95 OBJECTIVES

- Lead the Development of Engineer Training to Ensure Engineer Soldiers, NCO's, and Officers are Combat Ready
- Develop Concepts, Doctrine, and Systems Incorporating the Vision of the Engineer Role on the Digital Battlefield in FORCE XXI
- Reorganize and Functionally Reprioritize FLW to be Affordable, Yet Supportive of its Core Mission -- While Posturing the Installation Fiscally and Technologically for FORCE XXI
- Sustain FLW Quality of Life with Teamwork, Communication, Information Connectivity, and Quality Management of FLW's Infrastructure and Services
- Implement Engineer and Transportation ITRO Initiatives

CORE FUNCTIONS

- **TRAINING (PROJECTED FY95)**
  - OES 1869
  - WOES 101
  - NCOES 2018
  - BT 20231
  - AIT 8491
  - OSUT 3970
  - ITRO 94
- **WRITING**
  - Doctrine
  - Concepts (TTP)
- **DEVELOPING**
  - Materiel
  - Force Structure

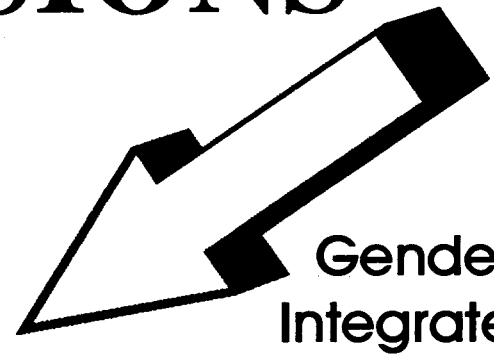
UNITED STATES ARMY ENGINEER CENTER



UNITED STATES ARMY ENGINEER CENTER

NEW MISSIONS

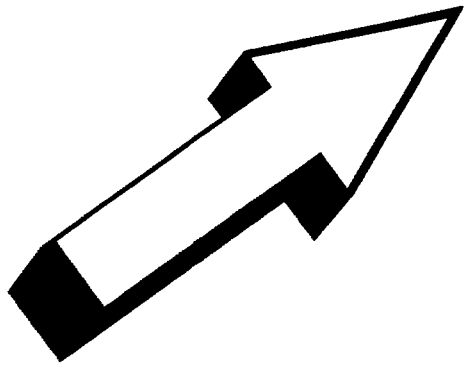
ITRO
Engineer &
Transportation



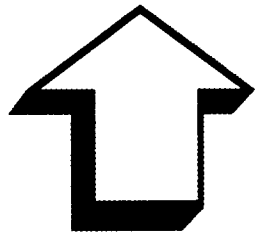
Gender
Integrated
Training

FORT LEONARD WOOD

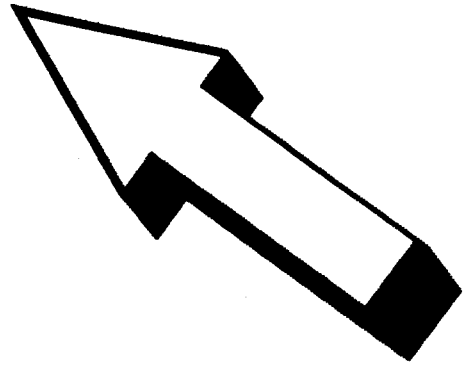
Environmental



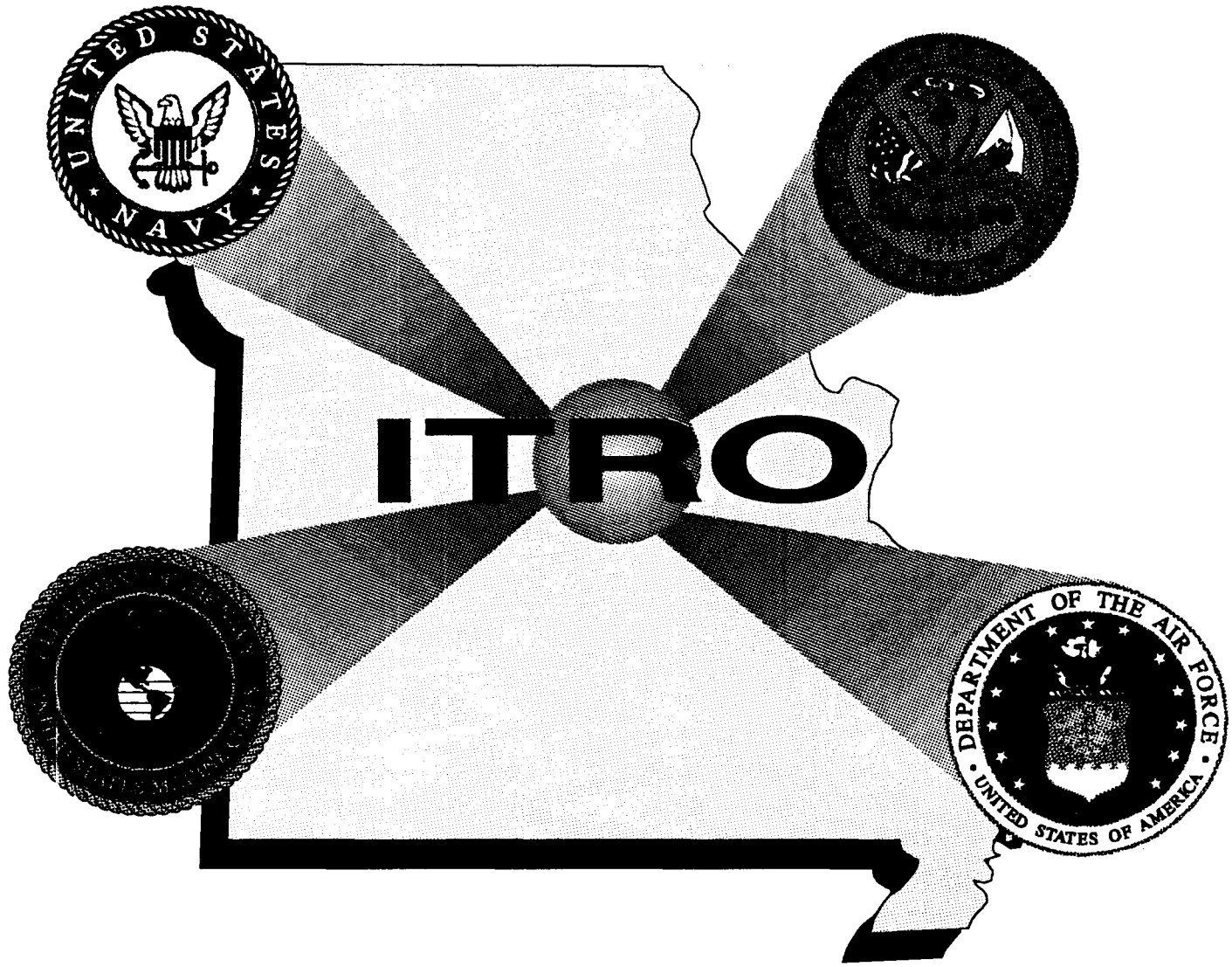
BRAC
- ENGR
- MP
- CHEM



FORCE XXI



UNITED STATES ARMY ENGINEER CENTER



ESSAYONS *"Let us try"*

UNITED STATES ARMY ENGINEER CENTER

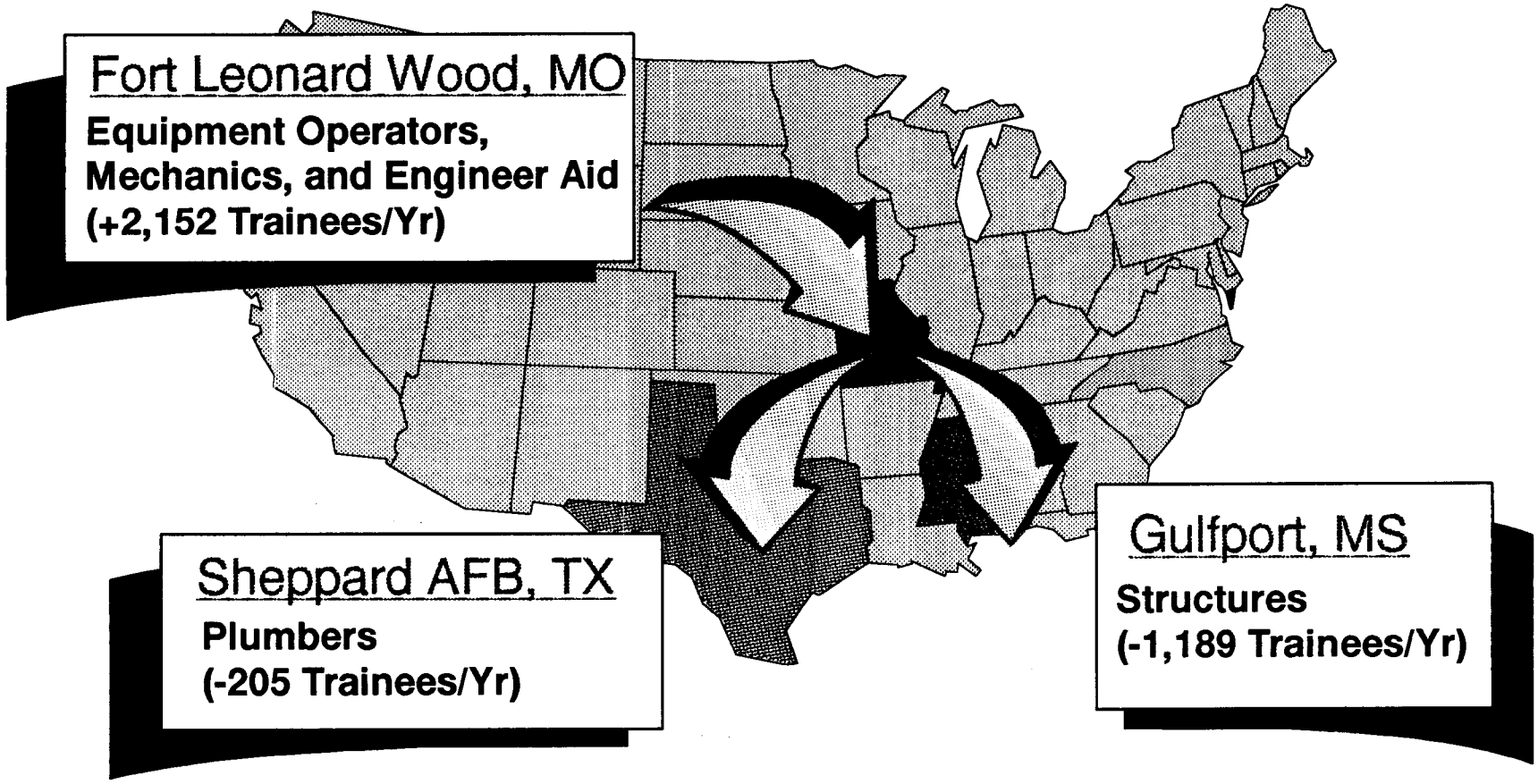
ITRO IMPLEMENTATION

Background

- 1992 - Chairman JCS Directed Review of Training Under ITRO
- 1993 - Joint Board Reviewed Both Civil/Construction Engineering (C/CE) and Motor Transport Operator Course (MTOC) Training
- 1994 - Approval for Consolidation and/or Collocation and Implementation Planning Begins
- Key Objective was to Reduce Costs, Additional Benefits Include:
  - ▸ *Improved Effectiveness in Joint Operations*
  - ▸ *Cross Fertilization of Engineer Procedures*
  - ▸ *Standardization for Future Equipment Acquisitions*
  - ▸ *Standardization of Training Techniques*

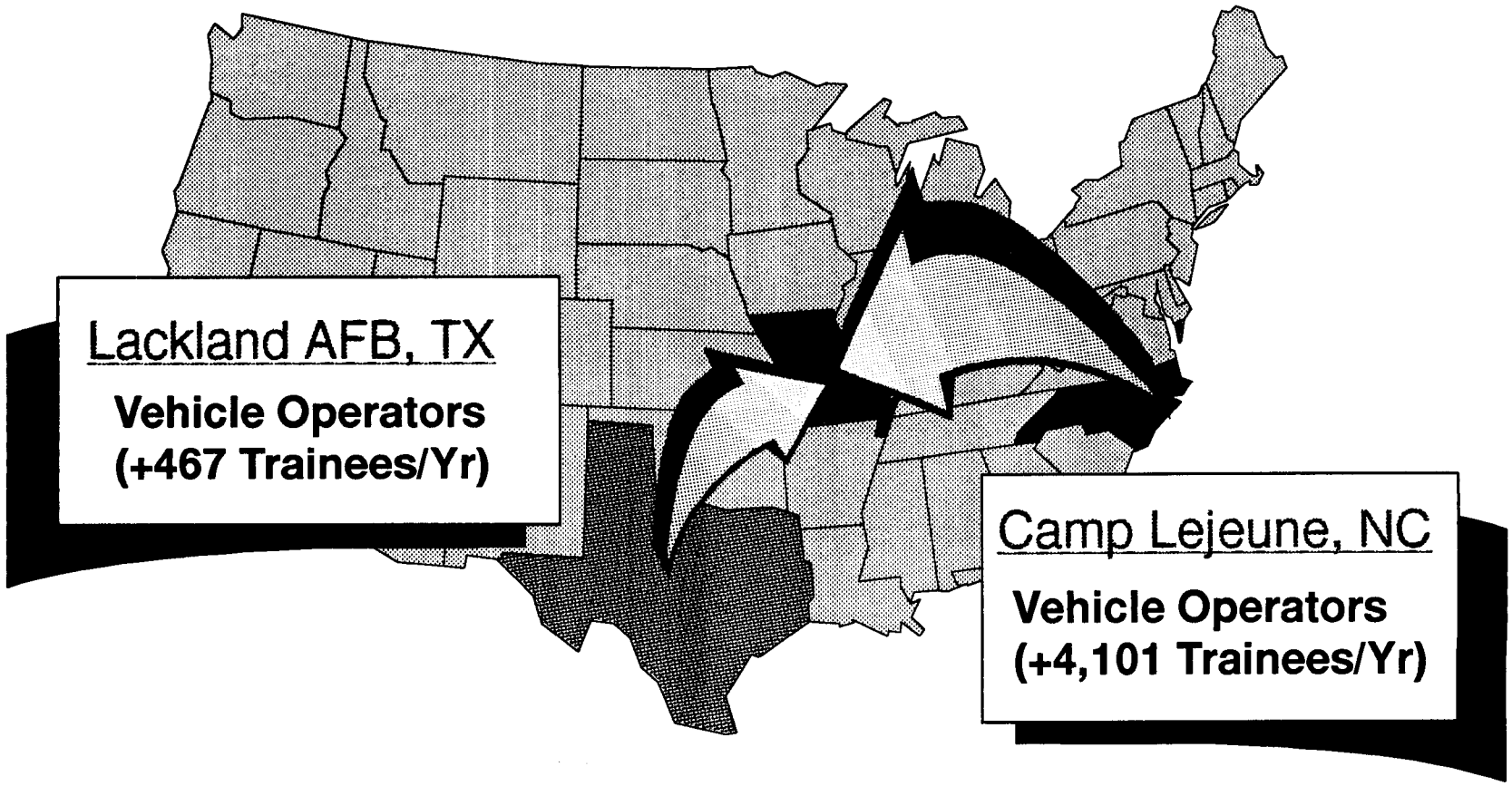
UNITED STATES ARMY ENGINEER CENTER

Civil/Construction Engineering



UNITED STATES ARMY ENGINEER CENTER

Motor Transport Operator Course



ESSAYONS — *"Let us try"*

UNITED STATES ARMY ENGINEER CENTER

Itro Implementation Timeline

Sep 96 - MTOC at FLW Complete

Jun 96 - USMC MTOC at FLW

Apr 96 - USAF MTOC at FLW

Oct 95 - C/CE Trng at FLW Complete

Jun 95 - Training moved to SAFB

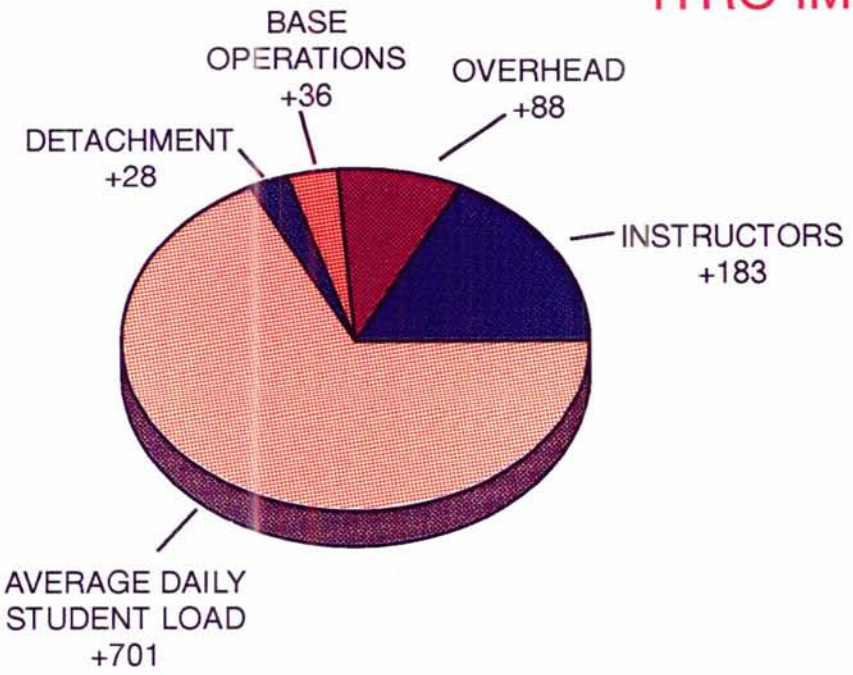
Apr 95 - Training moved to Gulfport

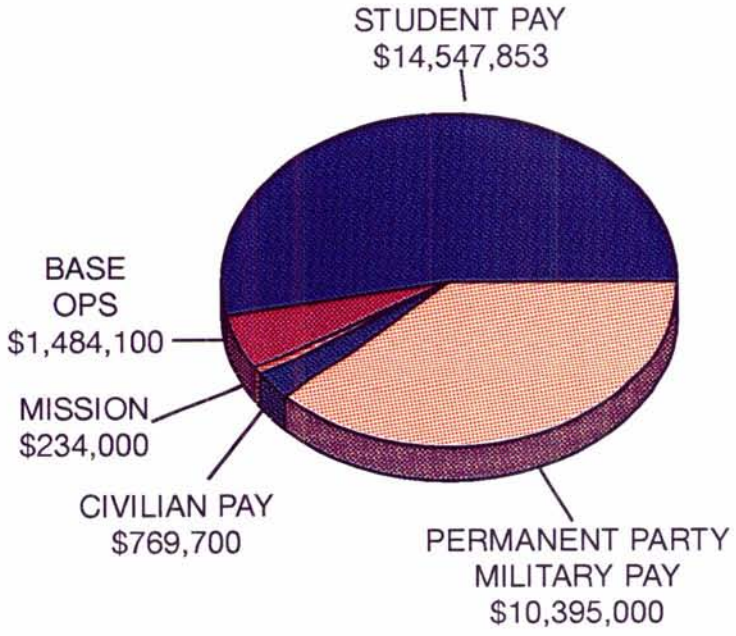
Jan 95 - C/CE Trng Begins at FLW

UNITED STATES ARMY ENGINEER CENTER

Civil/Construction Engineer & Motor Transport Operator

ITRO IMPACT ON FLW

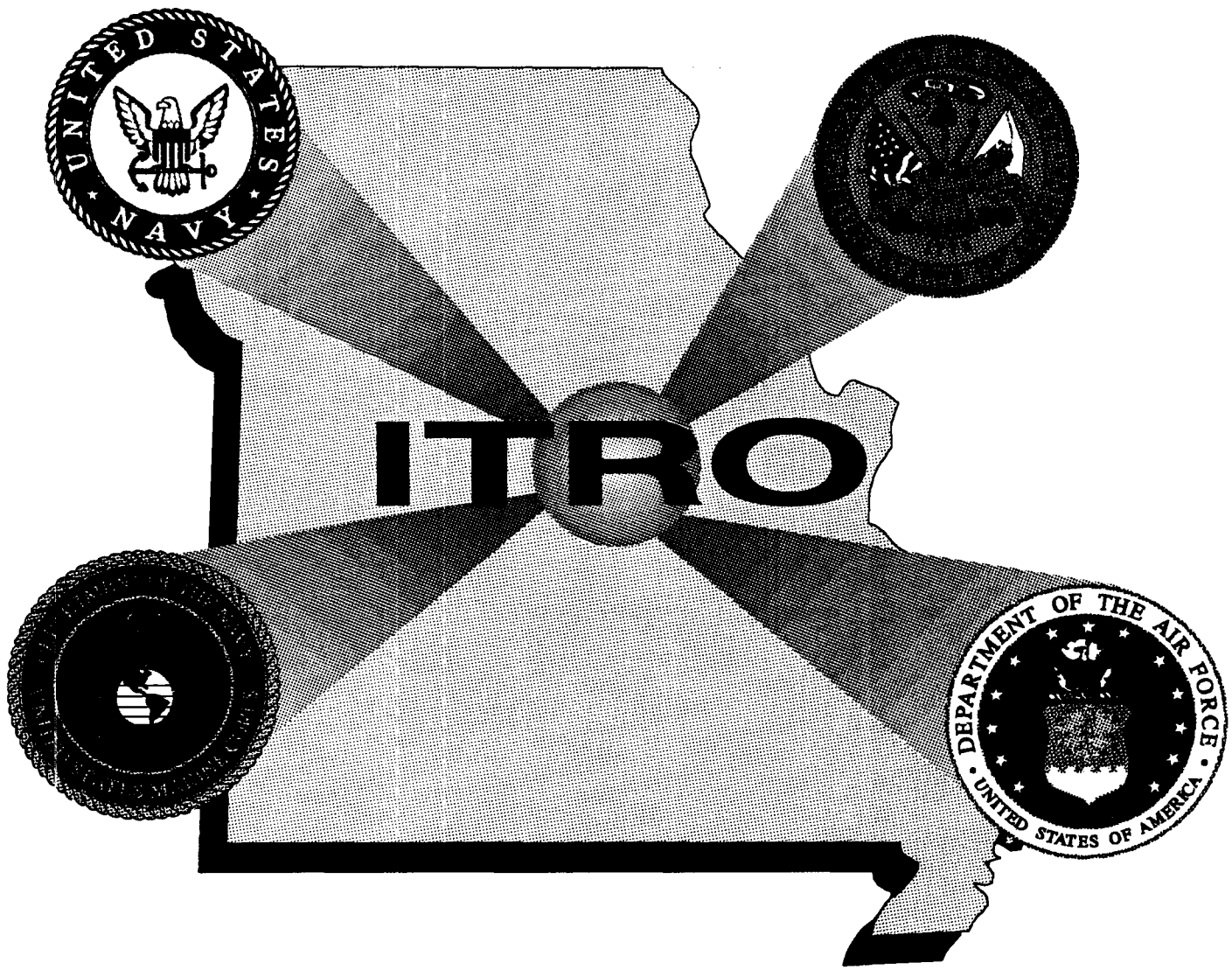




POPULATION INCREASE 1,036

DOLLARS INCREASE $27,430,653

UNITED STATES ARMY ENGINEER CENTER



ESSAYONS *"Let us try"*

UNITED STATES ARMY ENGINEER CENTER

GENDER INTEGRATED TRAINING

ESSAYONS—— *"Let us try"*

FLW GENDER INTEGRATED TRAINING

Background History

- Prototype Battalion - June - August 1994 (3-10)
- Fully Implemented - September 1994 (6-10)
- FLW Impacts
  - No Change to Training Strategy
  - Facility Upgrade: More Shower Heads

FLW GENDER INTEGRATED TRAINING

Background Demographics

- MOSs - Primarily CS/CSS MOSs
- Soldiers Trained - 6281
- Ratio (M : F) - 70 : 30 (75 : 25 Best Ratio)
- FLW Conditions - Lived & Trained Integrated To Squad Level

UNITED STATES ARMY ENGINEER CENTER

FLW GENDER INTEGRATED TRAINING

Performance Summary

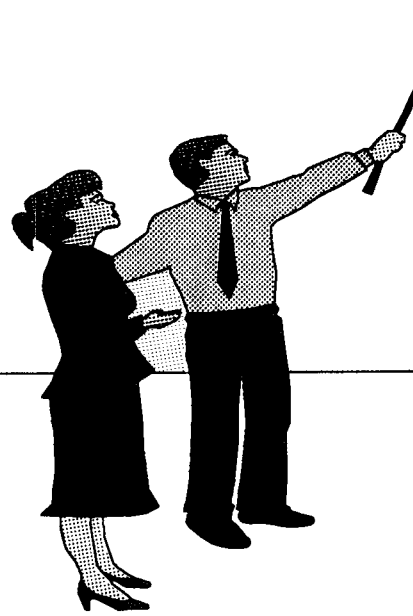
- EOCT: No Significant Differences
- BRM: No Significant Differences
- APFT: No Significant Differences
- Graduation Rates: No Significant Differences
- Attitudes: Soldier/Cadre Positive About GIT

UNITED STATES ARMY ENGINEER CENTER

BOTTOM LINE

Leadership +
Education =

SUCCESS!



UNITED STATES ARMY ENGINEER CENTER

BRAC 95

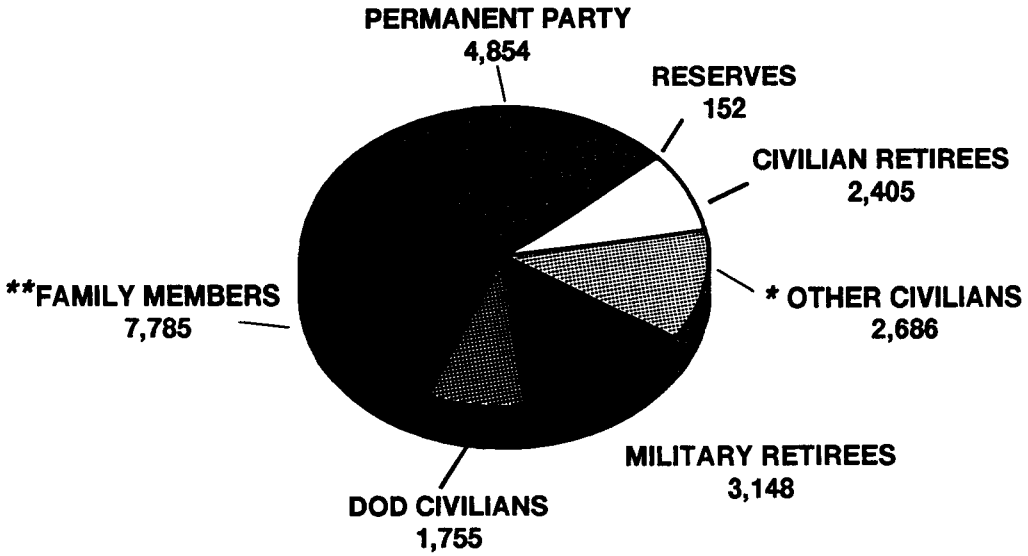
Fort Leonard Wood, Missouri

——————— ESSAYONS— *"Let us try"*——

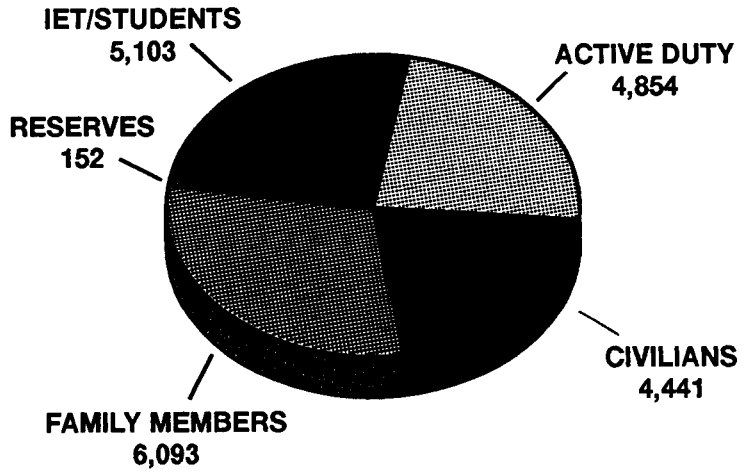
UNITED STATES ARMY ENGINEER CENTER

DEMOGRAPHICS

INSTALLATION POPULATION



WORKDAY POPULATION



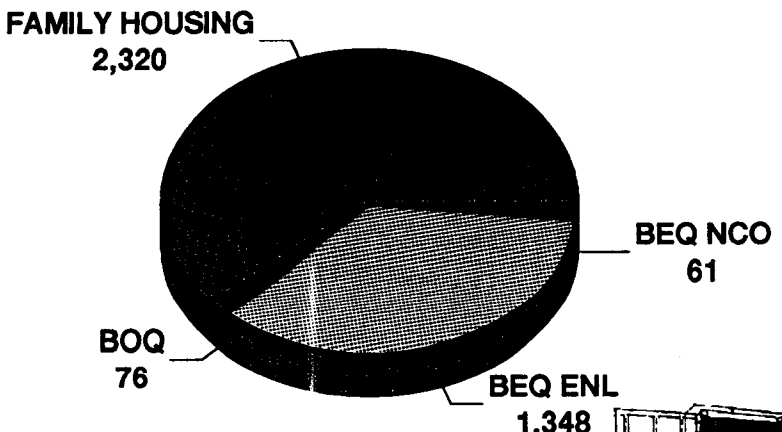
**** Nonappropriated fund employees and contractor employees.***

***** Family members living on the installation and in the surrounding communities.***

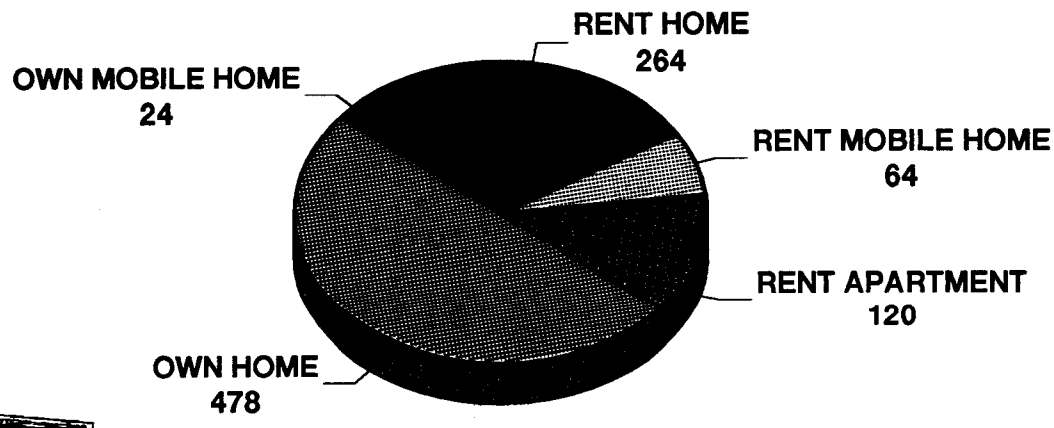
UNITED STATES ARMY ENGINEER CENTER

DEMOGRAPHICS (Cont)

ON-POST HOUSING



OFF-POST FAMILIES



MISSION GAIN

Military Police and Chemical Schools

- Permanent Party Military (+1610)
- Students (Average Daily Load + 4205)
- Civilians (+ 432)

FACILITY REQUIREMENTS

(Based Upon BRAC 93)

- Permanent Party Barracks
- Student Barracks
- No Family Housing Requirement
- Ranges (Smoke, Flame, Weapons, Driving)
- Applied Instruction Facilities

FACILITY REQUIREMENTS

(Cont)

- General Instruction Facilities
- Administration Facilities
- Museum Facilities
- CDTF
- Construction = $188m

ENVIRONMENTAL ISSUES

Permits

- Air (Two Required)
- Water (One) (Mod to Existing Permit)
- Hazardous Waste (Permit Requirement Under Investigation)

ENVIRONMENTAL ISSUES
(Cont)

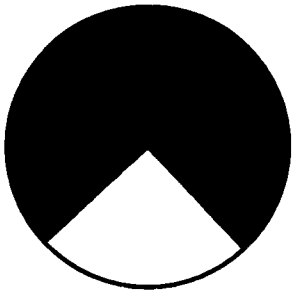
- Endangered Species
  - Two Federally Endangered Species (Bats)
  - Biological Assessment

- Other Environmental Activities
  - EIS
  - Health Study
  - Cultural Resources

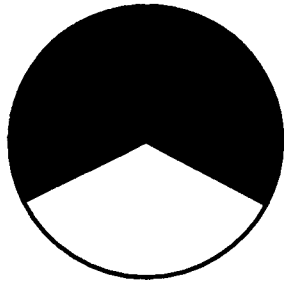
UNITED STATES ARMY ENGINEER CENTER

EXPANSION CAPABILITY

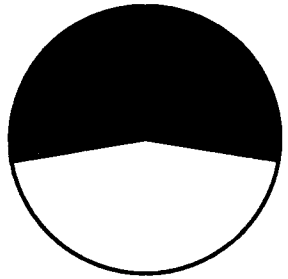
ADMINISTRATION



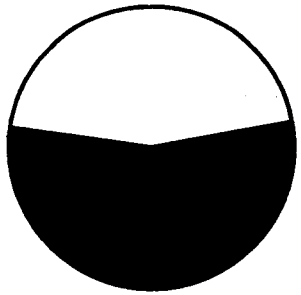
RANGES



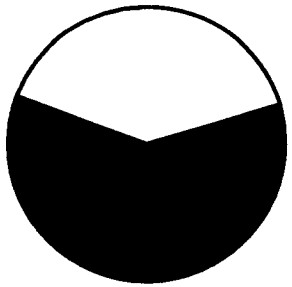
WATER - SEWER



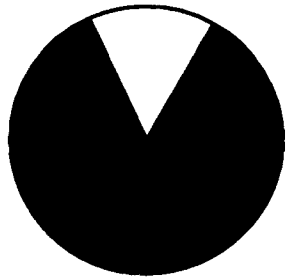
TRAINEE BILLETS



PERMANENT PARTY BARRACKS



FAMILY HOUSING



UTILIZED ***AVAILABLE***

ESSAYONS *"Let us try"*

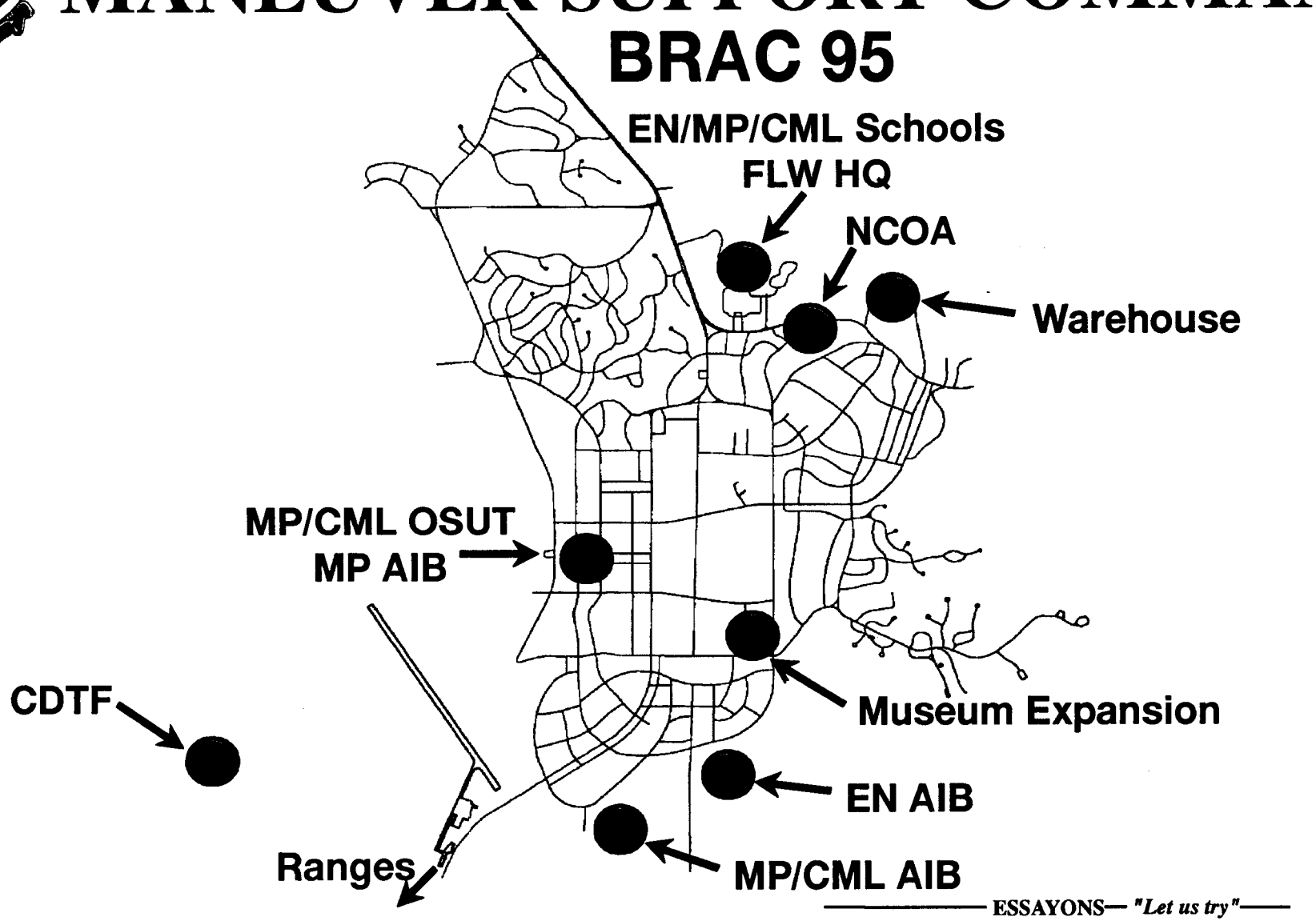
MISSION FACILITIES

- Ranges
  - 39 Ranges (9 Inactive)
  - 58% Utilization
- General Instruction Buildings
  - 300K Sq Ft
  - 57% Utilization
- Applied Instruction Buildings
  - 200K Sq Ft
  - 75% Utilization

UNITED STATES ARMY ENGINEER CENTER

MANEUVER SUPPORT COMMAND

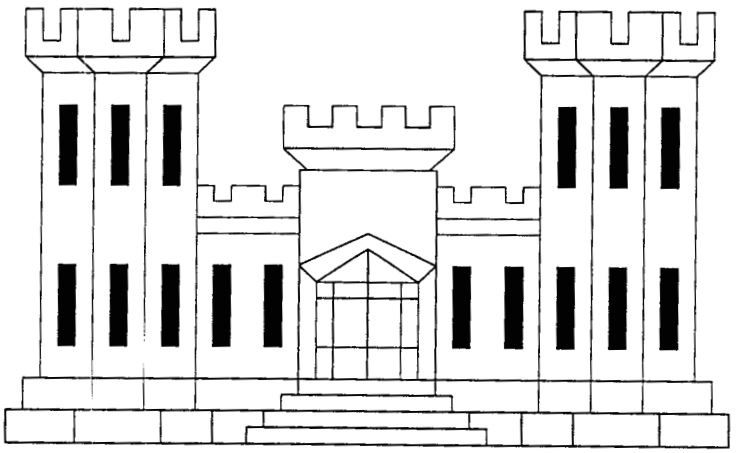
BRAC 95



ESSAYONS— *"Let us try"*

US ARMY ENGINEER CENTER AND FORT LEONARD WOOD

ANNUAL REPORT



FISCAL YEAR 94

OCTOBER 1, 1993 - SEPTEMBER 30, 1994

FORT LEONARD WOOD, MISSOURI

ANNUAL REPORT

FISCAL YEAR 1994

TABLE OF CONTENTS

INTRODUCTION

During Fiscal Year (FY) 1994 the United States Army Engineer Center and Fort Leonard Wood (USAEC & FLW) trained more than 28,600 soldiers for service to their country in the Active Army, Army Reserve and Army National Guard.

Fort Leonard Wood plays a major role as an employer and a consumer in the economic health of Missouri. This annual report provides important information about Fort Leonard Wood's history, economic profile and other interesting facts.

Fort Leonard Wood was constructed as a result of the Army expansion program of 1940. The initial designation of the post was the Seventh Corps Area Training Center. Following its official activation on January 3, 1941, it was named in honor of Major General Leonard Wood (1860-1927).

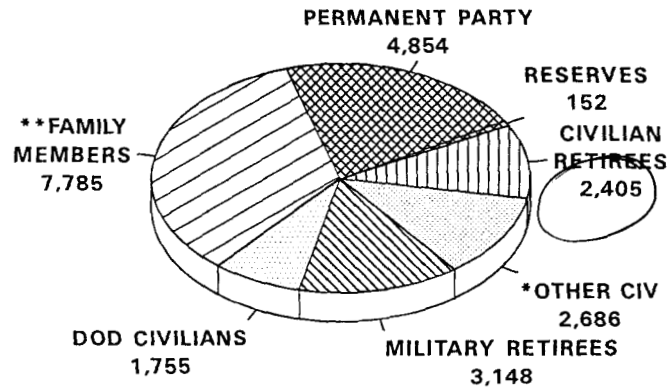
The initial mission of the installation was the training of engineer replacement troops, Army Ground Forces and Army Service Forces units. From 1941 through 1945, approximately 320,000 soldiers (both officer and enlisted) received training here. Fort Leonard Wood was leased to a cattle rancher in 1946 and reactivated in 1950 to train and supply troops in support of the Korean conflict.

In the fall of 1987, the Engineer School began moving from Fort Belvoir, Virginia to Fort Leonard Wood. The Engineer School colors officially moved June 1, 1988. On October 2, 1988, the US Army Training Center, Engineer and Fort Leonard Wood was redesigned the US Army Engineer Center and Fort Leonard Wood.

DEMOGRAPHICS

Approximately 9,450 soldiers and civilians work at Fort Leonard Wood. The majority of the military personnel reside on post, either in bachelor quarters or family housing. However, about 28% of our military population live in the surrounding communities, as do the majority of our civilian employees.

The Fort Leonard Wood community consists of military personnel and their families, civilian employees, and military and civilian retirees, working at or living near Fort Leonard Wood.

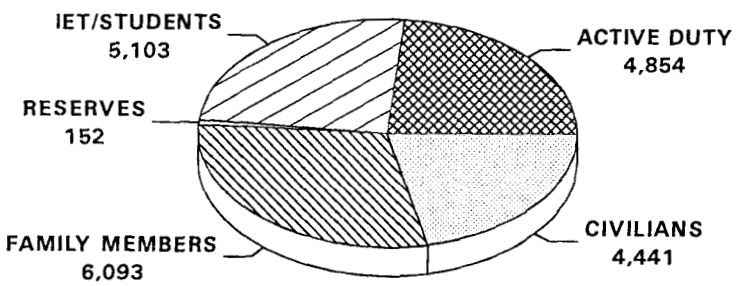


* Nonappropriated fund employees & contractor employees.

** Family members living on the installation and in the surrounding communities.

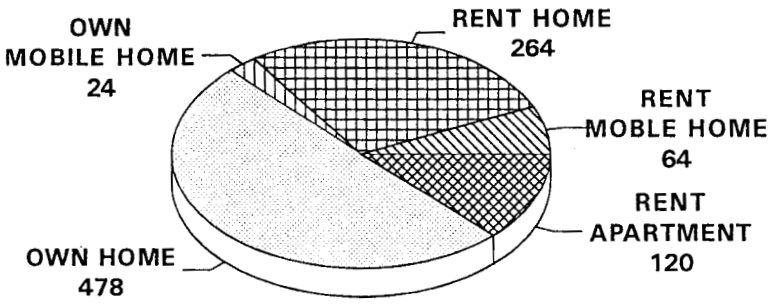
Workday Population

The estimated workday population figures represent the average population during FY 94. It includes military, reserves, initial entry training (IET) soldiers, students, on-post family members, and civilians (both Department of Defense (DOD) and non-DOD) employed by the installation. The chart depicts the average FY 94 population for each category.



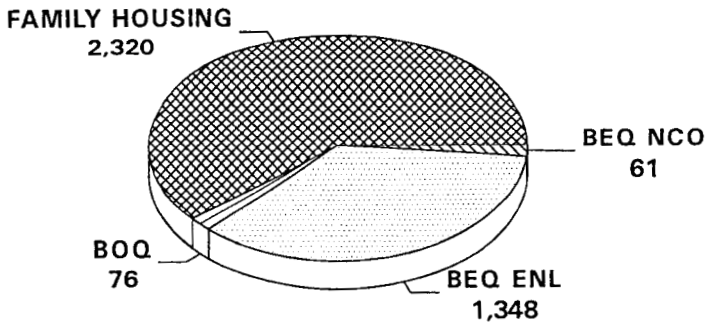
Off Post Residency

Soldiers and their families who live in the civilian community make economic contributions to the community by real estate purchases and rentals. As you can see, more than one half of our off-post families own their homes, and therefore, pay property and school taxes. A total of 2,834 military family members live off-post.



On-Post Residency

Our on-post families make important contributions to the local economy by patronizing area retail stores, grocery stores, restaurants, auto dealerships, and other businesses and services. These families, along with our unmarried personnel, are shown by the type housing they live in.



BOQ: Bachelor Officer Quarters
BEQ NCO: Bachelor Enlisted Quarters for Senior Enlisted Personnel
BEQ ENL: Bachelor Enlisted Quarters for Junior Enlisted Personnel

RESERVE COMPONENTS (RC)

Fort Leonard Wood plays a major role in training for our nation's defense and expansion of the Reserve Component Forces which include the Army National Guard, Army Reserve, Navy Reserve, Marine Corps Reserve, Reserve Officers Training Corps (ROTC) and Civil Air Patrol.

Total Number of Reservists Trained in FY 94: 31,420

Reservists train for two days a month and go on active duty for two weeks a year. Approximately 50% of the initial entry soldiers trained at Fort Leonard Wood are reservists.

FY 94 RC Significant Activities

- Completion, of sixteen post troop construction missions by a reserve engineer battalion.

- Support to Field Training Exercises for College Reserve Officer Training Corps (ROTC) programs. Also supported the 4th Bde ROTC's "Ranger Challenge" with 300 personnel.

- Assisted expanding Junior ROTC programs in Central Missouri with summer encampments and weekend adventure training. The summer camps supported by FLW, were attended by 371 Junior ROTC personnel.

- Established semi-annual mobilization workshops to consolidate requirements for commanders mobilization station visits and bi-annual mobilization coordination conferences.

- In conjunction with the 387th Conus Replacement Center (CRC) Battalion, hosted the TRADOC CRC Commanders Workshop that was attended by personnel from all seven CRC's. One hundred students were trained on the Replacement Operations Automated Management System (ROAMS).

- Coordinated the 412th Engr Command exercise, ENGEX 94.

HEALTH SERVICES

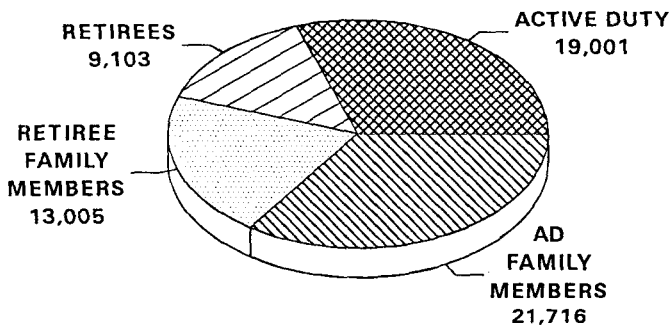
Fort Leonard Wood Medical Activity

The General Leonard Wood Army Community Hospital (GLWACH), a modern 130-bed facility, is among the largest Army community hospitals and serves more than 1,592 patients daily.

Professional medical care is available in many inpatient and outpatient specialties. Those cases requiring care beyond that available at GLWACH are referred to specialized medical treatment facilities at other installations or to local civilian specialized facilities.

GLWACH is accredited by the Joint Commission on Accreditation of Hospitals, College of American Pathologists, the American College of Radiology, the American Association of Blood Banking, and the Food and Drug Administration. In addition, GLWACH is a member of the American Hospital Association and the Missouri Hospital Association.

The GLWACH supports a health services area encompassing five states. The numbers of individuals are profiled below.



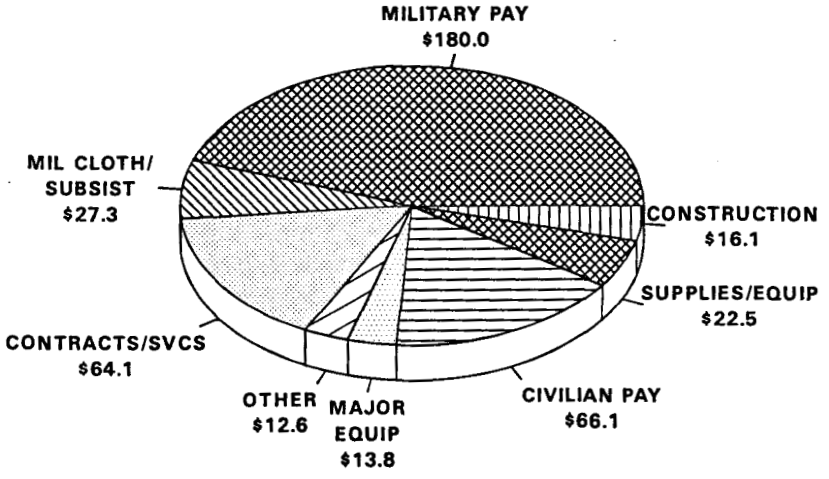
The hospital added a new Automated Call Distribution (ACD), appointment system. The system makes it possible for more of our beneficiaries to schedule appointments without difficulty or long waiting periods.

Several facility improvements include, breaking ground on a $3 million Consolidated Troop Medical Clinic and replacement of two oil fired boilers with six modular natural gas boilers. In addition, replacement of lighting systems throughout the hospital will reduce electrical consumption by 27.9% and air conditioning loads by 38 tons.

CONSUMER DATA

Fort Leonard Wood consumes goods and services in support of its day-to-day operations, much like a private organization or household. Purchases in Fiscal Year 1994 amounted to $143.7 million. Pay and other expenditures totalled an additional $258.7 million.

Total Expenditures in Millions



The "Other" category includes miscellaneous expenses such as: $.02 million in Red Cross; $.4 million in AER assistance; $2.6 million in tuition assistance; $5.2 million in CHAMPUS; $.6 million in SJA paid claims; and $3.8 million in impact aid paid to the school districts in the surrounding communities.

Excess/surplus inventory items with an acquisition value of $3.7 million were donated to various state and community agencies.

The Fort Leonard Wood Directorate of Contracting awarded Contracts in the following categories and amounts:

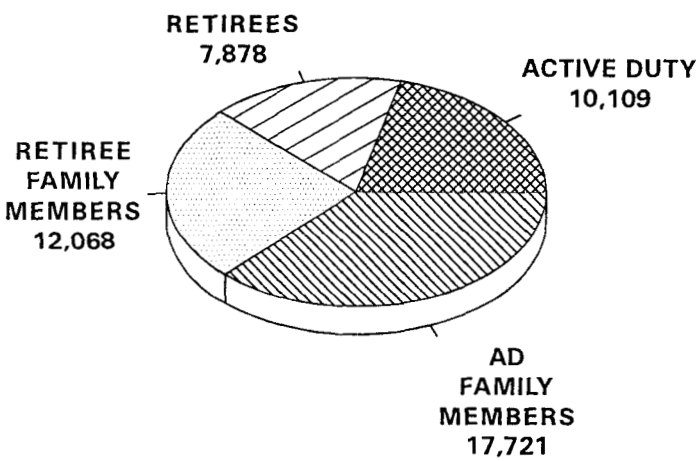
Large Business -	$33,282,490
Small Business -	$31,545,899
Small Business Set-Aside -	$13,608,231
Women-Owned Business -	$895,042
Disadvantaged Business -	$13,227,005

The three health care delivery services, Medical, Dental and Veterinary have taken innovative approaches to patient and client wellness through health promotion education programs. Numerous classes and activities are conducted regularly on the installation and throughout the civilian community.

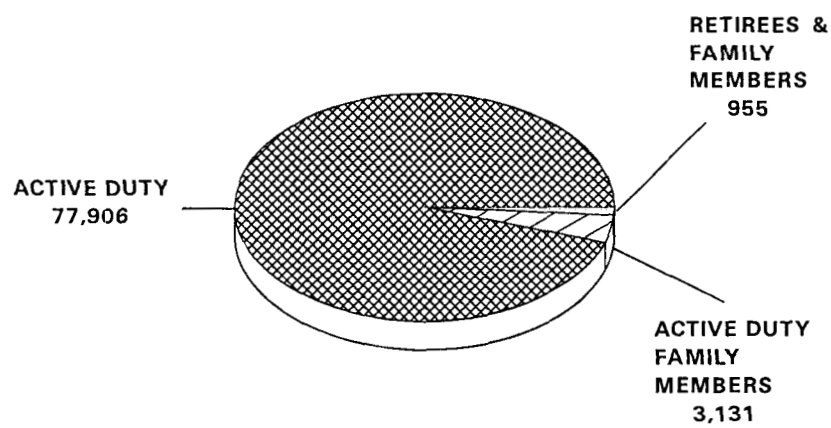
The GLWACH has a new million dollar computer system called the Composite Health Care System. The system links all aspects of the hospital to one computer. It provides immediate access to current clinical and administrative data and enhances communication among the staff through the use of electronic mail.

Fort Leonard Wood Dental Activity

The Fort Leonard Wood Dental Activity services six clinics, two of which are located elsewhere. The Activity supports a total population of 44,548, comprised of active duty military, retirees and family members as depicted below.



There were a total of 81,992 clinic visits during FY 94. The chart shows the dental clinic visits for FY 94 by category.



EDUCATION

Youth Education

Children of military families, whether living on post or in the immediate area, attend schools administered by the Waynesville R-VI School District. Of the nine schools in the district, six are located on the installation (five elementary schools (K-5) and one middle school (6-8)). High school students attend Waynesville Senior High School in Waynesville, Missouri.

Average enrollment in the Waynesville R-VI School District is 4,653, of which, 65 percent or 3,040 are children of military personnel. When an additional 450 children of Department of Defense civilian employees are added, the total students that are dependents of federal employees increases to 75 percent.

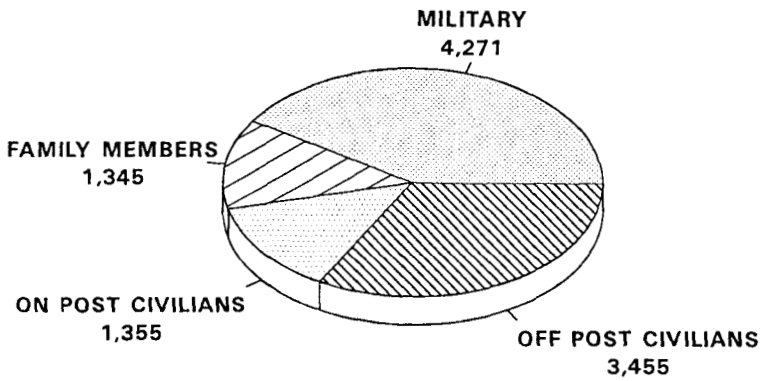
The Federal Government supplements state and county funds with Federal Impact Aid funds. These funds help offset the costs of educating children of military and Department of Defense civilian employees. The Federal Impact Aid funds distributed in the area for the school year 1994-1995 are depicted in the chart below.

COUNTY	FUNDS RECEIVED FOR IMPACT AID
Pulaski	$3,745,122
Texas	$35,740
Phelps	$15,029
Dent	$4,014
Laclede	$3,668

Adult Education

The Truman Education Center offers a wide variety of educational opportunities to the community. The center, in cooperation with colleges and universities, offers numerous courses and degree programs at both the graduate and undergraduate levels. Soldiers can obtain federal funds for college through the Army's tuition assistance program, the GI Bill and various grants. Classes are offered by Central Texas College, Park College, Drury College, Columbia College, University of Missouri - Rolla, Webster University, Lincoln University, and Southwest Missouri State University. In FY 94, 497 undergraduate (337 Associates, 160 Bachelors) and 44 graduate degrees were awarded to military and civilian students utilizing the Truman Education Center.

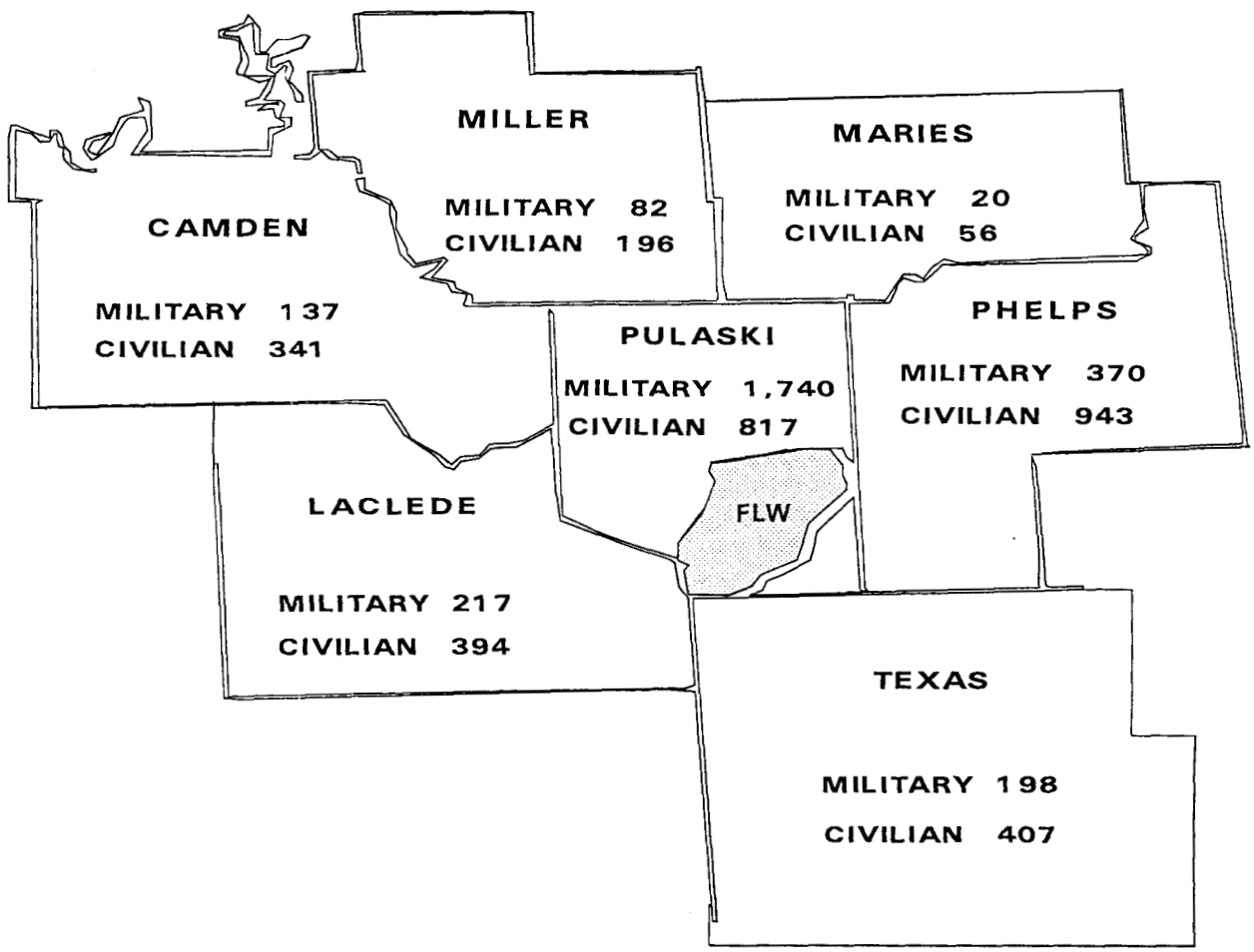
College Enrollment Data



RETIREES

Our retirees, both military and civilian, benefit the state economy. In addition to spending their retirement pay, many often find additional employment or even second careers. They pay property tax and income tax and contribute in sales and use taxes. (NOTE: Military Retiree figures shown are FY 93 figures, FY 94 data could not be obtained. However, due to the relative stability of our Military Retiree population, these figures should not have varied significantly from FY 94).

Within the counties contiguous to Fort Leonard Wood, our military retirees and annuitants received approximately $35.5 million. Their civilian counterparts received approximately $42.3 million. The geographic dispersion of our retirees is reflected in the map below.



FORT FACTS

More than 85,000 soldiers and visitors passed through the Fort Leonard Wood Engineer Museum in FY 94. Many were tourists passing through south central Missouri on Interstate 44, others traveled from across the United States to Fort Leonard Wood to attend graduation ceremonies, visit the post museum complex, or attend special activities such as the Missouri Special Olympics or Retiree Open House.

In FY 94, members of the Fort Leonard Wood community contributed more than $208,500 to the Combined Federal Campaign, a network of local, national, and international charitable organizations. About $30,400 of those donations were earmarked for installation and other local charities.

The Fort Leonard Wood American Red Cross provided services for a total of 3,534 service members and their families. Of these, 309 received financial assistance totaling $23,867. Red Cross volunteers provided 22,613 hours of service in the General Leonard Wood Army Community Hospital, troop medical clinics, dental clinics, schools, libraries, and case work services.

The Army Emergency Relief campaign, a charity drive geared toward helping Army personnel in times of personal emergency, received $141,090 in donations in FY 94. They helped approximately 688 people with grants and no-interest loans. These grants and loans amounted to over $365,622.

The natural gas pipe line constructed from St. Louis to Fort Leonard Wood is complete and Fort Leonard Wood has converted the majority of it's facilities from propane to natural gas. Due to the Army's action pursuing natural gas, communities along the Interstate 44 corridor have now connected and are utilizing natural gas also.

Fort Leonard Wood currently offers curbside recycling service to military personnel in family housing. Materials collected are newspapers, aluminum, tin, glass and plastic. In excess of ten tons per month of these materials are recycled.

The average employment multiplier is 2.2287 (locally) and 5.1660 (statewide) and the average earnings multiplier is 1.9489 (locally) and 4.5398 (statewide).

COMMUNITY COMMANDER'S STATEMENT

The U.S. Army Engineer Center and Fort Leonard Wood is the gateway to excellence. Our mission -- to provide our Army with quality soldiers and leaders.

We develop soldiers with tough, realistic training in an atmosphere that is efficient, caring and professional. Male and female initial entry soldiers now train together down to the squad level. We are the first Training and Doctrine Command (TRADOC) installation to achieve this. Our cadre of soldiers and civilians are conscious of their unique and critical training mission and of their charge as stewards of the public trust. In the years that I have served on this installation, I have found our entire workforce totally committed to excellence. We provide quality customer service and work unceasingly to make our community a great place to live and work.

When I reflect on the Fort Leonard Wood community and the Army Communities of Excellence (ACOE), a couple of engineer phrases come readily to mind -- our engineer motto, "Essayons" ("Let us try") and our slogan, "Leading the way." Both are apt descriptions of our community's commitment to excellence.

"Let us try" recognizes the many challenges we face now and in the future. It demonstrates the creative, innovative and courageous methods we use to aggressively meet challenges and to conquer them.

"Leading the way" describes our willingness to boldly spearhead initiatives -- an innate reflection of our abilities. It also describes the post leadership's dedication to excellence in everything we do.

Our gateway has an established fifty-year reputation for excellence that folks outside of south central Missouri are just beginning to recognize. Every time I travel, I hear reports about the great things we're doing for the Army's engineers and for training. That kind of feedback from the field is extremely gratifying to me as the commander and commandant of this fine installation and school.

In an era of downsizing and with the consolidation of resources and missions, our post has become more diversified -- we train smarter and get the best return on our nation's investment. Actively involved in TRADOC's re-engineering, it's our intent to find ways to make each function in this command more efficient and responsive to the needs of the Army and the warfighting commanders in the field. Our challenge is to identify different ways to solve problems and to accomplish our missions. Through various study groups and the application of Total Army Quality (TAQ), we are meeting that challenge.

Our Vision

* A community everyone is proud to call home
* The assignment of choice = best training and working environment
* A first class military training institution preparing professionals for service to country
* Poised and ready to answer America's call

Our vision reflects our commitment to excellence. We refined our vision around the Army Strategy for the 21st Century taking the three tenets: Power Projection Platform; Work and Training; and Home to the Force; and aligning each of the Installation Management Action Plan (IMAP) goals. Our vision relates directly to each goal.

We are proud to be the first TRADOC installation to bring the Garrison Command on-line. A ceremony February 25, 1994 formalized our commitment to garrison management and efficiency. We've also reorganized throughout the Engineer School using TAQ methods, and including everyone from the bottom up. Our TAQ Process Action Teams are self-perpetuating as new challenges arise. The entire reorganization enables us to accomplish our missions more efficiently, especially in a climate of decreasing resources. Another result is a high degree of ownership and personal commitment to the organization folks helped create. I find it exciting to mesh our vision, ACOE, IMAP, TAQ, and Garrison Command goals. I believe this synergistic effort will earn big dividends for Fort Leonard Wood.

Our long term vision is turning green paradigms to purple. Purple is the wave of the future. Becoming more involved in the Inter-Service Training Review Organization (ITRO) process exploits our excellent training facilities. The Ozark work ethic ensuring the best quality service, our reasonable cost of living, and 63,000 acres available for training define Fort Leonard Wood as both great and cost effective. We stand ready to accept additional interservice training missions.

An ITRO recommendation that the Marines and Air Force consolidate and co-locate all motor vehicle operator training and selected civil and construction engineer training at Fort Leonard Wood was recently approved. The civil and construction engineer training initiatives include all construction mechanic and electrical training for the Army and Marines. The end result will be an annual increase of over 7,500 students from our sister services and a permanent party increase of over 270 service members and civilian employees. The consolidation and co-location of these courses will reap a yearly savings to the Department of Defense of over $ 1M.

Our pro-active strategy to expand the sharing of interagency/interservice resources focuses on making Fort Leonard Wood the federal government's Premier Midwest Regional Support Center. We're proud of our 94 Support Agreements

with other federal agencies and the Reserve Components which save nearly $ 9M annually. As we succeed in acquiring ne missions, our engineer gateway will become a multifaceted installation. We will continue to seek growth.

As our Army places more reliance on its reserve components, we continue to exploit opportunities for synergist training for and with the Army Reserve and National Guard. We provide common task test training support for ROTC cade in Missouri and Illinois. The recent move of the Missouri National Guard's 35th Engineer Brigade from the St. Louis ar to Fort Leonard Wood is just one example of this cooperative venture. The recent use of our air tower and range professiona for attack helicopter gunnery qualification by the 135th Aviation Battalion is another.

Through various exercises over the past few years, we refined our power projection capabilities. Since Operatio Desert Shield/Storm, our installation staff has routinely given excellent support to deploying units through trainin mobilization, sustainment, and redeployment. Our contract-supported areas not only have mobilization clauses, but also hav been tested during peacetime deployments. As a mobilization station for 145 Reserve Component units with 15,500 soldier Fort Leonard Wood is well situated, staffed, motivated, and geared towards power projection. Another plus side to ou efforts is the positive response by both the military and civilian communities to meet the needs of the families left behind b deployed soldiers -- You couldn't ask for better!

We are extremely fortunate to have superb facilities that support both training and our quality of life. We're very prou of our new Dorland-Reynolds Training Support Center. This facility provides us a one-stop photo, educational television and graphics support site. It supports over 300 units on post and another 260+ off post, to include the Reserve Components Junior ROTC, and all Defense agencies in Missouri, southern Illinois, northern Arkansas, and eastern Kansas. Our photo branch takes over 5,000 official DA photos a year and has earned a reputation at MILPERCEN as "best in the Army."

Since Fort Leonard Wood is a little off the beaten path, we work harder to meet the needs of those who live and work here. There are several projects underway that will further enhance our quality of life. These construction efforts include: our new physical fitness center; our soldier service center, which will feature one-stop in- and out-processing; our new child development center with its age-appropriate play areas; our new consolidated troop medical clinic; the renovation and revitalization of family housing units; our motor transportation operators course; and a new engineer qualification range. We're also refurbishing permanent party barracks for single soldiers through a multi-million dollar U-Do-It project. Soldiers from one of our construction engineer platoons are working the complete renovation of 920 rooms, as well as remodeling hallways and converting foyers to dayrooms in our barracks complex.

During the past year Fort Leonard Wood has awakened a renewed sense of awareness, both here in Missouri and nationally, of our unique contributions to the Army. Others are beginning to realize the many opportunities available here in south central Missouri with its especially strong community support for the Armed Forces. But, aside from the many things that the post represents, the real strength of this installation lies in its people -- the dedicated professionals, both civilian and military, who make up the Fort Leonard Wood team.

From the doctors and nurses in the troop clinics and the hospital, the cashiers and stock clerks in the post exchange and commissary, and the cadre, drill sergeants and instructors in the training brigades and tenant units; to the fine folks working in the finance and accounting office, throughout the headquarters and its many directorates, the schoolhouse and the volunteers and families who support our efforts, they are what make this installation an outstanding place -- a gateway to excellence. This fact was also demonstrated dramatically by our volunteers, who last year donated the equivalent of 1.1 million dollars in time and energy to our community. When we began compiling information for the ACOE competition, I was overwhelmed to receive input from units and directorates not being evaluated. All were aggressive in volunteering additional information about the activities being reviewed hoping to ensure that all our initiatives were touted. I believe their commitment is indicative of the pervasive dedication to excellence found throughout the post.

TRADOC's COE reaffirmed this, naming Fort Leonard Wood its BEST in the large installation category and naming nine of our functional areas as Tops in their fields -- Civilian and Military Personnel, ACAP, Logistics, Chaplain, Public Affairs, Legal Assistance, AAFES, and Resource Management. In addition, a Department of Defense study found our MEDDAC to be Top in TRADOC in patient satisfaction and the Environmental Protection Agency just awarded our DPW a Certificate of Merit. That's excellence quantified! Our focus is and continues to be excellence through customer service. We are here to support our soldiers and their families, and I'm convinced that no one, nowhere does it better!

Top quality people, doing top quality work, on a top quality installation committed to EXCELLENCE for a common goal -- our Nation's Defense. That's how I see Fort Leonard Wood. Leading the way, ensuring excellence! Essayons!

JOE N. BALLARD
Major General, USA
Commanding

Document Separator

FORT LEONARD WOOD
POPULATION

As of 30 September 94

Active Duty Military	9,467
Family Members of Active Duty Living On- and Off- Post	7,303
DoD and Permanent Contract Employees	4,390
Total	**21,160**

STRATEGIC PLANNING FOR SERVICE AND FACILITY EXCELLENC

Fort Leonard Wood is clearly a World Class Home to the Force and is committed to providing excellent facilit and services. The **Training and Doctrine Command's (TRADOC) recognition of Fort Leonard Wood as its BES Large Installation Community of Excellence, plus our having the Best operations in nine separate functior areas**, reflects the extent to which we have conducted comprehensive strategic planning on this post.

VISION OF THE FUTURE. America's Army of the 21st Century is becoming a reality today here at Fort Leona Wood. While steadily declining resources constitute our installation's toughest readiness challenges in training, quality of li and infrastructure, we've developed a campaign to meet these challenges head-on. Through our commitment to decentraliz Total Army Quality (TAQ), we have begun our journey.

Our INSTALLATION'S VISION -- "A community everyone is proud to call home; The assignment of choi with the best training and working environment; A first class military training preparing professionals for service to countr Poised to answer America's call! "-- is a viable one encompassing the entire spectrum of our community. It is the result our focus on capabilities and coordination of efforts. It builds on our successes. Through Process Action Teams (PATs we've collectively developed and continue to refine our mission and vision statements as well as goals, constantly searchir for ways to improve. Among the issues the PATs have tackled are: the Engineer School reorganization; equipment utilizatio centralized scheduling; DENTAC telecommunications; and Lake of the Ozarks Recreation Area improvements.

For example, in reorganizing the Engineer School, our Directorate of Training (DOT) consolidated the personnel ar missions of the Deputy Assistant Commandant, the two school directorates and selected engineer-oriented missions of th 1st Engineer and the 3rd Training Brigades. The DOT now has full responsibility for the wide spectrum of engineer training It prescribes TRADOC policy and combines synergistic teaching, writing and doctrine development. It enables us t accomplish our missions more effectively. PATs have also brought in representatives from various areas of expertise t formulate requirements for materiel.

Thus, our installation vision, plus our commitment to TAQ, provide us the intellectual framework to continuall reshape and resource in support of our power projection Army with its focus on versatility and readiness. This is apparen as we execute our Installation Master Plan, Design Guide, and Customer Service Plan and develop the Installatio Management Action Plan (IMAP).

Our **INSTALLATION MASTER PLAN** (IMP) is a comprehensive document of architectural standards an zoning for the entire post. It includes spreadsheets, interconnected to allow simplified updates keeping it viable and accurate Its executive summary poster is widely distributed and serves as an easily understandable, ready reference used by commanders and planners to coordinate early construction planning. A component of the IMP is our Training Area Maste Plan which focuses on ranges, training areas, and training facilities. It outlines existing and required training resources provides a comprehensive evaluation of requirements, and presents a strategy for meeting resource shortfalls.

We developed and use the first TRADOC-approved **INSTALLATION DESIGN GUIDE** (IDG). Along with its companion piece, the Color Plan (CP), it serves as a source for specific visual design guidelines. <u>All</u> projects have applicable IDG and CP sections included in the scope of work. Prior to construction, we review each project for compliance.

Despite a declining defense budget, we have made great improvements in our INFRASTRUCTURE, ENVIRONMENT, community, and support to the Reserve Components (RC). Our strategy is simple, yet highly effective! We marshal our scarce resources on critical areas of the infrastructure while maintaining a near constant level of support to the community. This strategy, coupled with RESOURCE FLEXIBILITY, has yielded major upgrades to our road, rail, sewer and electrical distribution systems, while we continue to aggressively maintain all family housing, barracks, guest housing and unaccompanied personnel quarters. Whenever feasible we exploit our engineer construction training to support our efforts. Through troop labor, we're able to improve and maintain our total community at a considerable savings -- $7M+ in two years -- while providing practical experience for our soldiers. The recent conversion of our logistics operations from a contract to an in-house workforce, coupled with several initiatives to reduce maintenance and utility costs throughout the post, reflect our commitment to doing busines the most cost effective way.

We seek out creative ways to provide excellent range and training facilities, services and policies by identifying and meeting the needs of the customers. This includes upgrading existing facilities and the creation of maneuver space. It also encompasses awareness and education of environmental matters impacting on the long term sufficiency of our training areas. With federal, state, and local agencies we aggressively protect our precious natural resources through recycling, composting, reforestation, preservation, and environmental education efforts.

Using our **CUSTOMER SERVICE PLAN**, founded on identifying the most effective and sensitive ways respond to their customers' needs, service agencies have developed individiual tools to work directly with patrons. T "Town Hall Gram" used by residents to query the post commander during town hall forums is just one example of o customer service tools. The Post Exchange's "Customer Comment" program, which operates in-house, and its "Dire Line" program, which goes directly to the AAFES commander, are two more examples of our aggressive approach customer service. Feedback systems in our hospital, legal assistance, military personnel, and finance offices are others.

We've developed a unique way to service our two biggest institutional customers -- the Engineer Branch and t Corps of Engineers. Our Engineer Bulletin Board System (EBBS) provides up-to-the-minute data on tactics, trainin materiel, doctrine, and other related engineer topics. The system uses an interactive computer bulletin board which provid the total engineer force structure -- Active and Reserve Components -- with the capability to communicate via compute with the Engineer School (ES) as well as allowing them to interact with others electronically. By sharing lessons learned an after action reports, engineers are kept abreast of the latest developments and issues throughout the world and the U.S. Army

Using TAQ throughout our operations, we are rapidly developing our Installation Management Action Plan (IMAP as a reflection of the Army's installation goals and our VISION OF THE FUTURE.

The creation of a **POWER PROJECTION** Army enables Fort Leonard Wood to accommodate an open and flexibl strategic architecture. Our Total Army rapid deployment capability has been regularly operationally tested. Our Force Command (FORSCOM) and RC units as well as individual soldiers and subject matter experts have successfully deployed to the Middle East, Somalia, Haiti, Cuba, Honduras and Panama; and our Explosive Ordnance Detachment responds t calls throughout the Midwest. We are a full-service mobilization station for 145 RC units and over 15K soldiers throughou mid-America. We exploit opportunities for synergistic training for and with the RC. We recently upgraded our railhead, are constructing a new equipment concentration facility for the 102nd Army Reserve Command, and are scheduled to begin work on a new National Guard Armory. We are developing the capability to electronically power project engineering expertise anywhere in the world in support of contingency operations. We foster and capitalize on shared-training among courses to stress the synergistic relationship among officers and NCOs. Our emphasis on training critical battle focus tasks ensures the maximum readiness. Our strategic planning also calls for an Engineer School that exploits the latest technology. We encourage the use of video tapes, computer-aided instruction, and multimedia capabilities to the fullest. Our state-of-the-art Tactical Training Center provides support for our engineer students.

In the realm of **PROCESS REDESIGN**, our Information Management folks have worked with the Military Police to download blotter files through PROFS while maintaining the privacy of sensitive data. Our on-line publication program gives clerks the capability to place pub requisitions direct with the U.S. Army Publications and Printing Command.

Our Engineer School is pioneering local area network application of the Automated Systems Approach to Training. This software assists us in developing collective and individual training products. Of the 33 TRADOC training sites subscribing to it, we are out in front in our efforts to make this software universally available and easy to use.

"Continuity, Growth, and Change," are evident in our **PARTNERSHIPS, QUALITY OF LIFE** initiatives, and **HUMAN RESOURCES**. In partnership with the University of Missouri-Rolla, the school grants up to 15 graduate credit hours in general engineering management upon completion of the Engineer Officer Advanced Course. Federal, state, and local agencies use our post to meet their training and conference needs. In October 1993, we hosted our first Missouri Legislator Training Conference. This highly successful event brought more state lawmakers to Fort Leonard Wood and to south central Missouri than any other recent event. We've teamed up with the Missouri Division of Family Services to assist military families in adoption efforts. We annually host the Missouri Special Olympics, the second largest in the nation; and also sponsor numerous tourneys for athletes of all ages and all skill levels. As part of 1993 flood operations, we coordinated relief operations, conducted aerial surveys of Missouri and Illinois, and arranged for the use of Water Purification Units. We are currently pursuing joint use of Forney Army Airfield as a municipal airport. We have an active labor-management partnership council. Our Advisory Council on Women's Issues is the only one of its kind in TRADOC and serves to solve gender-related issues.

We view strategic planning as a constantly evolving arena, not final end-state. The next several years promise to be among the most challenging for our Nation, our Army, and our installation. Through an on-going sharing of information, dialgoue, and action within our entire community, Fort Leonard Wood will confidently seek out and seize new opportunities to enhance our capabilities to meet our Nation's needs. In strategic planning we are, as we are across the board, --

Top quality people, doing top quality work on the top quality installation for our Nation's Defense!

Our Fort Leonard Wood Public Affairs Office (PAO) is second to none -- EXCELLENCE permeat everything we do that's why we were named this year's "Best" in the large installation category of the Trainir and Doctrine Command's Communities of Excellence (COE) competition.

We're proud of our forward-thinking **COMMAND INFORMATION (CI) PROGRAM.** Our CI linchpin ESSAYONS, the post newspaper. It is growing with the post and we constantly look for ways to better serve the commar and our readership. As a commercial enterprise newspaper, **ESSAYONS** enjoys unparalleled support from its printer, tl Lebanon Publishing Company. The contractor provides a full-time photojournalist to the ESSAYONS staff, and comput hard- and software to include modem, telephone line, separate fax machine and page scanner as well as a business offic and staff strictly devoted to publishing our newspaper. In addition to regular upgrades to our system, the contractor is current researching the purchase of additional equipment to enhance our operation to include electronic imaging capabilities. Thes along with the training that goes with them, will be provided at no cost to the Army.

ESSAYONS took honorable mention at TRADOC in the '93 Keith L. Ware competition. The Missouri Pres Association also recognized one of our staff reporters for photojournalism and another two were selected to attend Office Candidate School. Clips from our paper appear regularly in clip services provided DA's senior leadership by the Office o the Chief of Public Affairs.

A conscious effort is made to provide articles and stories of local interest, while also relaying professional news t the Engineer Branch. During the past year, we made maximum use of "stringers" from units and organizations throughou the post to maximize coverage of events involving people and units here. This program was especially critical because we operated with only one of three authorized military journalists for seven of twelve months.

A **commander's column** was recently added to the paper as a regular feature. This popular column gives For Leonard Wood's leadership the chance to interact with the readership educating and involving them in issues of concern. Ou Letters to the Editor reflect **reader feedback.** Likewise, the **Better Opportunities for Single Soldiers program has a column** which highlights the activities and events specifically designed to support them. Other regularly published columns focus on: COE initiatives and progress, IMAP, environmental issues, safety, legal matters, and health.

Our **CI closed circuit TV Channel 59** was one of the first SRSN stateside affiliates. It's located in the headquarters center, thanks to a concerted remodeling project. We air a 24-hour bulletin board with an audiofeed of news and music from SRSN to the entire post. We also have the capability of going "live." We broadcast a Chaplains Family Hour daily, as well as other shows, such as quarterly Town Hall meetings, professional development presentations, health and safety shows and special presentations by the command. Our broadcast journalist produces a weekly TV program, **"Army News This Week,"** which airs twice a day, five days a week. The show focuses on topics of national and international interest, as well as items of local interest to the post population. We've also produced and assisted in creating videotapes for our COE submission, combat developers, engineer trainers, engineer senior leaders, the reception battalion and safety office.

To reach our target audience off-post and to assist the local high school broadcast journalism class produce its own daily cable news show, PAO has a **cooperative agreement with Waynesville High School** whereby we provide them with news clips and stories from the Army News Service which they incorporate into their broadcasts. This gives us another "channel" to get the word out.

We're proud of our initiative to produce the post's first color brochure which summarizes our mission and our economic impact to the region. The brochure comes in handy as our fort markets itself as the Premier Midwest Regional Training Center. Also, we publish at no cost to the Army, a post welcome guide complete with a map and telephone directory.

Finally, CI **produces over 300 speeches annually** for use by the Command Group and its representatives. Speeches range from guest speaker introductions to formal presentations; audiences range from on-post military, civilians and family members, to state agencies, Chamber of Commerce, civic organizations, student and veteran groups. These opportunities all serve as yet another means to tell the Army and Fort Leonard Wood story. Our speechwriter also **responds to calls for speech assistance** from engineer agencies and units and posts worldwide.

Our **COMMUNITY RELATIONS Branch plans, coordinates, and in many cases, executes more than 1,000 on- and off- post events annually.** They include: providing representatives, guest speakers and color guards for community events; participation in parades and civic activities in communities state-wide; arranging the Army band appearances off post, to include playing at the 1994 Soccer World Cup games; and coordinating a variety of special events and requested support. CR coordinates tours for civic leaders, school groups, and the U. S. Army Recruiting Command.

Our **Civilian-Military Council** is headed by the commanding general and includes the mayors of 16 local communities. The council serves as a forum for issues of mutual interest. In addition, our Commanding General hosts community leaders' breakfasts at his quarters about every two months.

As **Missouri's first and the Army's only World War II Commemorative Community**, we're proud of the events we've organized to include: a Japanese Flag presentation to the post by Congressman Ike Skelton; a World War II

convoy reenactment; the presentation of the replica of Battle Flag from the USS Leonard Wood to the post; and a form German POW reunion here that recognized the little known role the fort played as a POW camp during World War II. Th event was unique to the region, attracting significant media interest and presenting a challenge in community relatio coordination. Support and participation from the community was outstanding. A celebration commemorating the role Army engineers in the invasion of Normandy was held in June and attended by numerous veterans groups.

In the fall of 1993, we **hosted the Missouri State Legislators Conference** which brought more state la makers to the post than any other single event in more than a decade. We also host visits from federal and state dignitari to include the Governor, and U.S. Senators and Congressmen. It was a real honor to host the Under Secretary of the Arm The Honorable Joe R. Reeder who visited the installation for the 1994 Army Birthday Ball. The **American Legio Leadership Conference,** also held on the fort, is coordinated each year by the CR Branch and attended by nearly 20 American Legionnaires from every region of Missouri. Each July, we coordinate a Veterans Memorial Retreat which als recognizes POWs and MIAs from the state. The **Chief of CR serves as a liaison** with organizations throughout the stat maintaining ties with civic and business leaders and informing and alerting the command to mutually significant issues.

In support of Missouri Special Olympics (MSO), PAO initiated **the Governor's Cup Basketball games**. Thes games, between teams from the fort and the Missouri State House, have a two-fold benefit: supporting MSO and enhancin our relationship with the state government. This year we hosted the 9th Annual Governors Cup Basketball Game.

CR continues to strengthen ties with nearby communities as well as those beyond the 50-mile radius to includ Springfield, and Jefferson City, Missouri. Our **Civilian Aide to the Secretary of the Army (CASA), John Mahaffey a recipient of the Engineers' Gold de Fleury medal,** is credited with much of the post's success in south central Missouri especially the Springfield area. As proponent for the CASA program, PAO maintains frequent contact with Mahaffey.

Our CR staff coordinates a monthly distinguished soldier luncheon, hosted by the local Committee of Fifty, ar advocacy group for the post. Our command representatives attend; thus our leadership mixes with community leadership frequently. This post advocacy group also fetes departing and newly arrived members of the command group. PAO coordinates all details with community leaders.

We sponsor **Golf Links People** celebrity golf tournaments. This golf-related network is firmly in place, and includes representation from federal, state, regional and local agencies. Fort Leonard Wood is also represented in golf events throughout the state.

CR monitors the post's **International Student Program (ISP)** offering advice to the detachment commander and community officials regarding community interest in and support of the ISP. The Waynesville/St. Robert Area Chamber of Commerce hosts tours of local businesses, government and education institutions, and social events for our foreign students.

This past year, PAO served as the **proponent for the national touring production of "Letters from the Front."** Over 1,700 soldiers and civilians attended this highly acclaimed play.

Fort Leonard Wood's **MEDIA RELATIONS Branch** enjoys a **superb working relationship with both local and regional media** from St. Louis to Springfield, servicing 80 local, regional and national news outlets. A minimum of four PAO staffers are on call 24 hours a day and are available through the post staff duty officer.

We **handle more than 650 press queries a year and coordinate more than 175 media visits a year.** Our **news release usage rate continues to run at 99+ percent.** We daily clip local, regional and national newspapers and provide the Command with a weekly file of stories of interest to the post. We provide the Command Group the Early Bird each morning and monitor all local network affiliated TV stations and national broadcasts and record items of interest to the command. Local and regional TV and radio annually publicize and attend the Missouri Special Olympics Summer games played here. **Local and regional news media always publicize TCOE and ACOE before and after the competition.** Army Community Service volunteers assist us performing a variety of jobs from writing releases to coordination on major projects.

We recently **initiated instruction for all Pre-Command Course and Engineer Officer Advance Course** students on dealing with the news media. In December, we **conducted an editorial board** with the Commanding General (CG) and the Springfield News-Leader to give the CG a chance to respond to media questions about training and the future of the post.

Our PAO serves the command well in an advisory role, ever alert to potentially serious community relations issues and always ready with wise advice. Our **frequent planning and strategy sessions** within our own staff and with directors and commanders serve the post and the Army well. As the folks who deal with both the internal and external publics' perceptions, we actively participate on Total Army Quality process action teams and are developing the Installation Management Action Plan.

Our **PAO is a vital link** between the command and the greater Fort Leonard Wood community. ESSAYONS, command briefings and speaking engagements, outside media releases and our involvement with the surrounding communities, serve as the **primary means to communicate our vision of excellence!**

PUBLIC SAFETY

Our **commitment to excellence in SAFETY** drives everything we do on Fort Leonard Wood. Our **annual Sta Up for Safety Day** is one aspect of our dedication. We set aside an entire day to provide **intensive and effective traini** on various safety issues and subjects to the installation's soldiers, civilian employees, elementary school students, and fam members. Highlights of the day:

* The Commanding General (CG) spoke on POV and water safety, privately owned weapons safety, and ri assessment. His talk and the signing of the Safety Day Proclamation by the CG and the mayors of two local communiti were **viewed by an estimated 13,000 throughout the area.**

* Victims, who suffered serious injuries in car accidents, talked to the post about how their accidents occurred a how to prevent automobile accidents. The presentation, sponsored by the Missouri Heads Up Program, targeted young drivers, especially our single soldiers, but was also viewed via closed circuit TV by more than 10,000.

* Last year's first-ever **Safety Fair** brought together safety training and demonstrations at a central location a was open to all. Members from fort organizations and federal, state, and local agencies conducted the Fair. Estimate attendance was 5,000.

* This year we added a game show to our Safety Day activities. The "live" televised show was one of the mo popular events of the day.

Our installation's accident experience improved dramatically in 1993. **Outstanding improvement** was shown i **all five major categories:**

1. Military personnel injuries (MPIs) decreased by 44%, from 120 in 1992 to 67 in 1993. The installation's MP rate was reduced from .212 to .135, a figure representing the number of injuries per 200,000 man-hours of exposure.

2. Army motor vehicle accidents (AMVAs) fell by 43%, from 7 in 1992 to 4 in 1993. The AMVA rate was reduce from 1.044 to .71, a figure representing the number of accidents per 1,000,000 miles exposure.

3. Recordable privately owned vehicle (POV) accidents declined by 56%, from 18 to 8.

4. Lost-time civilian on-duty injuries were cut by 22%, from 37 to 29.

5. Fatal injuries to military personnel were reduced by 33%, from 3 to 2.

Our Defensive Driving Program, conducted by First Brigade with oversight from Engineer Branch Safety Office (EBSO), trained 1273 drivers during 1993. Motorcycle Safety Foundation classes trained 52 on safe operation o motorcycles.

We routinely conduct inspections of Family Child Care homes, the Child Development Center, Latch Key Program, and other child care activities.

EBSO also headed a very successful Total Army Quality (TAQ) process action team which dealt with the issue of physical training runs. Seven ideas were identified as implementable ones that will improve how we "run" group runs.

EMERGENCY RESPONSE. Fort Leonard Wood **Emergency Operations Center (EOC)** and other first response agencies on post have always had an agreement of mutual aid for emergency situations with local surrounding communities. The State Emergency Management Agency is providing radios to establish communication systems that enhance the capabilities of state and local communities to communicate with Fort Leonard Wood during emergencies. We are a critical link to the state EOC for Pulaski, Laclede, Phelps and Texas counties emergencies.

Our **MILITARY POLICE COMMAND (MPC)** is composed of Headquarters Company, Military Police (MP) Activity, a TRADOC asset, and the 300th and 463rd MP Companies which are deployable FORSCOM units. The expertise and professionalism of the MPs on Fort Leonard Wood was underscored in 1993 when the **300th MP Company won the Eagle Award** for the most combat ready MP unit in FORSCOM, and then **followed up by winning the J. P. Holland Award as the best MP company in the active Army. Headquarters Company, MP Activity was recognized by TRADOC for its outstanding unit marksmanship program.**

Providing a safe, crime free community for our customers -- the soldiers, civilians, and families -- is MPC's focus. **Community support** includes: station operations; motorized, walking, and bicycle patrols; game wardens; domestic and wild animal control; MP investigation with its juvenile and DARE programs; physical security; K-9 with trained and qualified dogs in drug and explosives searches; a special reaction team; Lake of the Ozarks security; and a St. Louis MP detachment. A service provided is security checks of quarters when the occupants are absent on leave, TDY, deployed, or hospitalized.

Our Physical Security section conducts Operation Identification by offering the marking of personal property and conducting bicycle registrations as requested by quarters occupants. This section also conducts numerous visits to the schools and local businesses with McGruff the crime dog, and child fingerprinting.

In addition to the law enforcement mission, our MPC provides other support to the community such as, security of flooded streets, briefings during town hall meetings, scouting support, bicycle rodeos, weapons security and housing self-help briefings. MPC soldiers also operate the installation's visitor information center.

Typical of the MPC's commitment to the community is its annual hosting of the last leg of the law enforcement run in celebration of the Missouri Special Olympics. Soldiers from the command also assist in Olympiad events, and provide security and traffic control.

The **MPC supports the post safety** through: radar and seatbelt checkpoints; school visits by McGruff, the crime

dog; weapons security and crime prevention presentations; and privately owned weapons registration. Soldiers dressed Vince and Larry, the crash dummies, are well travelled in our community spreading the safety message.

The game warden section works with state environmental and archeological offices to preserve the environment a historical sites and to provide safe hunting and fishing areas by ensuring only those with the proper state hunting and fishi licenses use the facilities and that the game limits are not exceeded. Game wardens also collect stray animals (domestic a wild life) in the housing areas.

To maintain high proficiency, **MPC soldiers participate in joint training exercises with local and state la enforcement agencies.** Also joint information sharing with local and state agencies has proven fruitful in keeping the po a safe place to live.

The MPC's versatility and dedication to mission and community service is also reflected in the tactical arena. As **pa of our defense's power projection platform**, both the 300th and 463rd MP Companies are trained and ready to deplo with little notice anywhere in the world.

Highlights of tactical missions include: the 300th MP Company **deployment to Somalia** to perform humanitaria relief mission as part of the UN contingency, and later to **Cuba** where they are currently providing security, logistics, an administration for a Cuban refugee camp; and the 463rd MP Company's deployment to **Panama** to provide security an law enforcement for U.S. personnel and facilities, the 463rd also **prepared for Cuban and Haitian refugee operation** During its "down time," the **463rd was recognized for its well-earned rating as outstanding in all categories** durin an Army Training and Evaluation Program (ARTEP) exercise. A major event was the **near flawless fielding of the MK 19, 40mm machine gun** with little lead time to the 300th and 463rd MP Companies. During a recent deployment to For Riley, the 300th conducted weapons training that qualified over 90% of their troops as experts with the M-60 machine gun

Our fort's **FIRE SERVICE (FS)** provides many professional services and training for neighboring communities National Guard, Reserves, cities across the state, and federal agencies in Missouri, Illinois and Kansas. The FS has becom **a multi-faceted occupation** providing specialized training, knowledge and skills in a variety of areas including confined spac rescue, HAZMAT, fire prevention and a platform of fireground operations. We work with **a can-do, will-do attitude** t serve community organizations, such as Family Child Care, scouts, schools, youth, adult and community activities. A grea challenge and a very worthwhile initiative was our recent purchase of a Fire Safe House. To add realism to the house's exi drill, the house fills with simulated smoke. Fire fighters make everyone crawl to an exit. Another recent acquisition is a roving fire hydrant named ''Pluggie,'' who ventures into our schools, child care facilities, military organizations and many othe activities to conduct quality training in courses as "Stop, Drop and Roll," "Learn not to Burn," safe cooking, fire reporting, exit drills in the home, fire hazards and other subjects.

All of our fire fighters have received TAQ training and the president of the local International Association of Fire Fighters was a key player in the Labor-Management Partnership process action team.

Our fire department's community approach offers **training to local communities, the National Guard, Reserves, county, city and federal governments** in LP gas emergencies, confined space rescue, tank fires, chemical emergencies, search and rescue, water rescue and rappelling. The FS also actively supports **EMERGENCY RESPONSE TEAM OPERATIONS.** This includes highly trained personnel, fire pumpers, an aerial ladder truck, aircraft crash vehicles, water tankers, a rescue vehicle and specialized rescue equipment and a Major Incident Response Vehicle (MIRV). The MIRV contains equipment for hazardous material emergencies as well as an area for incident command control activities. The vehicle with its associated equipment has been used successfully in emergency situations both on and off the installation.

As the only hospital in Pulaski County, our **EMERGENCY ROOM AND AMBULANCE SERVICE** provide **critical services to the post community and the surrounding area.** Our mutual aid agreement results in responding to two to three off-post emergencies per year. We have a paramedic on staff who is one of only two personnel in the county trained in high angle rescue and is one of the few trained in cave rescue. The nature of the terrain in this part of Missouri contributes to the need for such a highly skilled individual and his services are a tremendous asset for the civilian, as well as the military community.

During the peak training periods, our ambulance service makes three to four runs per day to the military ranges and training areas. A rapid response serves to maintain a safe training environment. Non-emergency runs facilitate the training soldier's access to the hospital and serve to minimize the loss of training time. It's normal for our AMBULANCE SERVICE to make 15 to 17 trips per month to the University of Missouri Medical Center or the Veterans Affairs Hospital in Columbia or hospitals in Springfield, Mo. Patients are transferred due to their acuity of illness or because of a need for tests or procedures.

Our 63rd Ordnance Detachment rounds out Fort Leonard Wood's commitment to safety by conducting explosive ordnance awareness classes to local schools. The 63rd also **provides explosive ordnance disposal to all local, state, and federal law enforcement agencies in Missouri, Iowa, and Illinois.**

We're **an action-oriented team** committed to developing the Installation Management Action Plan. We know the importance of having a plan in keeping this community safe.

OUR TOTAL COMMITMENT TO SAFETY ENSURES FORT LEONARD WOOD IS THE GATEWAY TO EXCELLENCE!

INSTALLATION MASTER PLAN/INSTALLATION DESIGN GUIDE. To ensure Fort Leonard Wo continues as a community of excellence, the Directorate of Public Works (DPW) maintains our installation Master Pla a living document by using a computer data base to keep it accurate and flexible. Over 1,100 copies of the master plan co poster have been distributed with copies even on the wall of the Command Group. Our Installation Design Guide w developed on the premise that imagery and visual attractiveness are essential to the military mission. Architect Frank Llo Wright's prairie architectural theme of long, low buildings which take advantage of open space is evident throughout t cantonment. A companion document, the Color Plan, is also used. All of these plans have been developed from extens customer input in order to make them viable plans.

OPERATIONS. All of our plant operations have been successfully contracted out. Emergency operations pla are in place. Extensive customer involvement occurs prior to scheduled outages and the same customers know what to exp in the way of immediate response to unscheduled, accidental outages. Fort Leonard Wood has been a test site f implementation of the Training and Doctrine Command (TRADOC) Strategic Utilities Planning System for utility plants. Th system provides comprehensive, cohesive planning for maintenance, repair, and upgrading of utility plants. Our Sewag Treatment Plant recently received an award from the Environmental Protection Agency for excellence in plant operation

LAND MANAGEMENT. Since 1991 our Land Rehabilitation and Maintenance Program has implemented co effective technologies such as revegetation and erosion control measures to repair damaged lands and to prevent soil erosio site degradation, and water pollution. We are in the midst of a long term erosion and sediment control project at the Normand Training Area. This area has over 800 acres of bare and highly erodible soil and is the primary site for heavy constructio equipment operation instruction. It is repeatedly laid bare of vegetative cover. The restoration project is a joint venture wit the Soil Conservation Service (SCS), the Department of Defense Construction Engineering and Research Laborator (CERL), the engineer training units of the 1st Engineer Brigade, and the DPW Natural Resources office. A similar progra outlines a program of rest, rotation, and rehabilitation for bivouac training sites to ensure long term continued availability

INFRASTRUCTURE/ENERGY. Our post has seen major infrastructure improvements in the past several years They include replacement of 1940's era clay sewer trunk lines and extensive roof replacements. In addition, we hav completely overhauled our railroad system, milled and overlayed most of our major roads and completed a major utility pol and crossarm replacement project. The single greatest improvement involved the acquisition of natural gas to replace a existing propane gas system. We installed about six miles of new steel main line, replaced old propane piping servicing 1,50 family housing units, and installed new service lines to 1,362 units previously heated with fuel oil. Furnaces and water heater were converted to natural gas; three major oil-fired boiler plants were converted to natural gas with two more planned; and forty more major buildings were also converted to natural gas heating. We operate a second generation Energy Monitoring Control System connected to major energy users to monitor and control heating and cooling, and to effect peak shaving. Al new Major Construction Authority (MCA) construction projects as well as additional buildings are added to the system regularly. Additional FM radio control systems limit air conditioning compressor and water heater usage in housing units.

SPACE MANAGEMENT. We developed a Building Master Plan to significantly improve space utilization, move customers from World War II buildings to permanent facilities and equitably distribute available facilities. This plan, based on extensive customer input, dovetails with the Installation Master Plan, consolidates functions, identifies buildings with historic significance, and ultimately, identifies excess WW II buildings for demolition. In the past three years, this resulted in the demolition of 304 WW II buildings -- nearly one million square feet.

WORK MANAGEMENT. Customer service is number one in the DPW Work Management Office. This has resulted in the installation of an automated telephone system which ensures no busy signals and no lost calls to the service order desk. Customers are also allowed to schedule work at specific times on specific dates at their convenience. We recognize the modern family with two working spouses as well as single parent families. Service can now be scheduled at night and on weekends.

To judge how well our contract maintenance and repair operations are going, we have implemented the use of customer response cards given to customers whenever a craftsperson completes work. These pre-addressed, postage paid cards are used to improve contractor performance. It is a system that has now achieved 98% favorable responses. Any unfavorable comment is responded to the same day it is received to solve any problem with the customer.

PROJECT MANAGEMENT. Our designers coordinate and formally review all project designs with all affected customers. This review process ensures that customer needs and expectations are met. Our designs are often adopted for use by other installations and major commands (MACOMS). Our U-Do-It project in Specker Barracks which converts single soldier three-person rooms to modern one- and two- person rooms is now the standard for similar projects around the Army. This U-Do-It/troop project, probably the most successful in the Army today, was designed by and is being built by the same soldiers who live in these barracks. As a result of our expeditious project management and installation teamwork,

our Reception Battalion Dining Facility was a finalist for the Army's Connelly Award.

All project designs incorporate CADD technology to speed production and enhance as-built drawing maintenanc All of our designs are comprehensive to include a unified design theme from exterior to interior to furniture packages.

CONTRACT MANAGEMENT. Our new Base Support Services Contract is a cost-plus award fee contra as opposed to the previous fixed-price contract. This change plus the teamwork and cooperation now achieved has result in an immediately greater level of customer satisfaction while working with a reduced budget. We have linked our compute with contractors' to improve communication. We also make extensive use of delivery order contracts for everything fro grass cutting to brick wall repair to underground tank removal to greatly enhance our ability to react to changing budg conditions.

Our Heating, Ventilation, and Air Conditioning (HVAC) maintenance contract standard in family housing is same da service with most repairs occurring within 3 to 4 hours of the initial call. Our Job Order Contract program is another succes with two active contracts; one for projects on post and the other to support work at the United States Army Reserve Cente in three states.

ENVIRONMENTAL STEWARDSHIP. The entire installation is committed to accomplishing its militar mission while protecting environmental quality. We have an excellent compliance record; and as a leader in the implementatio of new programs, technologies, and processes to protect the environment, we have served as an example for the surroundin area. Under the motto "Tank Free in '93", we replaced all 108 regulated underground storage tanks with above groun tanks and safe, high tech underground tanks.

We conducted asbestos surveys and health risk assessments on all of our permanent buildings. All friable asbesto identified has been removed. We also conducted an extensive identification and removal program to eliminate PCBs. Ove 90 percent of our PCB transformers have been removed with the last to be removed during the fall of 1994.

Two of our DPW employees recently shared a $5,000 award from the Secretary of the Army. Rory McCarthy and Kim Miko received the award for Hazardous Waste Minimization. They arranged for a large quantity of lead contaminated soil from the cleanup of an old indoor firing range to be recycled in a lead smelter operated by the Doe Run Mining Company.

About 42,000 acres of our forest land are under direct management of the Forestry Program. This multi-use management program provides a realistic military training environment while sustaining a yield of wood products and maintaining a biologically diverse ecosystem.

Since 1960, Fort Leonard Wood has had a cooperative agreement with the U.S. Fish and Wildlife Service (USFWS) and the Missouri Division of Conservation (MDOC) to provide protection, development, and management of fish and wildlife resources. The agreement provides for the development and improvement of habitat, restoration and restocking, control of noxious plants and nuisance animals and protection of fish and wildlife populations.

Hunters and fishermen spend an estimated 42,000 days each year hunting and fishing on the installation and the annual revenue from these activities is nearly $20,000.

Complying with the National Historic Preservation Act, we initiated a long-term program to inventory and preserve cultural history sites that date from about 6,000 B.C. until the WW II era.

The Legacy Resource Management Program has funded many of the goals of the Cultural Resource Management Program including rehabilitation of the Black Officers Club and Rolling Heath School (circa 1912); the investigation and excavation of the Miller Cave complex; and a Roubidoux and Big Piney Geomorphological Project.

We're proud of our close coordination with the USFWS, MDOC and U.S. Forest Service as well the cooperation of local communities to remain in compliance with the Endangered Species Act. We currently have three resident endangered species (Indiana bat, gray bat and bald eagle) and six species which are candidates for listing as endangered species (Bachman's sparrow, cerulean warbler, central Missouri cave amphipod, Ozark hellbender, butternut and royal catchfly). Endangered bat species use various caves to breed or hibernate. These caves are off limits during critical use periods. Bald eagle habitat is located in riparian habitats on the installation. All land management practices and military training activities in these areas are limited and closely monitored during the period when the endangered species is present.

We're proud to be the only known DoD post to sponsor the internationally acclaimed environmental education program, "Learning Tree." The program takes an interdisciplinary approach to "training the trainer" to teach children the importance of safeguarding our natural resources. Fort Leonard Wood will host two educator workshops this fall and winter.

Nearly 200 DPW employees have received Total Army Quality training. **DPW was a team leader in the implementation of the TRADOC Advance Planning System, a design to do BASOPS advance acquisition planning. We are taking the lead in its execution.**

We are excited as we begin our work with the IMAP. While all eight goals touch DPW, our focus is on the power projection platform, environment, and infrastructure goals. We advocate the actions prescribed and welcome the structured action plan provided in our IMAP. We're Fort Leonard Wood's DPW! **WE ENGINEER EXCELLENCE!**

HOUSING SERVICES AND FACILITIES

Folks stationed at Fort Leonard Wood are proud of our great family housing. In fact, our **FAMIL HOUSING** has long been recognized as the **BEST MAINTAINED QUARTERS IN THE ARMY.** All our 2,862 units can be immediately occupied with only minor maintenance performed between occupants.

An aggressive improvement program has been in place for many years and continues today with **Who Neighborhood Revitalization.** Complete interior electrical rewiring to meet requirements of the Nation Electrical Code; bathroom renovations; the installation of additional hard-wired smoke detectors required b fire codes NFPA 74 and NFAC 72; and the construction of two new general officer quarters are all part of th program. We're currently revitalizing 169 units and another project for 250 units is under design.

All modernization programs are a **Total Army Quality (TAQ) joint venture** between residents an engineer staff. A committee that includes randomly selected soldier families influences design. Loca Directorate of Public Works (DPW) staff (both housing and engineering) review and approve all preliminar proposals. Our occupants play a major role in selecting the improvements.

Our housing office exerted a concentrated effort to provide quality play areas for "kids" of all ages. W recently completed the replacement of three of our older timber playground systems with new state-of-the-ar multiple play-station equipment, including facilities for children who are mentally and physically challenged. Th modern playground equipment has been so well received, we have had requests from new arrivals to be housed close to them and from established occupants to be permitted to move closer. In addition, we've constructed four new outdoor basketball courts for older teens and adults. We've also developed a long-range playground plan which, when complete, will double the number of existing playgrounds. To ensure our play equipment is safe, we conduct a semi-annual (spring and fall) inspection of all playgrounds.

In cooperation with the Directorate of Plans, Training and Mobilization (DPTM), we developed a **troop project** for AIT soldiers training in the vertical skills to construct storage sheds which are placed at quarters where none exists. This not only provides a needed addition to the quarters at a low cost, it also offers a constructive form of training and a real sense of accomplishment for our soldiers.

The Housing Division initiated and requested authority from Training and Doctrine Command (TRADOC) to divert a number of two-bedroom family quarters for use by single pregnant soldiers. This enables single pregnant soldiers to establish a home for themselves and their expected newborn earlier than would have been possible if they had been required to seek housing in the local community; thereby, contributing to a stable environment beneficial to both mother and baby.

While we offer a system of government certified cleaning firms for families desiring to contract their quarters termination cleaning, Family Housing Inspectors recognized a need to assist families planning on cleaning and clearing their quarters themselves. Because of their desire to ease the anxiety and frustration sometimes experienced by these families, our inspectors worked during their free time (i.e., breaks and lunch hours) developing a self-help cleaning class, complete with lesson plans, charts and visual aids. Through their initiative, an inspector conducts a weekly class which addresses quarters cleaning, yard preparation and self-help requirements. The course uses an actual set of family quarters thereby giving access to "real" training aids. Since its inception, the number of occupants attending continues to grow; and, more importantly the number failing their final inspection is decreasing.

Our housing areas are administered through a **Community Coordinator system**. Area coordinators oversee the activities of 10-12 homes; areas are grouped into eight villages, headed by the senior resident who is designated as the Village Coordinator.

CUSTOMER SERVICE has always been **a major emphasis of FAMILY HOUSING.** The TAQ process is utilized by our **Service Action Team** which meets periodically and is dedicated to improving customer service. Our **employees still answer the phones personally,** no answering machines or voice automated systems; we treat our customers as people not numbers. We want to know them, their needs and their desires. **Counselors offer one-stop service** and can take care of a family housing customer's needs whether for on-post or off-post housing. This greatly reduces the amount of time a customer must wait to receive service. Normally, our customers complete their business in 15 minutes or less. We consistently receive customer comments complementing the housing staff on their courtesy, professionalism and competence.

HOUSING REFERRAL. Henry Wade, Chief, Assignment/Terminations and Community Homefindir Relocation, and Referral Services, has been selected by Department of the Army to participate as a team lead in the Software Qualification Testing of the new Housing Operations and Management System (HOME software and hardware package to be distributed to housing offices Army-wide. Wade's recogniz proficiency and knowledge of the HOMES system led to his being one of only 10 invitees Army-wide to tal part in the testing process.

A recent reduction-in-force resulted in the loss of some housing personnel and an office became vacan Our **CHRRS** staff immediately recognized the opportunity to use the vacant office as an enhancement to th services provided to families seeking housing in the local community. Using the vacant space, they created video/resource room where customers have private access to telephones, videos, local papers and listings c off-post property for sale, lease or rent. The room benefits customers by placing at their fingertips all th information needed to assist them in choosing a home. While parents are engaged in the serious business c selecting a home, children are occupied in our play area overseen by one of our housing counselors.

UNACCOMPANIED PERSONNEL AND BARRACKS. Fort Leonard Wood has embraced th TRADOC **Single Soldier Living Community (SSLC) initiative** and has an **aggressive program in plac to ensure our single soldiers enjoy living facilities and services commensurate to their marrie counterparts.** All permanent party soldiers in ranks specialist and below are housed two per room with privat baths. Sergeants (SGTs) and staff sergeants (SSGs) have private rooms with baths; and senior NCOs have fair share of BOQ rooms with kitchens. We established two centrally-managed dorms for SGTs and SSGs wit maid service available. Occupancy in the dorms is optional but they are so popular that they are both full an we have a waiting list. Work is underway to create a third dorm to meet the demand.

In addition to developing a **whole barracks community renewal MCA project**, a **comprehensive U-DO-IT project** has allowed soldiers to complete total renovation of 257 rooms to date, with 100 more rooms to be completed by the end of this fiscal year. The U-DO-IT project was developed by our Billeting activity, reviewed and finalized by DPW, and is being accomplished by a construction platoon from our 1st Engineer Brigade. The brigade took on the project for the entire permanent party barracks complex and is providing first class renovation for about 35% of the cost if done by contract.

The project was featured in the June 1993 issue of Public Works Digest as an example of how to do a U-DO-IT project and pictures of completed rooms were used in the Army "Single Soldiers' Communities of Excellence" publication. Articles describing the project were published in issues of the "Command Information Package." ASCIM indicates that the project will be used in one of its brochures for the entire Army, as an example of how to accomplish self-help.

We purchased **new furnishings for barracks** and we've enhanced our SSLC program with the addition of covered picnic tables, BBQ grills, a large pavilion, sand volleyball courts and basketball courts to the Specker Barracks complex with about one million dollars in year-end funds. Through the use of local funds for U-DO-IT projects and small contracts along with successful competition for Subject to the Availability of Fund dollars, **our soldiers' needs are being met now** while the Major Construction Authority requirement is being substantially reduced.

TRANSIENT HOUSING. The total renovation of 47 visiting officers quarters is nearing completion at which time all of the nearly 100 transient and guest housing units on the installation will meet or exceed all TRADOC and DA standards of adequacy. We earned TRADOC's 1994 "Best Lodging" award. Our transient lodging activity won the Department of the Army (DA) Lodging Operation of the Year Award (LOYA) in 1991 and is a semi-finalist for the 1994 DA award (LOYA competition rules require that winning installation not compete for two years).

Our **FURNISHINGS OFFICE** lends fire alarms for the hearing impaired, shampooers, dehumidifiers, floor polishers and issues adhesive street address labels to identify the owners of refuse containers.

The whole room concept was used to replace 52 rooms of furniture in renovated barracks. We increased the number of rooms in which the furnishings are individually hand receipted to the occupants to give the single soldier more control over his own quarters and we also support the use of personal furnishings.

People are our major concern. As we develop our Installation Management Action Plan (IMAP), we focus on the quality of life and improving our services. We are literally the **HOME TO THE FORCE!**

MILITARY PERSONNEL SERVICES AND FACILITIES

We take care of soldiers!! Our commitment to soldiers is so great that we've been named the **"Best"** in t Training and Doctrine Command's Communities of Excellence competition in the large installation category! We'll be ev better when Fort Leonard Wood opens the doors of our **new Soldier Service Center** in 1995. Centrally located, t facility will provide the ultimate in **ONE-STOP IN- AND OUT- PROCESSING** for our soldiers.

To keep the post abreast on military personnel topics, we initiated an electronic newsletter, "The DMP Monitor available to everyone over PROFS. For patron feedback, customer survey boxes are located in every activity.

We have a **pro-active approach to EQUAL OPPORTUNITY (EO).** During FY 93, EO hosted a seminar managing diversity for the entire post. Our EO Leaders Course graduated 194 EO leaders who assist commanders and E advisors to ensure units are free of negative perceptions and stereotypes; and see all are treated with dignity and respe

We conduct **Prevention of Sexual Harassment** training twice a week for all new arrivals, from privates to colone We focus on identifying gender-issue behaviors and perceptions and on creating an aware climate. We also help educa nearby communities in EO and cultural awareness through our training with the Missouri National Guard.

Our **Organizational Inspection Program** assists commanders in having and promoting a healthy equal opportuni climate. We also sponsor ethnic activities to foster harmony and an awareness of the similarities and diversities among peopl

The Community Counseling Center administers our **ALCOHOL DRUG ABUSE PREVENTION AN CONTROL PROGRAM**. The Drug and Alcohol Control Office is community-based and offers services to all milita personnel, civilian employees and family members. Each year we sponsor Red Ribbon and Drunk & Drug Prevention Heal Fairs. We give Unit Alcohol Drug Coordinator's training monthly and are an active participant in the post's Newcomer Orientation and the Employment Assistance Program. We offer State and JCAHO-certified Alcohol and Drug Abus Prevention Training classes to individuals referred to our office. For the youth of our community, we provide preventio education through drug-free activities, such as Kids Fest, skating parties and a Health Fair and "Project Graduation."

Our **SINGLE SOLDIER INITIATIVES** to enhance the quality of life for single soldiers cover a wide array c facilities and services. They include: barracks refurbishing through post and U-Do-It dollars; availability of family quarter for single pregnant soldiers; plus numerous recreational and educational activities throughout the year, especially the holiday

We're proud of our energetic and highly motivated **RETIREMENT SERVICES team** which offers persona retirement services counseling and benefits to more than 35,000 retirees. We conduct Survivor Benefit Plan briefings monthl to about 55 couples. About 200 soldiers and their spouses attend our quarterly pre-retirement briefings. Our Retiremen Services Branch and Transition Point are co-located to enhance customer service. The two have received numerou comments and letters of appreciation which reinforces our positive "can do" attitude. Our 15th Annual Retiree Open Hous treated nearly 1,900 retirees and their families to displays, briefings, medical screening, and social functions. We've expande our volunteer services to offer widow support groups, income tax counseling, and many more services to the retiree. We're proud to report our **retiree volunteers logged a total of 7,443 hours** in 1993. They also man one of the finest hospita retirement services in the Army. Our Retiree Council meets quarterly to keep the post commander informed of retiree issues.

MILPO provides excellent service to all soldiers and their family members at Fort Leonard Wood, as well as satellite units in the St. Louis area. **Our Sponsorship program is second to none**. All officer and enlisted personnel on orders to the post receive personalized welcome letters not only from their sponsoring unit but also from the post itself. Friendly customer service is our trademark in both verbal and written communications. Incoming officers routinely call our Officer Management Branch to ask about their projected unit of assignment, professional development, mission requirements, and other concerns they may have prior to their arrival. We answer all requests quickly and completely.

The **Enlisted Management Branch** eagerly responds to all questions about reclassifications, stabilizations, lateral appointments, MOS/Medical Reclassification Board (MMRB) actions and assignments. The branch conducts an MMRB bi-monthly; extensive telephonic coordination results in an MMRB that is both efficient and effective. Our locally devised SIDPERS strength accounting roster for strength accountability functions is an accurate and reliable source of information. The roster enables the DMP to equitably distribute assigned and projected enlisted soldiers at Fort Leonard Wood. The branch also gives direct one-on-one service to soldiers who want to be stationed here by mediating requests for assignment diversions with PERSCOM. In June 1993, our **Reassignment Branch** was the **only one in TRADOC to meet or exceed the DA standards in processing deletion and deferment actions.** This excellent processing time not only benefits Fort Leonard Wood soldiers, but also the Army as a whole. Our decentralization of permanent change of station orders has proven very beneficial to the customer providing faster and more efficient service to all out-processing.

Our **Personnel Automation Division** inputs an average of 28,200 SIDPERS transactions monthly with **a 97% timeliness rate.** Monthly performance notes sent to all units assist them in monitoring /evaluating their organization's performance. Quarterly SIDPERS training classes and courtesy visits ensure that units follow correct procedures.

The **Trainee Records and Operations Branches** recently combined to trim our budget while enhancing our customer service. As a result, each records clerk effectively manages an average of 800 files, twice the norm established by the most recent MS-3 study. We process trainee separations in less than half the time prescribed by regulation. Extensive

cross-training and prudent leave scheduling assures continuous quality service.

The **Strength Management Branch** successfully implemented a procedure to minimize the number of Entra National Agency Check (ENTNAC) holdovers here. By immediately screening each record for ENTNAC status up arrival and by submitting a new request to the Defense Investigative Service on those which show "no record," accomplish our goal. As a result, most trainees receive a completed ENTNAC prior to graduation from training. If n those who qualify receive an ENTNAC waiver and are placed on orders to depart as expeditiously as possible.

When the requirement came down to eliminate group orders and to begin processing individual orders, t projected increase in volume appeared staggering. Thanks to careful planning and the best use of available software, t three automation employees, who processed 3,251 group orders during the first quarter of FY 93, succeeded in processi 13,421 individual orders during the same period in FY 94.

Our **Student Processing Branch** recently began individual rather than group in-processing of Engineer Offic Advanced Course students. This allows greater flexibility for branch employees while providing enhanced personaliz service. A course commander, duly impressed, claimed we are the **"best in the Army!"**

The **Personnel Retention Division** has received numerous kudos for its outstanding service to our soldiers. achieved 216% of its reserve components mission for FY 93; and achieved 128% for FY 94.

Our **ARMY EDUCATION CENTER** offers a broad spectrum of services. **Seven post-secondary education institutions** provide a sum of 48 undergraduate and seven graduate on-post degree programs, making it possible for soldier to begin and complete a degree while stationed here. **Nearly 18,000 enrolled** in college programs in FY 94, ar a 5% increase is projected for FY 95. **More than 500 soldiers, family members and civilians earned degrees** in F 94. A recent DoD evaluation team had high praise for our college programs and for the optimum level of cooperatic among the on-post colleges. Schools share instructors, lab monitors, equipment, and contribute toward building securit

Facilitative computer software enables counselors to provide data to geographically separated soldiers. Do described our counselors saying: "They are well-trained and consistently perform at a high level in a wide variety of function with reduced staff levels."

Soldiers taking functional academic skills remediation have options, like computer-based instruction, teache led classes or self-study. **Retests on AFCT** show participants **increase GT scores by an average of 15 points.**

Through an arrangement with our local school district, **open-ended Adult Basic Education and English as Second Language classes** are offered free to soldiers and family members. We administer the Test of Adult Basic Educatio twice daily. The College Level Examination Program, Scholastic Aptitude Tests and credit bearing tests in the Defens Activity for Non-Traditional Education Services program are scheduled for groups of soldiers. The Missouri Departmen of Education administers the General Education Development test twice a month at our center. Expert advisement and self study opportunities cause our CLEP and GED passing rates to exceed the national average. The DoD evaluation tean remarked, "The Testing Center is an excellent facility and is efficiently operated."

Flexible scheduling and effective communication and coordination have achieved a 100% Skill Development Testing (SDT) level with "no-shows" reduced to zero in FY 94. Use of an electronic scanner and connection with Fort Eustis give same-day scoring of tests and next-day scores to units and individuals.

Our **Learning Center**, located in the Ed Center, provides comprehensive support for: SDT testing preparation; obtaining MOS-related teaching materials; or gathering current data on specific military issues. A full set of Army regulations is available. Film and audio cassettes can be used at the center. Soldiers can use speed-reading or Read-to-Lead courseware. High enrollment in Army correspondence courses reflect our positive efforts. On-post colleges provide materials for use and check-out. Videotaped and printed courseware for GED, CLEP and SAT preparation is augmented by help from professional educators. Webster University provides a CD-ROM data bank for use by students of all schools. The Defense Language Institute furnishes books and tapes for 30 languages to be used in the facility or checked out (along with a tape recorder). A growing number of videotaped college courses can be viewed in the center. Students completing them can qualify for college credit. Current college catalogs are available on microfiche. Professional counselors are nearby to assist students with materials. Fax services, copying and printouts of computerized databases are available to all users.

In celebrating Women's Equality Day 1993, we held **VOTER REGISTRATION** in the post headquarters under the auspices of the County Clerks from Pulaski, Phelps, Laclede and Texas Counties. A voter registration booth was set up in the main PX lobby during Armed Forces Voters Week 1994. It was well publicized on- and off- post. Voter registration posters and election calendars are placed at over 30 key locations throughout the installation. The names and phone numbers of every unit voting assistance officers are also available from the post operators. Fort Leonard Wood has a very pro-active program, keeping soldiers, their families and DoD civilian employees well-informed on voting issues and information.

People are our major concern. As we develop our Installation Management Action Plan, we focus on the quality of life and human resources goals -- new and exciting ways of providing improved service to our people are surfacing!

"Soldiers are our Business!" Fort Leonard Wood's DMP ensures excellence is a vital part of our service!

THE ARMY CAREER AND ALUMNI PROGRAM

"CORPORATE HEADQUARTERS" comes to mind as our clients enter our parking area a experience a different environment from the traditional Army facility. Our **ARMY CAREER AND ALUM PROGRAM (ACAP)** building is surrounded by neatly planted bushes, well placed flowers, and is accentua by a creative birdbath built within an octagon rose bed. Our civilian-imaged offices with private counseli rooms, a large waiting area with contemporary furniture, current professional development reading materi and a break area with kitchen equipment enhances the sense of looking forward to a future in the civilian wor Our landscaping -- provided and maintained via self-help by our multi-talented counselors -- reflects c willingness to create a little part of what clients can expect as they pursue new careers in the private sector. O goal is simple: Offer a comprehensive system to assist personnel leaving the Army with care and dignity. It targeted to serve soldiers as well as civilians and family members. We promote the ability to recruit a quali force in the future by proving the **"Army takes care of its own"** in the present.

The fact that we are **"THE BEST ACAP"** in the Training and Doctrine Command's Communities Excellence large installation category proves that "Corporate Headquarters" fits our daily operation

The **TRANSITION ASSISTANCE OFFICE (TAO), JOB ASSISTANCE CENTER (JAC),** Po Reenlistment, In-Service Recruiters and Department of Veterans Affairs **are co-located** to insure a sou beginning to the transitioning process. Local newspapers and visiting government dignitaries laud our efforts provide a classy environment. Our location, in the midst of single soldier housing, ensures convenient acces

The primary objective of the TAO is to provide effective, efficient, and professional QUALIT CUSTOMER SERVICE. To achieve this, our staff was initially trained by professional instructors at th ACAP seminar conducted by the Department of the Army. Each counselor has an extensive background i customer-oriented fields. The initial training, plus continuing participation in the post's Total Army Qualit (TAQ) program, has equipped our staff with the expertise needed to provide the professional transition service required. Our Service Manager serves on a DA-level automation process action team, providing help des assistance to other installations, suggesting improvements to the present Management Information System, an studying the capabilities to be included in the ACAP Information Support Module.

At the **TAO,** personal contact with each transitioning individual about 180 days prior to departure establishes us as an immediate, reliable source of information, training and preparation for a career change. W also extend our services to all National Guard soldiers and Reservists in the area who have completed at leas six months of continuous active duty. Through the combined efforts of concerned leaders, a professiona transition assistance staff, an innovative planning strategy and a lot of hard work, the Fort Leonard Wood ACAI is recognized as the stepping stone of excellence from one profession to another. We work with individuals to provide a sense of stability during a very trying period of transition. Since our inception in October 1991, abou 4,500 clients have processed through the Fort Leonard Wood TAO.

Using proven counseling techniques, patience and understanding, our staff prepares a comprehensive plan of action for the future of every individual transitioning. Initial appointments with our clients are scheduled for 45-60 minutes, but our philosophy is to take whatever time necessary to ensure each client's needs are met. This also includes introducing clients to the computer job search programs Transition Bulletin Board, Federal Job Opportunities and The American Interstate Job Bank (AJB). Our counselors' **"we care"** attitude goes far beyond the normal definition of quality client service. Several clients continue to visit our office to update us on their progress long after they have separated.

Our **TAO** developed an efficient and effective marketing plan. Each counselor is assigned certain units and the rapport generated from the commanders all the way down to the individual soldier has created a sense of continuity in the system. Our counselors work with a personal intensity that is carried over to the units to insure every separating individual is aware of the program and takes advantage of all the first-rate services available. As part of the post's in-processing, we brief every new commander, first sergeant, and key unit personnel to ACAP. Our counselors continue this dialogue by conducting quarterly updates to commanders as well as by participating in pre-separation and pre-retirement briefings and Officer and NCO professional development courses. Mission requirements are a key factor to our success as we tailor our operations to meet the needs of the individual soldier and the unit.

We have been added to the installation's mandatory record of clearance form which offers a quality assurance measure to guarantee all transitioning personnel are advised of the services available to them.

Semi-annually, the **TAO and JAC** sponsor a Career Day/Job Fair for the entire Waynesville-St. Robert-

ARMY COMMUNITIES OF EXCELLENCE
FORT LEONARD WOOD
MISSOURI

CONTENTS

Fort Leonard Wood community. We attract 50-60 perspective employers and 600-1500 job seekers. J Fairs are just an example of how our relationships with local area Chambers of Commerce have developed a improved. Other recent actions to increase family member job availability include participation in a new loc industries alternative workforce employment program.

The measure of success to our clients is documented by the clients themselves. After the initi counseling, clients are asked to complete an evaluation form on their counselor. These evaluations are reviewe weekly by the Transition Manager. Points of interest and concern are discussed with the counselors at our sta meeting; all issues are considered for possible improvement of our services.

The **JAC** gives transitioning soldiers, civilians and their family members answers to their main transitio concern -- how to conduct an effective job search. Weekly workshops are held that provide each client wit as many tools as possible to enter the civilian work market. This is followed up with one-on-one counseling tha will produce a professional resume. To prepare our clients for the Career Day/Job Fair activities, the JA counselors give individual assistance with resumes, tips on dressing and preparing for an interview. Throug the Army Employer Alumni Network (AEAN), Defense Outplacement Referral System (DORS) and the "HO LEADS" bulletin board, clients have the means to search for a job of their choice. **JAC counselors also tea with TAO counselors** to provide briefings to units, civic organizations and community leaders. Continuou efforts to improve the job search market for clients by JAC counselors has swelled the AEAN to 12,000 at las count. The mark of success for JAC is documented by the "You Can Be A Star" board that carries letters o appreciation from clients annotating their accomplishments. Service providers furnish the final link in th transitioning process. Twenty-one service providers, from the Missouri State Small Business Development an NetWorking Center to Staff Judge Advocate and the Transportation Office, cover every phase of the out-processing cycle with direct points of contact. Service provider representatives meet on an annual basis t exchange information and discuss improvements in each service to ensure clients' immediate and long-rang needs are met without duplicating efforts and reducing services. It also gives each provider the opportunity t see how each office fits into the ACAP. This is another measure to ensure that transitioning personnel are aware that the Army does care and is grateful for their many years of faithful service.

Our Fort Leonard Wood ACAP includes several unique services and **PROCEDURES TO LOCATE JOB OPPORTUNITIES**. Our job search training includes a slight modification of the standard programs by separating the weekly Veterans Affairs briefing from the Transition Assistance Program (TAP). After receiving inquiries from clients about starting a business, we initiated a general class about this for those interested through a cooperative venture with the Small Business Development Center at the University of Missouri, Rolla. We also include two follow-up briefings dealing with small business tax issues. These three classes are scheduled on a regular basis. To meet an apparent need for information about civilian federal service and to give the individual attention associated with our quality assistance, we initiated several services. The TAO and JAC provide automated SF-171 (Application for Federal Employment) which is available on client terminals. The distribution diskettes, which provide the AJB database each week, are reformatted and given to our clients to store their SF-171 information. Due to the diversity of our TAO counselors, two staff members with previous civilian personnel staffing/placement experience, we offer a monthly two-hour class on how to properly complete the SF-171. The TAO staff also offers constructive suggestions for improvement, individual assistance and review of our clients' SF-171.

Gazing into the crystal ball for the future, the ACAP services will become even more important as the Army continues to downsize. We will continue to strive to provide quality customer service with planned improvements. Our move to the new Soldier Service Center in the summer, will place us in the middle of all personnel actions; therefore, all service members and civilian employees, as well as their family members, will have **"US"** more conveniently at their disposal. There are plans for a computer link with SIDPERS and ISM, which will speed up the process of identifying transitioning personnel. This will give our counselors an effective quality assurance system and enable us to promptly offer the complete program to everyone.

People are our major concern. As we develop our Installation Management Action Plan (IMAP), we focus on human resources goals. Working IMAP is proving challenging and beneficial as we see new and exciting ways of providing improved transition services.

Quality client satisfaction will remain our top priority as we move into the ACAP future at this community of excellence.

CIVILIAN PERSONNEL SERVICE AND FACILITIES

Looking for excellence in the realm of Human Resources? Be sure to **visit Fort Leonard Woo Directorate of Civilian Personnel (DCP).** Our DCP has **an established reputation for human resources excelle within TRADOC and the Army.** Since first winning recognition from Training and Doctrine Command (TRADOC 1987, we have been recognized many times since to include being named this year as **"Best"** in the large installation categ of **TRADOC**'s Communities of Excellence competition, plus annual recognition by Health Services Command for c service to medical activities here and selection by the Missouri's Governor's Committee on Employment of persons w Disabilities as "Employer of the Year" in 1991.

Our DCP effectively serves the community through **BASELINE SERVICES** which include: recruiting a placement; position management and classification; awards programs; and training activities. Our excellence in the fundamental services pervades all of our other programs.

Our permanent facility's central location and co-location with the Missouri Job Service, Equal Opportunity, Equ Employment Opportunity, housing and transportation offices makes DCP an easy, convenient, and regular stop for j applicants and employees. Recent facility improvements include a covered entryway and stair replacement.

During a time when reductions in force seem to dominate the personnel arena, filling jobs isn't forgotte **Recruitment and Placement** filled 176 Appropriated Fund (APF) positions and a similar number of Nonappropriate Fund (NAF) jobs. When priority candidates are not available, we circulate announcements via hard copy distribution a through PROFS. The time to fill a position averaged 13 days for APF and 10 days for NAF.

Our **Family Member Employment Program** includes DCP, the Transition Assistance Office (TAO) and th Missouri State Employment Service. Our goal is to assist family members find employment. Most are able to find employme either on-post or in the surrounding communities. To insure folks know about the program, the subject is covered at Tow Hall Meetings and separate sessions for spouses. Assistance includes classes on job search and preparing SF-171s an resumes. In addition, automated SF-171 and resume programs are available at both the state employment office and TAC DCP staff members also provide career and exit counseling.

To increase the accuracy and timeliness of position classification and staffing, we combined the traditional Positio Management/Classification and Recruitment/Placement branches into one division. This allows a team to service eac organization for both purposes with one specialist specifically responsible. While repeated reductions and significan reorganizations resulted in a backlog in requested **classification actions,** 925 requests were received and most worke during the calendar year. Using Total Army Quality methodology, our staff and customers have formed a process actio team to examine and improve our classification process. Classification accuracy is also reviewed through the Organizatio Inspection Program (OIP). Advice and assistance has been provided with the reorganizations and employees are routinel schooled on classification appeal procedures. For our NAF activities, position guides have been applied and managers have had deskside reviews of the jobs they supervise this year.

Our DCP closely monitors performance appraisals to assure performance plans/objectives are in place and that timely ratings are given. A recent review indicated that more than 97% of all ratings met their suspense. Much of the credit for this goes to the performance coordinators in the serviced organization. We use a wide variety of awards to recognize exceptional civilian employees. We have an **active Installation Awards Committee** involved in the program and advising the command. The awards program is well publicized to include the award hierarchy and relationship with military awards. The post command stresses the importance of honorary awards and command involvement is active in the approval. Awards are also monitored by race, sex, supervisory status, general schedule versus wage grade, and grade to assure balance.

Our **training program** is a vital part of our Human Resources effort. Since 1990, we trained a total of 23,512 military and civilian personnel. We've instructed 5,200 students on software programs; and over 7,000 have taken stress management, communication and related skills courses. Sixty-eight video courses are available for individual or group use. Training coordinators are linked by PROFS with all course information available. Customer service training is an on-going effort and is conducted at all levels; our ACOE and Garrison Commander are co-sponsoring a DA training program. Our post leadership endorses the Army Civilian Training, Education and Development System and each senior civilian employee has a copy of Army's long-term training opportunities.

We're extremely proud of our **exceptional Labor Relations program** which is characterized by joint training, frequent meetings, problem solving approach, and early resolution of problems without third party intervention. The **labor-management partnership agreement** by the Commanding General, with the National Federation of Federal Employees, the National Association of Government employees and the International Association of Firefighters is **a win-win agreement,** signifies an on-going commitment by all.

Other BASELINE CIVILIAN PERSONNEL SERVICES you'll find on Fort Leonard Wood include: the

continued use of varied communications media to inform the workforce about benefits and key issues; **processing** personnel actions, recognized this year both for APF and NAF action timeliness; a Federal Employees Compensation A program that has served as a model for others; and an ergonomics program that is among the best in the country.

Our DCP also serves those who leave federal service. The first goal of our **TRANSITION SERVICE** is minimize the number of those who must transition and to make an involuntary transition a positive experience.

Faced with a budget shortfall for FY 93, the Commanding General took the bull by the horns with his decision distribute a significant portion of the budget reduction to other than civilian pay. This reduced our potential cut from 556 356. By offering our workforce the Voluntary Separation Incentive (VSI) and Voluntary Early Retirement Approv (VERA), the potential number of involuntary separations was further reduced. Two hundred thirty-three employees toc the VSI, 155 were retirements. Staffs from our DCP, the TAO, and the Missouri Division of Employment Security worke with each of these individuals to assure their awareness of available benefits, job possibilities and change. Many othe received similar counseling as they debated whether to take VSI or remain. The result was that only one civilian employe was involuntarily separated, and he had a job offer. He elected to take the separation to use state funds for displaced worke to assist him in continuing education toward a degree in nursing. As he left, he asked that we hold an RN's job for him upc graduation. Canvassing of our voluntary departees found a positive experience with the process.

Other transition initiatives included working with our local union to bring an AFL-CIO transition team to the po and with TAO run job fairs.

One way we **measure our effectiveness is through the Commander's OIP,** coordinated by the Inspecto General. During OIPs, our staff evaluates personnel management within organizations and aggressively seeks feedback abou our service. We review every organization on the post at least every other year.

Reviews of personnel indicators, meetings with managers (one-on-one and our Intra-Management Communicatio Council) and the OIP all play a vital role in **PROGRAM PLANNING AND EXECUTION.** Information generated i used to improve services and to inform the command.

Evaluating any program is dependent on the employees involved. Within DCP we are blessed. We have fou employees who teach for Army's Center for Civilian Human Resource Development, one who instructs a Civilian Personne Administration block at the War College, and two who were tapped by DA as special resource persons on task forces during the year. Awards presented to our DCP employees from the organization they serve, as well as numerous letters and calls of thanks further demonstrate DCP's commitment to excellence.

All of our DCP staff members have trained in **EQUAL EMPLOYMENT OPPORTUNITY (EEO)** awareness and many actively and voluntarily serve on special emphasis programs. Wallace McDonald, Chief of Employee Development, has received the Federal Women's Program (FWP) Supporter of the Year award for the last two years. Our staff also works to assure EEO posters and other outreach are available in all workplaces and that all employees are aware of EEO complaint procedures. Not only are current Affirmative Action Plans available and publicized, but we actively work with managers to assure they know which positions have been targeted. To assure EEO awareness in DCP, the EEO officer attends DCP staff meetings. During FY 1993, Fort Leonard Wood's EEO Office processed forty informal complaints. Five became formal; two were resolved at an informal level; and three were investigated.

Our **Black Employment Program** Committee is pro-active in sponsoring guests lecturers and setting up workshops throughout the year. The installation has established a **strong relationship between Fort Leonard Wood and Lincoln University, a historically black college,** exchanging guest speakers, cultural events, and workshop assets. In coordination with the National Association for Equal Opportunity in Higher Education and Historically Black Colleges and Universities/ Minority Institutions Automation Resources program, the post donated excess used computers and office equipment that were uneconomical for us to repair and maintain with a property book value of $157,720 to Lincoln University in 1993.

Our **FWP** sponsored National Women's History Month with a variety of activities including media coverage of accomplishments women have made throughout history, workshops, and evening seminars. FWP also developed a Mentoring Program now being piloted.

We have the **only "Advisory Council on Women's Issues" within TRADOC.** Chartered by our Commanding General in December 1992, this council has post-wide representatives who serve as an unfiltered communication mechanism for the Commander and who work to resolve gender-related issues. Our FWP manager is a key player on the council.

People are our business. As we prepare our Installation Management Action Plan goals, we focus on human resource goals, looking for new and exciting ways to provide the best service to our clientele.

Still looking for **a top notch organization in Human Resources**? Come to **the Fort Leonard Wood Directorate of Civilian Personnel and the Equal Employment Opportunity office. We ensure excellence.**

MWR AND FAMILY SUPPORT SERVICES AND FACILITIES

Caring, concern and compassion are the mortar that keeps our Morale, Welfare and Recreation (MWR) tea working together to make Fort Leonard Wood one of the best tours of duty in the Army by providing services through **a wi variety of INNOVATIVE AND UNIQUE PROGRAMS.**

Once a quarter, the post conducts a **"Town Hall" meeting** which enables residents the chance to talk directly wi the post commander. The meetings empower participants to question the way we do business and they give the Commandi General, his directors, and commanders important customer feedback. To aid the process, the Directorate of Communi and Family Activities (DCFA) **developed "Town Hall Grams."** Participants write their names and pertinent informatic on the issue or situation to be addressed. The CG **provides immediate feedback** by addressing the grams. Ar unanswered "Town Hall Grams" are sent to the staff element that the issue concerns for a response. If further study of th problem is needed, milestones are developed and the customer is kept abreast of the status. The "Town Hall Grams" serv as both marketing and needs assessment tools providing the critical customer input into the operation of the post.

We integrated the **Armed Services YMCA** program into our structure to provide an important outreach progra to soldiers and their families. The local YMCA is headquartered in the DCFA complex and in exchange for the outreac services, besides housing we also provide it copier support. Our YMCA supports a variety of outreach programs, includin neighborhood groups, exercise classes, summer activities for children, playground groups, nursing home visits, area tours shopping trips and home visits. In 1993, more than 18,360 people participated in these free services.

In a unique initiative, **Fort Leonard Wood and the Missouri Division of Family Services (DFS) joined force** to ease the adoption process for military families. In the past, military families were considered too unstable because o frequent moves to be adoptive parents. The DFS recognizes frequent moves as great training in that the experience help prospective adoptive parents understand the dynamics of adjusting to new locations and environments. The post provide office space to DFS where the DFS staff meet with prospective adoptive military couples and the DFS has sponsored two Adoption Open Houses. Since its inception last year, 35 children have been adopted to military families.

In July 1993, **Consumer Credit Counseling Service of Mid-Missouri** began providing free confidentia counseling and educational programs to soldiers experiencing financial difficulties. The integrated program enables the Army Community Service to provide a valuable service to soldiers by providing office space and copier support. Currently about 67 soldiers are enrolled in the program. Initially, a counselor visited Fort Leonard Wood once a week to meet with and advise soldiers on debt management. Because the program has been so successful, a counselor is now available four days a week.

Our **BETTER OPPORTUNITIES FOR SINGLE SOLDIERS PROGRAM (BOSS)** offers a variety of social, recreational and educational activities on the installation and off. Two full-time single soldiers run the program with meetings held every other week. The program features a 24-hour BOSS Hotline that gives single soldiers the chance to pose questions directly to the post command sergeant major. This past year BOSS sponsored a variety of holiday activities, an Auto Tune-Up Class, a Bowling Party and trips to Catch a Rising Star and The Funny Bone in St. Louis. BOSS also provided volunteers to work as ushers and at concessions during concerts held at the post's field house. BOSS successfully arranged to have Saturday mail delivered to single soldiers living in barracks and has negotiated to have the shoppette in the barracks area open 24 hours a day on Fridays and Saturdays. Through these efforts, BOSS has improved the quality of life for single soldiers on Fort Leonard Wood.

Our entire community rallies in support of the **Missouri Special Olympic** held each May as Fort Leonard Wood hosts its Summer Olympic Games. More than 3,000 athletes and chaperons from throughout the state meet to compete. Our games are the **second largest in the U.S.** More than 1,000 staff and volunteers from Fort Leonard Wood support the games to make it a memorable and enjoyable event. Last year, **Special Olympics International recognized Fort Leonard Wood's games as being one of the top five games in the world.** On May 20, 1994, we accepted the prestigious Weigand Award from Special Olympics International. This award is **only the third ever presented in the 26-year history of Special Olympics.** Other events that foster morale on our post and in the nearby communities are our annual Fourth of July week-long celebration and our Oktoberfest.

Our **MWR MARKETING Office** has always provided the DCFA with excellent layout and graphics support. In October 1993 that support was opened up to the general public. Now, the Marketing Office does quick printing for soldiers, civilian employees and retirees. Using a high speed color duplicator linked to an IBM computer, we print business cards, memo pads, letterheads, flyers, posters and banners. The Print Shop will generate an additional $ 13K in NonAppropriated Fund revenues with no additional labor costs during its first full year of operation.

Our **Outdoor Recreation Center (ORC)** scores high points for activities that provide wholesome fun and enhance great community relations. Since 1993, each August ORC and the local Coors distributor sponsor Operation Clean Stream.

More than 80 volunteers and 40 canoes have joined clean-up efforts on the Big Piney River. This annual event provic a day of fun and helps keep the river's ecosystem environmentally sound. In December 1993, the **ORC** hosted a two-d Historic Weapons Hunt featuring muzzle-loading guns and bows with 1,175 hunters participating. The hunt helped with t annual harvest of the deer population and generated more than $3,500 for the post's Wildlife Conservation Fund. In additic ORC sponsored several catch and release fishing derbies and a Fort Leonard Wood Recognition Day at Six Fags over Mi America. These recurring events are not only well-attended but they also generate significant income for post activities.

In March 1994, the **Sports Program (SP)** worked with the James S. McDonnell USO to hold the First Fling Spring 5K Run to raise money for the USO and the Sports Program. The USO, located at Lambert Airfield in St. Lou is a frequent stopover for active duty servicemembers, retirees, recruits and their families coming to and leaving from Fc Leonard Wood. Over 330 runners took part in the run and raised $2,137.

The **SP** also allies itself closely with area schools and state-wide organizations to provide outstanding sports facilitie It hosts several high school boys and girls basketball and baseball tournaments. At each tournament, the SP receives a portic of the gate receipts and all of the concession sales. The schools enjoy use of our top-notch facilities and MWR earns addition revenues -- **another win-win situation**. Our **Sports Field Complex** features eight softball and eight soccer fields. The fiel have provided post competitors with the best facilities in TRADOC and are excellent public relations tools. In Septembe Fort Leonard Wood **hosted the 1994 National Softball Association (NSA) Military World Series.** We've also hoste several NSA and American Softball Association (ASA) Class C and D regional and state tournaments. The NSA ha recognized the SP for three consecutive years for having the highest number of teams registered and participating in the NS in Missouri. Each tournament we host generates about $2,500 in profits from gate receipts and concession sales.

Our **Corporate Sponsorship Program (CSP)** augments the quality of MWR activities -- earning $ 50K this yea in donations from local businesses in this rural area. An example of the program is the sale of the scoreboard signs on th Sports Field Complex. The signs are sold to area businesses and corporations on a yearly basis with sign construction an maintenance handled through a local sign maker. As a **CAPITAL PURCHASE/MINOR CONSTRUCTION (CPMC** project, we installed an electronic marquee inside the Main PX Shopping Complex. This computer-controlled sign publicize upcoming MWR events and is used in conjunction with CSP to recognize sponsors for their support. The electronic marque is generating additional participation and sales for MWR activities and should pay for itself in less than two years.

Our **Auto Craft Shop** provides outstanding service to soldiers on the post. For example, three of our employee are certified air conditioner specialists who instruct and assist customers in charging air conditioning systems. Shop personne check belts for leaks to prevent the escape of freon into the atmosphere. The service is provided $20 to $30 cheaper than off-post. It also insures folks participate in freon recovery while it generates $6,000+ annually in additional revenues. In a new customer referral joint venture with AAFES, the Auto Craft Shop will accept the AAFES Service Station's "overflow business." This unique venture will significantly increase our revenues.

This winter, the installation will open the doors to a **new Physical Fitness Center** which features a 25-meter indoor pool, four basketball courts, seven racquetball courts and an indoor running track. Also featured are six locker rooms, a co-ed sauna, a fitness room, free weights, Nautilus equipment (a **CPMC** purchase), and a video and stereo system. The state-of-the-art facility promises to be **one of the finest physical fitness centers in the Army.** Two focus group meetings have provided patron input on the hours of operation, staffing, equipment and supplies, fees and charges, customer service, special events and fitness programs. Customer comments have been incorporated into the planned operation of the center.

Under construction is a **new Child Development Center.** The design-build center will house 10 modules for infants, pre-toddlers, toddlers and preschoolers. The state-of-the-art facility will feature a video monitoring system to observe daily activities within the modules. It will also have a playground with age-appropriate equipment and built-in areas for sand and water play, deep digging, climbing, a trike path and a ball court. The new center is conveniently located in the middle of the cantonment area, close to the PX, the commissary, the ed center and the hospital. It is scheduled to open next May.

Our Lake of the Ozarks Recreation Area (LORA) provides great fishing, camping, water sports and vacationing services to all DoD personnel far below local resort costs. **CPMC** enhanced the quality of services through the purchase of new watercraft, replacement mobile homes, and VCRs for all vacation trailers. Currently, a process action team is developing a plan to extend LORA's operational season with implementation targeted for March 1995.

Other CPMC projects enhanced the activities throughout our MWR and Family Support activities.

Quality of Life, Human Resources, Achieving Partnerships, Resource Flexibility -- we are diligently involved in developing our Installation Management Action Plan (IMAP). The IMAP goals have long been our focus. For DCFA and MWR, IMAP is like "preaching to the choir."

Innovative, creative, compassionate, and caring are but a few of the words that describe the DCFA MWR's commitment to ensuring excellence within the Fort Leonard Wood community.

RESOURCE MANAGEMENT/FINANCIAL SERVICES AND FACILITI

The **Resource Management and Financial Services** community at Leonard Wood is dedicated to ensuring tc excellence, today, tomorrow and into the 21st Century. We are thoroughly **committed to constant customer satisfacti** throughout the Fort Leonard Wood community. **Innovative and caring people** provide quality management of sca resources. **Our dedication has earned us this year's Training and Doctrine Command's Communities Excellence competition award for being the "Best"** in the large installation category!

We are extremely proud that **all DRM employees aggressively pursue the highest standards of custom service excellence.** This herculean effort resulted in our employees receiving ACOE Customer Service awards from th customers. We are also very proud of Margaret Prewett, the Installation Budget Officer, who received the DA Civili Occupational Award (Best in Army, 560 Series, Installation) as part of FY 93 Resource Management (RM) annual awar and the Meritorious Award in a Unit under MACOM in the Budget Category from the National ASMC Annual Awa Program for her superb efforts in the year-end close out process.

Our **RESOURCE MANAGEMENT SERVICES exemplify and personify the Total Army Quality (TAC profile of excellent customer service.** The Directorate of Contracting prevailed upon DRM's organizational effectivene skills and advocacy to TAQ to improve their management and leadership effectiveness. We played a crucial role in assistir with the close out of reimbursable orders and tracking of purchase requests and supply requisitions during fiscal year en With DRM leadership and Defense Accounting Services support, **all year-end milestones were met and the installatio achieved its best ever obligation rate**. The Directorate of Logistics and the Inspector General (IG) relied on us to assi in responding to a DA IG questionnaire determining total cost of food service operations at Fort Leonard Wood. W researched and developed personnel costs, contract and subsistence costs, head counts, square footage, and equipmer requirements over five fiscal years for each dining facility. Our participation insured accurate and dependable data wa furnished. As ombudsman to the 1st Engineer Brigade, we led a Tiger Team conducting a detailed cost analysis of all enginee MOSs trained within the brigade. Emphasis stressed a review of historical workload, equipment densities, and operationa rate, as well as past spending practices with a goal to determine the adequacy of resources and accuracy of cost accounting

Our Resource Managers are the **honest brokers.** Improvements are continuously made to customer service financial responsibility, resource procurement, and organizational effectiveness. An on-site training opportunity resulted i 25 employees attending a Federal Appropriation Law Course. This training enhanced the knowledge of resource manager from across the post about the procurement process at a significant savings to the installation.

Meeting the challenges of the FY 94 budget reductions became a total installation commitment. **Using TAC methods,** 22 separate activities participated in prioritizing the bottom 30% of their respective functional areas. This process, alias the 10-20-30 Decrement Drill, gave all activities **a voice in identifying installation divestitures** while preserving Fort Leonard Wood's commitment to excellence and mission accomplishment. The **results** of the drill **netted** the community **218 civilian spaces, and $10.4M in non-personnel savings.** A significant by-product was the **sense of "ownership" by all players.** We empowered activities to initiate action to ensure decrements and divestitures were executed and savings accrued. Along with the 43rd Adjutant General Battalion (Reception), we developed an alternative resourcing model that effectively responds to peaks and valleys in workload and has resulted in installation savings of $250K. Building on this momentum, managers at all levels continue to look for innovation and efficiency. The **final product postured the post for FY 94, ensuring enough resources for maximum accomplishment of our training mission.**

The consolidation of budget functions afforded the post a perfect opportunity to streamline **FINANCE AND ACCOUNTING OPERATIONS. Implementing the Databased Commitment Accounting System (DCAS)** proved challenging due to the voluminous supply transactions which we routinely process. Resource managers worked with systems experts to develop the capability to download data from standard Army supply and maintenance systems for direct upload into DCAS. This ability maximized resource use while providing with a minimum of effort management and oversight of all supply and repair parts obligations. We can now give all customers more timely, accurate commitment records and obligation status reports. Fund control and obligation documentation processes are more efficient and customer friendly. We **expedited the implementation of the VISA credit card program on the post.** Customers access needed supplies and services with a phone call and can procure items that normally take weeks, in a matter of days, with no degradation of internal controls.

Our **Defense Accounting Office (DAO) is in the top 10% of CONUS DAO's.** The **Travel Section** gives a remarkable **one-day turn around on** reimbursement for **TDY claims** and a **two-day turn around on reimbursement for PCS claims -- the best response time in TRADOC.** Our mobile military pay liaison team visits all PACs/S-1 functions to train and educate their personnel -- another reason why our monthly timeliness rates exceed the DAO standard.

Our **Civilian Pay processes retirement claims within 10-12 days** after effective date of separation -- **well above the standard** 30 days required, giving us a 96 to 99% processing rating.

Our **Accounting Branch implemented the team concept** to enable up-to-date familiarity with the entire te responsibility to cover absences, guarantee the customer uninterrupted service and allow employees job ownership.

The **Systems Branch** continually **aids our efforts via the development of stand-alone programs** whi streamlined the stock fund one-line review process; provided management information out of the IATS; and reconcil government laundry deductions (this reduced manpower hours by 83% and duplicate collections). Other results includ cutting the time to pay IET female clothing allowance from 6 minutes to 6 seconds; permitting early receipt of military payr posted after cutoff which resulted in saving of over $3,000 per month overtime and 100 hours of borrowed labor; automat MO USPFO input which saves 200-300 manual submissions monthly; and enhanced medical claims processing which sav 130 man hours a month.

Our Defense Regional Interservice Support (DRIS) Program's role continues to flourish and promotes the **sharin of interagency/interservice resources**. The post currently has 94 Support Agreements resulting in an estimated annu savings of $8.5M. We initiated a cooperative effort between the 86th and 102nd ARCOMs, 4th ROTC Region and t Missouri, Illinois, Minnesota, and Wisconsin National Guards which saves an estimated $300K in TDY funds annually. W foster a proactive strategy to expand the DRIS with a focus on **marketing Fort Leonard Wood as the Premier Midwe Regional Center** which provides the best support and customer service at the most economical price.

We are actively pursuing and have been **recommended by TRADOC to chair the Joint Inter-Service Region Support Group (JIRSG)** for all DoD and other federal agencies in Central Region 12.

Our **NAF FINANCIAL MANAGEMENT** is one of the finest in the Army. Our philosophy is not only to b self-sufficient but also to generate additional monies from our MWR activities and to reinvest our profits. We're proud o our Corporate Sponsorship Program's and our Marketing Office's initiatives to bring in more revenue by capitalizing on ou outstanding facilities.

Providing quality service is paramount for our **FINANCIAL INSTITUTIONS.** Cooperative efforts by the Arm National Bank and the Fort Leonard Wood Credit Union established a network of ATMs throughout the post to ease th transition to direct deposit Sure Pay for IET soldiers. In addition, both institutions provide employees daily at the 43r Adjutant General Battalion (Reception) in direct support of our new soldiers. In another **joint venture, they created program to train the trainer on managing a checking account and ATM safety.** Thanks to their proactive efforts, w can execute the new mandatory Sure Pay policy. We have **enhanced services with four drive through teller lanes, drive through ATM, and by building our own vault with safety deposit boxes.** With the vault we now secure our own money rather than transporting it to the bank -- a savings of about 520 manhours annually. **New services include: interes bearing checking accounts; trust accounts; and a revised loan approval system,** which **reduced approval time** to less than four hours.

Under DRM stewardship, our community raised $260K for the Combined Federal Campaign -- exceeding our goal by $110K! **$25K** of this amount will be **donated to local charities**. Not resting on our laurels, DRM's "RMEY Duck" won the YMCA's annual duck race. The **$500 winning check was the first donation to CFC's Fall 1994 campaign.**

We view **TAQ** as **the pathway into the 21st Century** and continue **on the leading edge with TAQ implementation.** Our TAQ coordinator provided 30 classes for 758 personnel this year. In April 1993, a **two-day TAQ Workshop for senior leaders** refreshed management on Army quality and produced a new Engineer Center Vision. Inspired, we **chartered 33 Process Action Teams, trained 112 PAT members, and had certified 23 PAT facilitators.** The Executive Steering Committee was reorganized with the Commanding General as chairman and our three union presidents as members. The Garrison Commander, Chief of Staff, Director of Training and MEDDAC Commander chair our four Quality Management Boards; this is **indicative of our post-wide commitment to TAQ. We pioneered a Leadership Feedback Appraisal Program**, an upward assessment of leadership and identification of opportunities for improved management. This is a win-win endeavor; we all benefit through continuously improving management and leadership skills and the efficiency and effectiveness of completing our mission. This program will be exported to other activities throughout the installation and has applicability DoD-wide.

Fort Leonard Wood's **INTERNAL REVIEW OFFICE** is an extremely proactive, dedicated organization performing audits and studies throughout the installation. Incorporating TAQ procedures, IR reviewed functions as diverse the club operations and central issue facility turn-in process. Keeping a diligent eye on issues, IR becomes more involved in internal controls, financial operations and special studies for the command. Our auditors **are pro-active... not reactive.**

We are actively involved in developing the Installation Management Action Plan. Resource flexibility has long been our objective and we welcome the chance to further strategize and implement this effort across the installation. **Effective and efficient resource management leads the way to ensuring EXCELLENCE!**

CHAPLAIN SERVICES AND FACILITIES

The **spiritual growth and development of the "whole" person are vital to ensuring both individual a community excellence on Fort Leonard Wood.** Our chapel ministries are dedicated to the men, women and childr who live, work and serve here. We touch soldiers' lives from their arrival here as new soldiers, throughout every phase their careers, and through their retirement years. This year our efforts have earned the Fort Leonard Chapel the Traini and Doctrine Command's Communities of Excellence top award in the large installation category.

Training and fostering spiritual awareness are the keys to the success of our **SOLDIER MINISTRY.** O Reception Battalion Chaplain begins by introducing new soldiers to chapel programs and helps young people make t transition from civilian to soldier. Initial Entry Training (IET) and Advanced Individual Training (AIT) chaplains continue w character guidance by fostering the practice of soldier values -- loyalty, responsibility, courage, and integrity. They also he young people face the issues in adapting to various relationships. Over 1,400 IET and AIT soldiers attended a "Salute America" production in September. Through music, values and behaviors soldiers should practice were identified.

"Trails" offers stress reduction and marriage/family enrichment for drill sergeant families; and our Drill Sergea School chaplain provides a course entitled "Role of the Chaplain."

Our **SOLDIER MINISTRY** is not limited to enlisted personnel. Our Engineer Officer Basic Course chapla instructs new officers in ethical decision making, the ethical approach to Rules of War, stress and battlefield leadership. Our Engineer Officer Advanced Course chaplain continues by teaching ethical responsibility of command, counseling, suici prevention, and command climate. Our Warrant Officer Course chaplain teaches leadership doctrine, military ethics, ethic decision making, and motivation strategy. Our Pre-Command Course chaplain reviews command responsibility for religiou programs and the role of the chaplain with those preparing for battalion and brigade command. In addition to these, we als take religious services to soldiers in the field; eight per month.

We strive to adapt **PUBLIC WORSHIP**, sermons, and masses to meet the specific needs of the varied worshi styles for our post family. Our Soldier Memorial and Lieber Heights Chapels meet the diverse needs of our community, whil the Piney Hills Chapel, located in the heart of the Specker Barracks Complex, provides single soldier worship opportunities

Soldiers, civilians and their families of the Lutheran, Episcopalian, Pentecostal, Church of Christ, Spanish-Protestan Latter Day Saints and Jewish faiths enjoy denominational worship.

Our choir programs serve as an inspiration for spiritual excellence. The Soldier Memorial Chapel has on-goin Protestant and Catholic choirs; a post-wide "Kids for Christ" program meets weekly with 50 participants; and the chape has begun a kiddies' choir. Our Lieber Heights Chapel choir performs not only for services, but also averages one invitatio per month to sing at civilian churches and at other activities in the community.

Catholic and Protestant soldiers in IET and AIT, can participate in their **RELIGIOUS EDUCATION** through readings, sacramental preparation classes, and faith groups. Chaplains are also on hand to assist individuals to identify personal beliefs and faith issues. Other special programs for single soldiers include a Salute to America (religious/patriotic development in American history), and Fellowship Ranch (a retreat which challenges soldiers to look at their personal values).

Catholic and Protestant families enjoy a variety of **RELIGIOUS EDUCATION** offerings. **Over 11,000 individuals, ages three through adult, participated in schools of religion.** Bible study is offered through either group or individual home study. Our Youth of the Chapel is a joint Catholic and Protestant Program which attracts 40-45 youths per week. Local meetings and overnight trips help young people develop a spiritual well being in a wholesome, value oriented climate. Our Children's Church and puppet ministry are available during and in between worship and religious education activities. Ever popular with our younger crowd is our Vacation Church School (Summer). Last year, some 319 Catholic and 986 Protestant children attended.

Every community seems to have a dark side, but we work hard to provide light. Our **PASTORAL CARE** includes suicide awareness and prevention training at every level. Family-oriented suicide lectures are developed and prepared to meet specific needs. Our H-E-L-P telephone line averages 40 to 50 calls per week. While about six qualify as bonafide emergencies, all calls are promptly received and response time by a chaplain to emergency calls is virtually immediate. The HELP line is also the contact number for calls dealing with violence in the community.

This year the chaplain's office initiated the Chaplain's Family Hour. This family-focused video programming is

broadcast over our command information closed circuit tv channel three times a day. The daily programs emphas parenting, family cohesion, and suicide awareness issues.

Our "Wednesdays "R" Wonderful" program helps young enlisted spouses adjust to living away from home.

This year we celebrate thirty years of sponsoring English Classes for Foreign Born Spouses. Using the Lauba method of "each one teach one," we have ministered through language and culture to numerous family members. Citizensl training classes are also offered.

In addition to the **FAMILY AND YOUTH PROGRAMS** already mentioned, we also have the Protestant Wom of the Chapel. This group meets for weekly Bible study with an average of 30 participants; monthly activities attract abo 50 women. PWOC donates 1,000 hours each month of volunteer outreach including hospital "birthday cart", newcom visitation, family emergency help and study groups.

Our **volunteers clocked 11,220 hours in support of religious education, lay leaders, eucharistic minister ushers, choirs, Bible study leaders, youth leaders, etc.**

Our chaplaincy ministries are deeply committed to helping our youth "be all they can be." On September 24, 199 we hosted a Youth Explosion Music Fest, called "Jehovah Jam." Over 1,100 young people from throughout the milita and civilian communities attended. In addition, a youth conference for teenagers and parents was also held that month.

Over 80 youth and sponsors participated in our Winter Youth Retreat/Ski Trip. A Spring Youth Retreat will be hel at Windemere Baptist Retreat Center at the Lake of the Ozarks for over 30 youth.

Our post chaplains also conduct responsibility training for students with discipline problems in the Alternative Scho of the Waynesville R-6 District.

The installation's congregations donated $16,452.57 to the Army Community Services, the Armed Forces Youn Men's Christian Association, and the American Red Cross. Another $10,015.13 was donated to St. Robert, Waynesville and Missouri charities; and $13,412.51 went to world-wide ministries for a total of $39,880.21 in donations from Marc 1993 to February 1994. Designated offerings went to disaster relief efforts in California (earthquake), Alabama (tornado) and Georgia (floods).

Finding the right medium to get **RELIGIOUS INFORMATION** out to the public has been fairly easy for us -- due to our close relationship with the community. Information about chapel activities is presented at all basic and advanced training orientations. Besides the TV programs, our post newspaper carries a chapel page every week. Chapel information is also transmitted via the Engineer Center PROFS bulletin board and chapel activities are also published in the bulletins distributed each Sunday and verbally reinforced from the pulpit.

At all orientations, soldiers and their families are asked to fill out Chaplain Information cards. The data is tabulated and used as a customer feedback system to identify and meet special needs. It is also used as a volunteer source and to verify denominational affiliation requests are being met.

Other **SPECIAL RELIGIOUS PROGRAMS** include: the annual postwide National Prayer Breakfast; Unit Prayer Breakfasts; Weekly Prayer Breakfasts at the Engineer School; the Greater Waynesville, St., Roberts and Fort Leonard Wood Thanksgiving Service; our Fathering Workshop; Marriage Enrichment Training/Education; and Divorce Recovery Training. Also, as a kick-off to the summer, we sponsor a Family Festival of Faith. This year's "Fathering" seminar alone drew 175 permanent party soldiers in attendance.

SPECIAL LEADERSHIP TRAINING includes: Suicide Prevention Training for Officers, Non-Commissioned Officers, and Civilian Personnel; and Training for Chaplains in Marriage and Family Counseling conducted at the Family Life Center. For the past nine years, the Chief of Chaplains has chosen Fort Leonard as the site for initial orientation and training for the DA Shortage Denomination/Affirmative Action Chaplain Candidate Program. This intensive two-week program gives the candidates information about the chaplaincy and the Army prior to a six-week tour in Europe.

Helping the "total" person is our primary concern. In November, 43 of our folks received initial Total Army Quality training. During that training we identified 21 processes for improvement to better serve our customers. We're excited about our participation in the Installation Management Action Plan. As we develop our goals, we'll look for better ways to service our flock.

With God's help, Fort Leonard Wood's Chaplaincy leads the way, ensuring the spiritual and moral excellence of our community. We're the gateway to excellence!

LOGISTICS SERVICES AND FACILITIES

LOGISTICS is key to mission accomplishment, and on Fort Leonard Wood it's vital to ensuring we'r community of excellence. We're proud that we were recognized as the **"Best" Logistics Operation in the lar installation category in this year's Training and Doctrine Command's Communities of Excellence** competitio

Fort Leonard Wood has a forward-thinking **LOGISTIC OPERATION**. Our aggressive redistribution actio keep equipment fully utilized, reducing maintenance and shipment costs. We established a fuel recovery program that h generated over $ 72K in cost avoidance for the installation through acquisition of excess fuel from military installations i three-state area. We recently established an Installation Reutilization Excess Center that seeks out items destined for already in the Defense Reutilization and Marketing system to fulfill valid customer requirements. We anticipate an annual co avoidance for our customers in excess of $ 1M. Our Clothing Reclamation Sales are now held bi-monthly as a benefit our soldiers.

Our **CENTRAL ISSUE FACILITY (CIF)** is organized to facilitate easy processing and friendly service for o customers. In support of gender-integrated training, we have adjusted our staffing structure in clothing issue and alteratio to reduce the turnaround time for final fit of female soldiers' Class A uniforms from two days to one day, the same as for ma soldiers. Our quality control procedures to re-verify issues of CIF stock prevent loss of equipment and the issue of incorre sizes. In addition to serving the routine needs of the training base, the CIF provides scheduled service for deploying uni and immediate service for individual deploying soldiers as part of our power projection platform.

In a continuing quest to excel, the **FOOD SERVICE/TROOP ISSUE SUBSISTENCE ACTIVITY** provide the best food service program in the Army. In 1992 and 1994, Fort Leonard Wood facilities won the TRADO Commanding General's Best Dining Facility Award for the Large Dining Facility Category. Through the combined effor of the Directorate of Logistics Food Service Office, the TISA, EDP Enterprises' food service contract employees, th Directorate of Public Works, and the soldiers who support our dining facilities, Fort Leonard Wood sets the standard fo Food Service. Our 43rd Adjutant General Battalion (Reception) dining facility was a finalist for the 1994 Connelly Awar as the Army's best large dining facility.

The **FORT LEONARD WOOD COMMISSARY**, the largest full-service grocery in southern Missouri continues to lead the way by providing outstanding service to active duty, reserve component and retired personnel and thei families six shopping days per week. Our spacious modern facility, completed in 1991, features a bakery, delicatessen, fres fish market, butcher service, take-out catering service and bulk sales area.

The Commissary recently went "on-line" with the enhanced Defense Interim Business System's Frequent Delivery System. It maintains a perpetual inventory, aids us in ordering, and provides the Commissary Officers detailed supply an demand information. Seasonal and holiday sales plus customer data provide for optimal management of resources. This system also helps keep our Not-in-Stock rate to a minimum. Other benefits include more accurate pricing, the capability to check prices in a minimal amount of time, and "on-line" correction of the master item file.

Our "handicapped shopping service" enables physically, mentally and/or emotionally challenged customers to shop 15 minutes before the store opens. This service has been very well received among our patrons, especially the retirees who comprise 70 per cent of our customer base. Our Advisory Council is an active patron information and feedback service.

Cross-training of commissary personnel has been a key factor in keeping checkout lines shorter and thus improving customer satisfaction. As time allows, cashiers work in other sections of the store to familiarize themselves with store activities and product locations. This gives them a better understanding of our operation and results in better customer service.

To encourage productivity, we recognize our cashiers when they ring over $10,000 of sales in a day. This remarkable achievement is posted in the cash room for all employees to emulate and congratulate.

The Fort Leonard Wood **INSTALLATION LAUNDRY** provides complete laundry and dry cleaning services at one of the lowest per-piece rates in the Army. Boasting two convenient locations, near family housing and in the Engineer Center complex, we provide same day service. Through aggressive management and equipment modernization we are working to position our facility to serve as a regional provider of laundry service.

The laundry has several ongoing initiatives, many of which will be adopted Army-wide, to provide expanded service to active-duty soldiers, reserve component soldiers, retirees, and their families. These initiatives not only improve and expand the services available to the customers, they recover the cost of providing the services and return it for use in the installation operational budget. For example, a portion of the customers' payment for individual piece rate laundry services is used to reimburse the installation for utilities services required to process the laundry. As a result of regulatory changes that we recommended, all Army laundries will now be able to recover the cost of providing laundry support for the billeting of unofficial travellers from non-appropriated funds.

We are testing a program to better serve our Initial Entry Training soldiers by providing a pay-as-you-go bundle service. The laundry contractor sells books of tickets directly to the soldiers; each ticket can be used for laundering seven pieces (one complete training uniform). The contractor picks up and delivers the laundry

at unit supply rooms, with a 48-hour turnaround time. Unused tickets can be turned in for a refund at the e of the training cycle. This initiative allows soldiers to pay only for the services they receive, and it reduces t workload associated with payroll deduction for unit personnel, the finance and accounting office, and the contractor.

Our **TRANSPORTATION MOTOR POOL** Trooplift operation transports soldiers between the cantonme area and the ranges and training areas. Trooplift drivers have logged over 400K accident-free miles this year, transporti over 1.2M soldiers. The motor pool receives high marks from customers for its support of the Parents' Night pre-graduati activities. Parents and family members of graduating soldiers are taken on a guided bus tour which includes troop housi areas, training areas, and the Engineer Museum, and then are delivered to a banquet dinner with their soldiers at the Enginee Club.

Our Personnel Movements Section staff insures economical, convenient travel arrangements are made for offic and leisure travellers. Both **LEISURE AND OFFICIAL TRAVEL** arrangements are handled by Carlson Travel Netwo which has installed an additional ticket printer to enhance customer service and provide increased flexibility to respond peak demands. Last year it saved the Army more than $7.8 million in travel expenses. Work schedules are arranged provide full customer service from 7 a.m. until 4:30 p.m., including the lunch hour. A recent initiative provides prepaid ticke for customers in outlying areas and other states, by obtaining information telephonically and arranging for the customer to pic up tickets at the airport alleviating a trip to Fort Leonard Wood.

The **PERSONAL PROPERTY SECTION** is committed to excellence in customer service and has implemente several initiatives to provide convenient, professional counseling services to all customers. Use of an appointment syste and flexible employee schedules has virtually eliminated waiting time for both scheduled and walk-in customers. Grou counseling sessions are provided for specific services (baggage shipments, stateside moves, etc.), without sacrificing quality

DOL MAINTENANCE OPERATIONS are housed in a 220K square foot state-of-the-art consolidate maintenance facility that offers one-stop customer service. Recent initiatives include:

* **Reclaiming power packs** from obsolete M60 tanks for use as replacement components for the installation's flee of Armored Vehicle Launched Bridge chassis and Combat Engineer Vehicles -- estimated FY 94 cost avoidance i $167,500.

* **Purchase of jet washers** for cleaning parts in the shops. These washers use high temperature water, high pressur jets, and a biodegradable detergent to clean components and parts as large as dozer blocks. Use of jet washers is faster easier, and cleaner than use of typical solvent tanks, and reduces the amount of hazardous waste generated.

* In concert with the TRADOC **Tactical Wheeled Vehicle Repair Program** (TWVRP) we will repair 25 aging tactical wheeled vehicles to depot standards this year. Repairs include new brake systems, reliability testing and repair of drive train components, undercoating, corrosion control and new paint jobs which will return like-new vehicles to our customers

* **An acid neutralization plant** in the battery shop removes heavy metals from battery acid drained from salvaged batteries and converts the acid to water that can be disposed of in the sewer system. The plant eliminates approximately 3,000 gallons of hazardous waste per year.

* Our decision to **re-key or repair** American Series 200 padlocks when keys are lost or broken rather than replacing them results in an estimated annual saving of $4,000.

To promote community involvement and a connection with our Army heritage, we developed an **"Adopt a Tank"** program. Various units adopt and maintain historic equipment used in outdoor displays, resulting in increased savings and efficiencies for the installation and a greater awareness of our heritage by present-day soldiers..

We are particularly proud of our **RECYCLING AND SOLID WASTE DISPOSAL efforts**. Through our affiliation with the Ozark Rivers Solid Waste Management District, a regional planning organization, we are developing and implementing a plan to reduce solid waste over a seven county area by 40% and to establish a local recycled materials industry. Fort Leonard Wood contributes to this effort by conducting a curbside recycling program, a composting operation, and a hazardous waste recycling and minimization program. Using our solid waste collection contract as the instrument, we now recycle all types of post consumer waste. In addition, we have programs in place to recycle tough-to-handle items like industrial solvents, paint waste, waste oil and photographic developing solutions. These efforts have also allowed us to cease on-post landfilling operations.

We're proud to be the only known DoD post to sponsor the internationally acclaimed environmental education program, "Learning Tree." The program takes an interdisciplinary approach to "training the trainer" to teach children the importance of safeguarding our natural resources. Fort Leonard Wood will host two educator workshops this fall and winter.

At DOL, we look at the Installation Management Action Plan (IMAP) as another opportunity to excel. Using TAQ to involve personnel at all levels, we're actively working to make our IMAP goals and milestones realistic. Achieving each goal brings us the satisfaction of moving into the 21st Century with the best work and training base possible.

MOVING AHEAD BY ENSURING EXCELLENCE, that's us, the Fort Leonard Wood DOL!

MEDICAL, DENTAL, & VETERINARY SERVICES AND FACILITIES

Comprehensive and quality Medical, Dental and Veterinary care plays an important part in ensuring our Fort Leona Wood community is one of excellence. Our **Medical Activity (MEDDAC), Dental Activity (DENTAC) a Veterinary Command (VETCOM)** complement other installation educational and service activities. We strive to **ex in our dual missions of readiness and patient care.** All hospitals see patients, deliver babies and perform laboratory te but General Leonard Wood Army Community Hospital (GLWACH) and the Army Medical Department (AMED community have a large number of initiatives and services that make us different. These services can be capsulized in thr broad areas:

* Excellence in Care
* Community Focus, Involvement and Service
* Excellence in Stewardship of Resources

As a result of our on-going efforts, GLWACH was recently recognized in a 1994 Department of Defense study **PATIENT SATISFACTION** as being the first in the Training and Doctrine Command (TRADOC) health facilities, ar sixth out of 36 Army Health Care Facilities.

To give our health care providers a better understanding of a typical soldier, they attend Initial Entry Training (IET Orientation. This gives health care providers the chance to participate in a day-in-the-life of an IET soldier. This ensure health care providers are familiar with the living and training environment of both soldiers and their trainers.

PATIENT ACCESS TO CARE. We are promoting patient access to the hospital through a new Automated Ca Distribution (ACD) Appointment System. The system makes it possible for more of our beneficiaries to access appointment without the difficulty and long waiting periods. It combines the advantage of one centralized number with the ability to giv out clinic-specific information in the message and menu options.

In an average week, the system processes more than 3,300 calls in 17 different clinics and services. The averag waiting time is 4.5 minutes that includes an impressive processing time of two minutes.

Access to care has improved significantly as evidenced by the 50% decline of Non Availability Statement (NAS issuances since 1990. This was accompanied by innovative partnerships and local affiliations, additional staff and outpatien services.

MEDICAL TREATMENT FACILITY. Several major initiatives improved access to patients, and ou commitment to energy efficient operations. We are completing construction on a $3M Consolidated Troop Medical Clinic (TMC). This clinic will improve patient services, namely x-ray and lab services that do not exist now on-site for troops. In addition, this spacious clinic has 5,000 square feet more than all the past TMCs combined.

As evidenced by walking around our attractive hospital, it is clear that a long-term commitment to facility maintenance exists. In addition, a major electro-mechanical upgrade will reduce electrical consumption by 25%.

SHARING GOOD PROGRAMS/IDEAS. The MEDDAC has a keen interest in striving for excellence within the hospital and throughout the Fort Leonard Wood community.

We have a post-wide Process Action Team (PAT) reexamining procedures of Troop Medical Care on Fort Leonard Wood. We have representatives from the Engineer Center and Brigades, Garrison Command, and other tenant units. We are meeting to ensure that the Consolidated TMC will meet all the Primary Care needs of all soldiers in a manner that complements the mission accomplishment of the units on Fort Leonard Wood.

For the dual married Active Duty couples that cannot stay at home with a sick child, we have a program called the "Bearly Sick" Program which is designed to provide daytime care for children with minor illnesses so that parents can report for duty.

To improve public speaking and communications skills, we sponsor a Toastmasters Club whose membership dues are supplemented by the hospital for those civilian and military members who wish to join.

GLWACH also sponsors a Boy Scout troop and a high school-based Medical Explorers Club.

CONSUMER COUNCIL/COMMUNITY HEALTH CARE BOARD. Our Community Health Care Board (CHCB) consists of representatives from the hospital staff, installation services, military units and the community. It meets monthly with the Hospital Commander and his staff. The Board serves as a forum to both disseminate and receive feedback from our customers. The CHCB gives two patient care awards each month in recognition of our staff who are identified by written patient compliments.

Additional evidence of community involvement in health care is the Retiree Assistance Office. This office is located

in the main hospital lobby and is staffed by more than 25 volunteers from all branches of service and their spouses. Th operate daily with their main goal to assist all beneficiaries with information about hospital services.

GLWACH's Industrial Hygiene program recently received TRADOC commendation for the installation's respi tory protection program, the ergonomic program, and overall industrial hygiene support to the installation safety progra

FAMILY ADVOCACY PROGRAM. Our Family Advocacy Program is based on a multi-disciplinary approa to prevention, identification and treatment of those soldiers and their family members experiencing stress which could eru into family violence. We have a 24-hour, 7-day a week on-call system designed to address mental health and family advoca issues. More than 400 per year take part in a series of stress management and parenting classes. The Family Advoca Program is a vehicle by which families are helped.

HEALTH PROMOTION AND FITNESS PROGRAM. GLWACH recently opened its premier Heal Promotion Center. The center has two purposes: 1) to serve as a health education resource center; and 2) to serve as foundation for the Self-Care Program. The program is designed to provide information, develop skills, and support ou beneficiaries in practicing healthy behaviors. The modern attractive facility is one-of-a-kind in the AMEDD.

In addition to the Health Promotion Center, we also provide "medical minutes" on a local radio station that airs thes spots twice weekly. The spots cover a variety of medical subjects that are thought-provoking, timely and informative.

We also sponsor "live" telecasts about health issues. The MEDDAC organizes a 52-week health observanc calendar to assist in promoting health issues.

The MEDDAC and DENTAC support local schools through an energetic education campaign.

DENTAC. Last year, our DENTAC treated over 116,000 patients and fabricated over 11,000 oral prosthetic devices. The DENTAC also provided panographic x-rays and comprehensive dental exams to over 26,000 new soldier as part of in-processing. We joined our capstone unit, the 5504th Dental Detachment, to provide weekend appointment for trainees and permanent party soldiers. We also established a waiting list to serve eligible family members who are no enrolled in the Delta Dental Plan.

Our DENTAC initiated an automation system which identifies and reports dental readiness of active duty member by unit. This system is connected to each unit headquarters and advises commanders of the readiness status of their soldiers During the first three months of operation, the system enabled us to improve the deployability of soldiers, with regard to denta health, by 60%. It also eliminated time consuming paperwork, making it easier for commanders and dentists to manage the post's Oral Health Maintenance Program.

The **DENTAC** is actively involved in HEALTH PROMOTION through the Community Dental Health Program. We provided Oral Cancer Screening to more than 100 retirees at the 1993 Dental Health Fair. In conjunction, a full-time Community Dental Health Hygienist provides a variety of services including presentations at Newcomer's Orientations, information on the Delta Dental Plan, briefings to units and trainees, as well as supervising the school's fluoride application program and advising on fluoridation of the installation's water supply. We conducted more than 150 presentations to community organizations including schools, family groups and retirees. Over 60 were conducted in the area of dental screening for 1,500 children at on-post schools. Each February we sponsor National Children's Dental Health month. We volunteered more than 250 hours to the effort this year.

VETCOM. Last year, the Fort Leonard Wood **Veterinary Command** diagnosed over 935 zoonotic diseases, gave over 4,171 rabies vaccinations, investigated over 275 animal bites and confined 54 animals for rabies. It also has very robust Food Hygiene and Public Health Programs. The activity inspected over 250 million pounds of subsistence and over 400 commercial and government-owned facilities. Our **Veterinary Treatment Facility (VTF)** offers extended evening clinic until 7 p.m. on Thursdays giving its patients and clients more access to care. It also offers a permanent pet identification system, by implanting a microchip under the skin, to help clients recover their pets if they are lost or stolen. The VTF involves the local community and schools through observance in National Pet Week each May.

All of these programs make significant contribution toward post quality of life issues and represent an investment in the community we serve. The AMEDD team at Fort Leonard Wood is working very hard to be a DoD premier community health care system.

As we develop our Installation Management Action Plan goals, we accept nothing less than quality health care for all. We welcome this chance to work with the post.

Through our vigorous commitment to **QUALITY CARE, PATIENT SATISFACTION AND HEALTH PROMOTION** activities, Fort Leonard Wood health care professionals truly lead the way ensuring a healthy community of excellence.

LEGAL SERVICES AND FACILITIES

If you ever need or think you need to see a lawyer, folks on Fort Leonard Wood would heartily recommend a trip to t local Staff Judge Advocate's offices for top legal assistance.

Although our Fort Leonard Wood **Legal Assistance Office (LAO)** has received several awards, it continues to impro the quality of the legal services that it provides to clients. **Awards received include TRADOC Communities of Excellence B Legal Assistance Office in the Large Installation Category for 1992, 1993 and 1994 and the Department of the Arr Chief of Staff Award for Excellence in Legal Assistance for the last six years.** During calendar year 1993, our professio legal service providers **saved our clients over $475,000 in legal fees** while delivering high quality services.

The Office of the Staff Judge Advocate (OSJA) stays pro-active providing legal services to the community. During th first week at Fort Leonard Wood, all engineer officer students are briefed on "how to" prepare household goods shipment clai and the availability of legal services. All soldiers and their families receive expert individual assistance in **CLAIMS PREPARATIO** during scheduled one-on-one appointments with the claims examiner assigned to their claim. **PROCESSING CLAIMS** is qui and efficient. Last year the majority of claims for less than $1,000.00 were processed within three days; all claims for more th $1,000.00 were processed within fifteen days. Our **AFFIRMATIVE CLAIMS** program was recognized as one of the mo improved programs for CY 93 and received an "Exceptional Achievement in Affirmative Claims – Medical Care Recovery" awa from Maj. Gen. Michael J. Nardotti, Jr., The Judge Advocate General. Our personnel were responsible for returning over $ 63 to the General Leonard Wood Army Community Hospital (GLWACH).

Our **TRIAL DEFENSE SERVICE (TDS)** field office is staffed with two experienced military attorneys and a senic noncommissioned officer. The office is conveniently located in the building adjacent to the OSJA and the military courtroom. Th OSJA provides TDS administrative and logistical support. Clients offered nonjudicial punishment or subject to involuntary separatio receive personal legal counseling within one or two days. Clients desiring rights counseling are seen immediately.

This year, the Claims and TDS offices were renovated. Both offices were painted and received new carpeting. Becaus the walls were also carpeted to safeguard privacy, these offices look more attractive and professional than many private law offices The LAO received the same interior renovation two years ago.

During the past year, Legal Assistance and Claims staff members attended the following courses and seminars in their effort to better serve our clients: Legal Assistance course, Claims course, CHAMPUS seminar, Total Army Quality Facilitator's course Missouri Probate Procedure seminar, Electronic Tax Filing seminar, and Immigration Seminar.

We greatly improved our Legal Assistance Library by purchasing the 24-volume, 1993 edition of the Martindale-Hubbel Law Directory. We also obtained the most recent editions of all Judge Advocate General's School publications on legal assistance subjects. All computers in the LAO are installed with the latest version of LAAWS-LA software.

Our walk-in **NOTARY SERVICE** is **available all day, every day. Powers of attorney are also available** on a walk-in basis all day, every day. Powers of attorney are prepared, signed, and notarized within fifteen minutes. Powers of attorney are also prepared on-the-spot at POMs and EDREs. As a result of our commitment to quality, we refuse to use fill-in-the-blank powers of attorney. All powers of attorney, even those prepared at POMS, are customized for each client using LAAWS software.

Our **WILL-IN-A-DAY PROGRAM** enables clients to discuss estate planning options with an attorney and to obtain an expertly-prepared will in just one 90-minute visit. They can also receive a living will or health care power of attorney on a walk-in basis all day, every working day. We carried our **WILL-IN-A-DAY** program to the post's 1994 Retiree Day and provided on-the-spot wills, powers of attorney, and living wills/health care powers of attorney for retirees.

This year, we improved the quality of our will signing ceremonies by creating a private area where clients can sign their wills. Additionally, members of our staff serve as witnesses. This prevents our clients from feeling that they were "put to work" during their visit. Will signing ceremonies were further improved by refinishing our will signing table.

When will and estate planning clients are confined to their beds at GLWACH, our attorneys provide bedside legal assistance regarding wills, living wills, durable powers of attorney, or other documents.

Our **PREVENTIVE LAW PROGRAM** was greatly enhanced this year when John L. Simion, our most experienced civilian attorney and member of the Missouri Bar, wrote a script for a marital law video. The script uses vignettes to explain the rights and obligations of spouses during separation and divorce. Not only are applicable Army regulations and Missouri divorce law explained, but the process of going through a divorce from start to finish as well as the vocabulary particular to divorce and separation is also explained. This will avail our clients privacy while they learn about divorce and separation without worrying about bumping

into their neighbors. The original tape is kept at the Legal Assistance Office with copies available for check-out. Clients are afford the chance to use in-house equipment if they do not have a VCR at home or are uncomfortable in taking the tape home.

A nuts-and-bolts column called **"Ask Your JAG,"** is produced and published bi-weekly in the post newspaper. Seve articles on taxes, written by legal assistance attorneys, were published during the tax season. Other topics include such diverse are as Missouri "lemon laws," co-signing loans, pitfalls in auto leases, political activities, tips for home buyers, and fair credit rights.

Our office regularly briefs military and private organizations on post concerning estate planning, SGLI, taxes, legal assistan services available, and other topics. The most popular briefing is the family POM which is presented in the evening to spouses soldiers in deploying units. Additionally, legal assistance attorneys help train Engineer Officer Advanced Course (EOAC) spous who volunteer for a week-long program that prepares them to be family support group leaders.

Our **"Read All About It" program** distributes more than 140 informational pamphlets, drafted by office personnel ar the Federal Trade Commission, on estate planning, separations, taxes, military administrative law, consumer law, and other importa topics. Fact sheets about SGLI, wills, living trusts, planning to avoid probate, planning to deal with possible incompetency, ar qualifying for Medicaid are readily available to our clientele.

This year, we revised the program of instruction for EOAC classes. Rather than presenting several hours of strictly militar justice material, we now present two hours of claims and legal assistance training. This training not only helps EOAC students wit their personal affairs, it will enable these future company commanders to help their soldiers by knowing what services are offered b claims and legal assistance offices.

Through our **TAX ASSISTANCE PROGRAM**, SJA and Internal Revenue Service personnel trained more than 50 uni tax advisors to prepare 1040EZ, 1040A, and Missouri tax returns for their unit personnel.

Our **Tax Center,** manned by two attached soldiers and our regular legal assistance staff, answered questions and provide federal and state tax forms to clients on a walk-in basis all day, every day during tax season. Attorneys answered tax questions an prepared tax returns that were too difficult for unit tax advisors.

Our attorneys and paralegal prepared tax returns using computer software. The decision to purchase this software paid big dividends by reducing the time required to prepare returns, thereby allowing us to help more clients. Oh, by the way, electronic filing was available to all tax clients.

To ensure the **TRAINING AND PROFESSIONALISM OF ATTORNEYS,** all meet, and are encouraged to exceed, their state bar continuing legal education requirements. Last year, our attorneys attended over 15 continuing legal education courses. Each attorney attended at least one week-long course at The Judge Advocate General's School. In addition, all attorneys attend monthly officer professional development classes which cover various legal and military subjects.

Our Chief of Legal Assistance attended Total Army Quality (TAQ) training and serves as our facilitator. We use TAQ tools to reduce the waiting time for appointments by reducing the number of clients who fail to attend their appointments. We use TAQ principles daily to do business. Also, every client is asked to fill out a client questionnaire, which is reviewed by our leadership and staff for implementation and improved service. We are using TAQ standards to improve **COMMUNITY RELATIONSHIPS.** There is no local means for consumers to complain about local businesses, such as the Better Business Bureau. Our Community Consumer Clearinghouse will provide a means to file complaints and if any business is found to have a trend of problems with military personnel, the matter can be referred to the Armed Forces Disciplinary Control Board.

Attorneys foster goodwill with community lawyers by attending most local bar association meetings as well as the annual en banc session of the local state circuit court. The annual Law Day celebration brings together various members of the local bar to participate in the Law Day Breakfast and related functions.

We improved our relationship with the U.S. Attorney's Office by establishing a Federal Prosecution Program which permits SJA attorneys to prosecute felony and misdemeanor cases arising on the installation. The agreement formalizes a working relationship between the U.S. Attorney's Office and the installation, and will allow prosecution of crimes which may have gone unprosecuted in the past because of resource restraints.

Our trained, caring and competent attorneys, paralegals and legal support personnel are committed to providing the highest quality legal services to soldiers, family members and retirees. As we work our Installation Management Action Plan goals, we will continue to look for ways to improve the quality of our customer service; thereby **ensuring excellence in the realm of legal affairs.**

AAFES SERVICE AND FACILITIES

At Fort Leonard Wood, we strive to **PROVIDE THE OPTIMUM SHOPPING EXPERIENCE.** This v evidenced by our first place tie in the large installation category of the Training and Doctrine Command's Communities Excellence competition.

Our MAIN POST EXCHANGE (PX) SHOPPING COMPLEX is the cornerstone of our excellent, mode facilities. This $6.5M facility opened in May 1992, and contains some 97K square feet. The Main PX alone has more th 40K square feet of sales space. A $ 40K project aimed at doubling the size of the Garden Shop/Four Seasons area w completed in late October 1994.

Looking for something to eat?

Our complex's **Food Court** contains five franchise food operations: Frank's Franks, Anthony's Pizza, Chicken Lo Sweet Reflections, and Robin Hood Deli Sandwiches. We place a high premium on fast and friendly service and only t quality food. In 1993, the AAFES Inspector General rated our Food Court as the best facility he'd observed, and it's ev better in 1994!

Fifteen concessions supplement our shopping complex. They include Flowers, Country and Western Sho African Clothing Shop, Sports Apparel, Arts and Crafts and numerous short term commodity concessions. A Car Rent Service opened in September of this year.

Activation of a Pick-Up Pharmacy in conjunction with the Post Hospital is being considered for 1995. We'r also formally studying the opening of a **Specialized Sporting Goods activity** in 1995, designed to serve the many militar hunters and fishermen in the area. This venture would be one of the first of its kind in AAFES.

We feel the Fort Leonard Wood Main PX Shopping Complex is a "State-of-the-Art" facility within the local trad area. The Main PX is open 80 hours per week; the Food Court, 73 hours; and the adjacent concessions, 72 hours.

Our **Military Clothing Sales Store** is open 57 hours per week. Patrons can **special order** many items and b specially measured on request. We recently initiated **one-on-one interaction** with each class in the Engineer School to insur the wide diversity of uniform needs receive only the best attention and service. Our Clothing Sales Store is also ver experienced and adept at providing fast and high quality service for entire classes of basic trainees at one setting. The clothing sales is co-located with the Class Six and Affordable Furniture Stores, and is adjacent to the Main PX Shopping Complex.

Affordable Furniture currently does over $ 600K per year in sales and includes home delivery service for furniture items and major appliances. Affordable Furniture is open 48 hours per week.

The **Class Six Store** provides a large inventory of spirits tailored precisely for the unique, international tastes of our military clientele. Our wine selection sets the standard for the local economy. The Class Six is open 67 hours per week.

Our **Burger King** is open 108 hours a week and is close to the Main PX Shopping Complex. It was remodeled in August 1992 at a cost of $ 232K. This improvement project expanded and remodeled the seating area to include installation of an atrium. The drive-thru was also reconfigured and expanded to permit faster and more professional service. Considerable emphasis is placed on drive-thru service since it's so popular with our customers. Our facility recently **received a most unusual, perfect 100% score in a Burger King "mystery shopper" evaluation** -- something we've been striving for all this year.

Our **Engineer School Bookstore** is open 35 hours per week and primarily serves the unique needs of Engineer School students. We offer a wide variety of **military books** and have added a large stock of generic books available to us at manufacturer discounted prices. Holiday-specific gift items are featured for the convenience of students, visiting families and personnel on temporary duty. Access to "Book-in-Print" software allows us to order virtually any book. Special orders, at a 10% discount, are generally received within one week and may be sent to another location for the customer's convenience. The store also **serves text book needs** of a number of off-duty and evening college students who attend classes on the post. We recently implemented a **resale program for used college books** to lighten the financial burdens of those pursuing a higher education.

The **PX Service Station** is open 80 hours weekly and provides a large selection of automobile merchandise and a variety of auto repair capabilities. The service station and the Morale, Welfare and Recreation's (MWR) Auto Craft Shop

are finalizing implementation procedures for a unique customer referral joint venture. By winter, the PX Service Station v refer its overflow business to the Auto Craft Shop. This will significantly increase the revenue earned by a quality MV activity while meeting the needs of our service station customers.

Our **Turner and Specker Shoppettes** serve adjacent housing areas on the north and south sides of the post. V initiated **24-hour weekend service** in both facilities during 1994. A project has been identified to install gasoline pum at Specker Shoppette during 1994. The project is in final design at this time and completion is expected during the fall this year. Our Shoppettes and Main PX Shopping Complex also house 24-hour Automatic bank Teller Machines (ATM

In response to our single soldiers in the Specker Barracks complex, the adjacent snack bar was converted to "Sports Bar" this spring. The "bar" includes satellite TV, a large variety of popular video and pool games as well as foo beverage offerings in keeping with bar's decor. **BOSS soldiers actively help us develop and maintain the overa scheme of service.**

We maintain **four specialized retail facilities in the troop training areas.** Each has highly specialized sto assortments tailored precisely to meet the needs of the trainees who are billeted near the facility. Each facility contains a varie of the most popular food and concession offerings. Plans are currently underway to install ATMs in the basic training troo stores.

Our Mobile Food Activity provides food service over a wide ranging area and is designed for troops in the trainin environment. We replaced our 43 mobile unit fleet with state-of-the-art mobiles in mid-1994.

Fort Leonard Wood's PX also provides the same **high quality service to Reserve and National Guard unit** in the Jefferson City, and Springfield, Missouri areas. A new PX branch opened in 1993 in Springfield, Mo.; and a completel new facility opened in the new National Guard State Headquarters Complex near Jefferson City in 1994. We also **assume complete** administrative oversight and general management for **AAFES operations at Whiteman Air Force Base** i northwest Missouri.

Our PX **PROFESSIONAL DEVELOPMENT AND TRAINING** areas are literally second-to-none and ar a great source of pride. A highly informed, enthusiastic and motivated workforce is critical to successful PX operations. Ou training effort literally never ends, and includes sales associate certification programs which emphasize customer service courtesy, product knowledge and professional "customer handling" techniques. There are a large variety of formal course available for groups or individual employees. Examples include improving computer skills, AIDS training, sexual harassmen and diversity in the workforce. The PX is also very active in the sponsorship of formal off-duty college courses for its workforce.

AAFES has long recognized the high quality training effort maintained at Fort Leonard Wood, so that our staff now provides **cultural diversity training** at a large number of nearby military facilities. These include Scott, Whiteman, and Offutt Air Force Bases, and Forts Leavenworth and Riley.

The PX **initiated pay-for-performance compensation** of its workforce in May 1994, one of the first in AAFES to do so. Pay increases are directly based on job performance goals as developed and agreed upon by the employee and the immediate supervisor. The highly structured federal pay system is a thing of the past, and we look for even greater improvement in service and job competence as a result.

The **CUSTOMER is the driving force** at our PX and the Exchange strives continuously to improve service to our customers. We seek to appropriately staff our sales floor and certify our sales associates. We also evaluate what our customers perceive as quality service. Last year's customer surveys validate the significance they place on such factors as in-stock position, price, selection, and personalized in-store attention. We are evaluating all of our operating policies in light of the new findings. Two other examples of our aggressive approach to customer service are our **"Customer Comment" program,** which operates in-house, and our **"Direct Line" program,** which goes directly to the AAFES commander. The large number of favorable comments we receive indicates that **WE'RE SECOND TO NONE!**

We are **totally dedicated to making our "boss," the customer, happy.** We are acutely aware of why we are here and who pays our salary. Nothing happens in the PX, until the cash register rings. We're an integral part of Fort Leonard Wood, positive and totally dedicated to working with the post to develop our IMAP.

This file contains a map of Fort Leonard Wood and is too large to be scanned.

credited by the
ican Association
seums

U.S. ARMY ENGINEER MUSEUM
Fort Leonard Wood

FREE

OPEN
Monday - Saturday
10:00 - 4:00
(314) 341-5039

U.S. Army Engineer Museum
ATTN: ATZT-PTM-OM
Fort Leonard Wood, MO 65473-5165
(314) 596-4249

U.S. ARMY ENGINEER MUSEUM
Fort Leonard Wood

U.S. ARMY ENGINEER MUSEUM

The U.S. Army Engineer Museum moved here from Fort Belvoir, Virginia in 1989.

WWII COMPANY AREA

This collection of restored, temporary mobilization buildings represents just a dozen of hundreds of thousands of identical buildings, built from Maine to California between 1939 and 1945. During the peak of construction here in 1941, these buildings were being completed at the rate of one every 45 minutes. All of these buildings reflect the beginning of Fort Leonard Wood's role in preparing America's young men and women for Army life.

ENCYCLOPEDIC GALLERY

Displayed in the Museum's Encyclopedic Galleries are objects that trace the development of American Army engineering equipment.

TOPOGRAPHIC ENGINEERING

The Topographic Engineering Gallery displays the material used by topographic engineers, surveyors, and mapmakers from their colonial beginnings to the present.

LAND MINE WARFARE

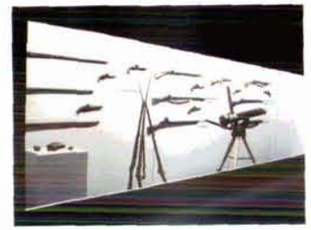
The Land Mine Warfare Gallery displays American mines, mine detectors, and foreign material significant to the development of U.S. Army landmine warfare technology.

TACTICAL BRIDGING

Displayed in the Tactical Bridging Gallery are models of floating, fixed, and mobile tactical bridges.

The Demolitions and Explosives Gallery contains objects relating to the recent history of this unique aspect of the Army engineers' mission.

ARMS AND ARMAMENTS



Inside the Special Weapons Room, display cases line the walls, containing weapons used by American Army engineers since the 18th century.

ENGINEER REGIMENTAL STORE

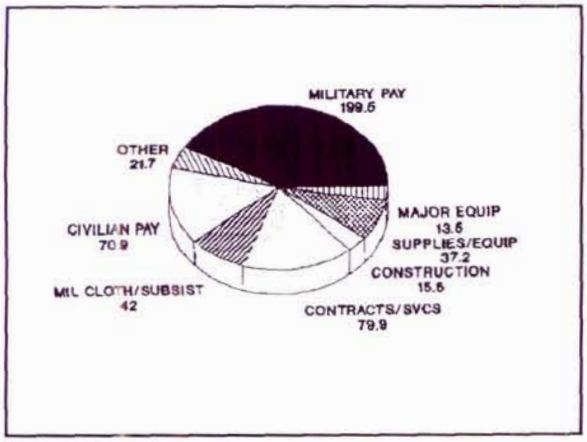
In the lobby of the U.S. Army Engineer Museum you will find the Regimental Store offering a unique line of gifts. The store merchandise primarily features the Engineer Regimental Crest and the Engineer Castle. Proceeds from the store sales help support the adjacent Engineer Regimental Room. Steeped in engineer history, the Regimental Room proudly displays colors and special plaques of inactivated engineer units.

Fort Leonard Wood began in Decemb in response to America's need to begir for World War II. By May of 1941, temporary mobilization buildings wer Fort Leonard Wood began to rise fron foothills, soldiers started to assembl their training. During the Second Worl infantry divisions, one artillery briga Engineer Replacement Training Cen trained over 250,000 soldiers. Af following four short years of relativ Fort Leonard Wood was reactivated has been training young men and v since. The mission still includes basic t advanced engineer training.

The Engineer School moved to Fc Wood in January, 1990, and engi training began. Not only has the i training mission been expanded to i officer students per year, but Fort Le has also assumed responsibility fo Army engineer doctrine and for est quirements for engineer equipment c

Since its completion in the spring c Leonard Wood has trained nearly soldiers and is now considered one o training installations of the Army. I Army of the future will be sign Leonard Wood will continue to expa mission with additional training cou the soldiers and civilians of the Ar Engineers.

★ U.S. GOVERNMENT PRINTING OFFICE: 1993-759-1



Total Expenditures in Millions for FY92

Economic Impact

Fort Leonard Wood provides jobs, a place of duty and/or support for more than 25 thousand people daily. This includes permanent party military, reservists, initial entry training soldiers, students, on-post family members, and civilian employees.

Fort Leonard Wood consumes goods and services in support of its day-to-day operations. Purchases in Fiscal Year 1992 equalled $188.1 million; pay and other expenditures totalled an additional $292.1 million.

The average employment multiplier is 2.2493 (locally) and 5.1240 (statewide). The average earnings multiplier is 2.0268 (locally) and 4.8298 (statewide).

A Missouri Community

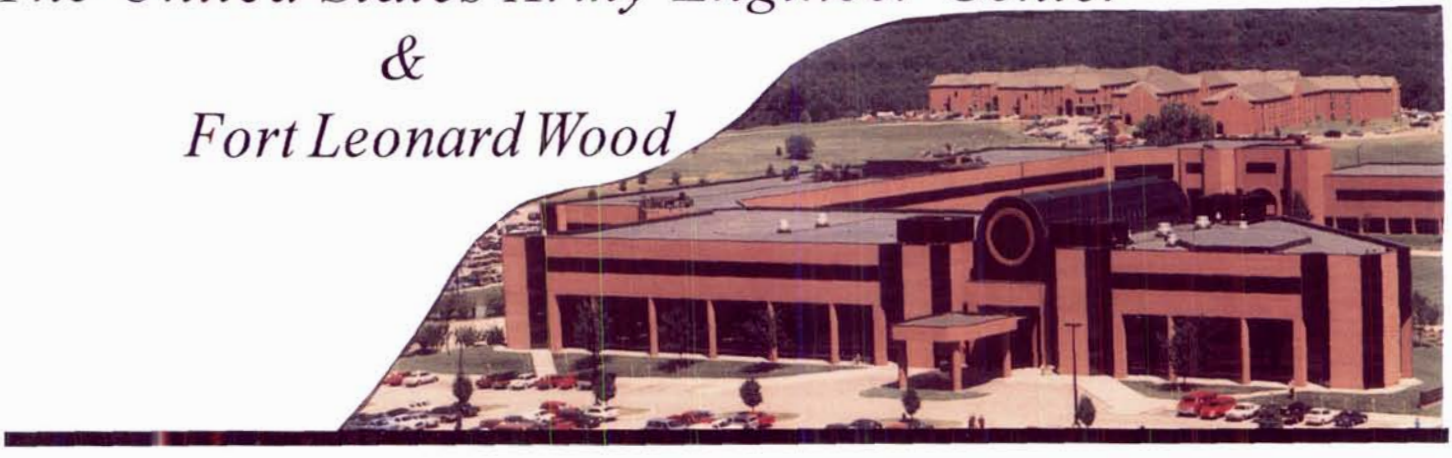
More than 150,000 people visited Fort Leonard Wood in 1992. Many were tourists passing through south central Missouri on Interstate 44, between Springfield and Saint Louis. They traveled from across the United States to attend graduation ceremonies, to visit the post museum complex, or to attend special activities such as the Missouri Special Olympics, the Fourth of July celebration or the annual Retiree Open House.

Recognizing the interdependence between the post and the surrounding communities, Fort Leonard Wood hosts a Civilian-Military Council with participation from 16 local mayors. The installation is also an active participant in the governor's Missouri Military Affairs Council.

The Fort Leonard Wood Fire Department has mutual aid agreements with city and rural fire departments within the area. The agreements provide critical back-up fire fighting support and have been successfully tested several times in actual fire and hazardous spill situations.

Fort Leonard Wood is also the proud host of the Missouri Special Olympics Summer Games. Each May over 2,500 physically and/or mentally challenged individuals, their sponsors, families and friends visit the post for these fantastic games where all strive to be all that they can be!

The United States Army Engineer Center & Fort Leonard Wood



Mission

Fort Leonard Wood is the Army's Engineer Center and a major initial entry training center. As such the post trains over 40,000 soldiers annually. The fort is a subordinate of the U.S. Army Training and Doctrine Command. Its missions include:

* Provide leadership, doctrine, instruction, structure and equipment for the Engineer Force;
*Operate the Army's Engineer School for U.S. and International Engineer officers and Noncommissioned Officers;
* Operate and support a Drill Sergeant School and NCO Academy;
* Provide basic training and specified advanced individual training to enlisted personnel;
* Provide advanced individual training in combat and construction engineer skills;
* Provide for and operate an Army Reception Battalion;
* Support assigned and attached tenant units;
* Prepare and coordinate operations, mobilization, defense, contingency, emergency, and disaster and civil disturbance plans with appropriate agencies; and
* Provide logistics, training, and mobilization support to units of the Reserve Components.

In Fiscal Year 1992, the installation also trained more than 37,000 members of the Reserve Component Forces which include the Missouri Army National Guard, Army Reserve, Navy Reserve, Marine Corps Reserve, Reserve Officers Training Corps and Civil Air Patrol.

United States Army Engineer Museum

History

Fort Leonard Wood, one of the Army's largest training centers and the home of the Army Engineer School and Regiment, covers 63,000 acres in the scenic Ozarks region of south central Missouri.

Named after Major General Leonard Wood, a soldier, statesman, surgeon, and recipient of the Congressional Medal of Honor, the post was established in 1940. Since then, more than three million soldiers have started their Army careers at Fort Leonard Wood.

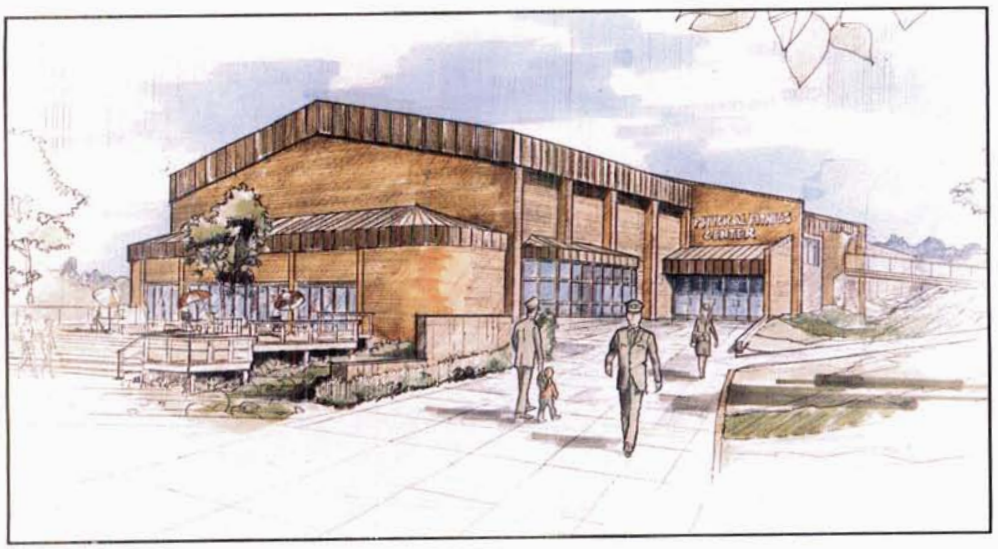
In 1956 the Secretary of the Army designated the post as a permanent installation. In 1988 with the transfer of the Army's Engineer School and the Engineer Regiment to the post, the installation was redesignated the U.S. Army Engineer Center and Fort Leonard Wood.

The installation was selected by the President as the Army's Installation of Excellence in 1985 and again in 1987. The awards exemplify Fort Leonard Wood's status as a top Army post worldwide, and recognize the quality of its people and facilities.

Recently, the post was honored by being designated one of the first World War II Commemorative Communities in the state.

Future:
New Facilities

* Instructional Media Center
* Soldier Support Center
* Child Development Center
* Physical Fitness Center
* Equipment Concentration Site
* Motor Transport Operator Course
* Consolidated Troop Medical Clinic
* Criminal Investigation Division Field Office



Physical Fitness Center

JOE N. BALLARD

Major General
United States Army

General Joe N. Ballard, Commandant of the U.S. Army Engineer School and Commanding General of Fort Leonard Wood, was born in Louisiana. In 1965, he graduated from Southern University A & M College with a bachelor's degree in Electrical Engineering and was commissioned into the Corps of Engineers. In addition to his master's degree in Engineering Management from the University of Missouri, he is a graduate of the Engineer Officer Basic and Advanced Courses, the Army Command and General Staff College and the Army War College.

General Ballard has held a wide variety of important command and staff positions, including, most recently, Special Assistant to the Director of Management for the Total Army Basing Study, Office of the Chief of Staff, Washington, D.C.; Deputy Commanding General, U.S. Army Engineer Center and Fort Leonard Wood/Assistant Commandant, U.S. Army Engineer School; Assistant Deputy Chief of Staff, Engineer, Headquarters U.S. Army Europe; Commander, 18th Engineer Brigade in Karlsruhe, Germany; Chief, Assignments Branch, Colonels' Division; and Commander, 82d Engineer Battalion, 7th Engineer Brigade in Bamberg, Germany.

From 1979 until 1982 General Ballard served as the Facility Energy Manager, Office of the Deputy Chief of Staff for Logistics in Washington, D.C. Prior to that, he was the Chief, Mapping and Intelligence Section, Engineer Division, United States Forces Korea/ Eighth United States Army and then Executive Officer to the United States Forces Korea Engineer.

In the seventies, General Ballard was the Engineer Construction Planning Officer, Planning and Real Estate Branch, Engineer Division, Fifth United States Army, Fort Sheridan; Test and Evaluation Officer, Combat Developments Command Engineer Agency at Fort Belvoir; Area Commander, U.S. Army District Recruiting Command, Detroit; and finally Operations Officer and then the Executive Officer of the 326th Engineer Battalion, 101st Airborne Division.

General Ballard began his career at Fort Dix as a platoon leader in the 86th Engineer Battalion. He served his first tour in Vietnam as a platoon leader in the 84th Engineer Battalion. He returned to the Unites States to command Company C, 2d Battalion, 2d Training Brigade at Fort Polk. After attending the Engineer Officer Advanced Course, General Ballard began his second tour in Vietnam where he was Commander, Company C, 864th Engineer Battalion and then Chief, Lines of Communications Section Operations, 18th Engineer Brigade.

General Ballard's awards and decorations include the Legion of Merit (OLC), Bronze Star Medal (OLC), Defense Meritorious Service Medal, Meritorious Service Medal (2OLC), Army Commendation Medal (OLC) and the Army Staff Identification Badge.

He is married to the former Tessie LaRose and they are the parents of three daughters.

Phillip R. Anderson

Brigadier General
United States Army

BG Phillip R. Anderson was born in San Diego, California. He is a graduate of the Virginia Military Institute, Lexington, Virginia, where he was commissioned in 1970 into the Corps of Engineers. He holds masters degrees in Civil Engineering from the University of Illinois in Champaign/Urbana and International Relations from Salve Regina University in Newport, Rhode Island.

His military education includes the Engineer Officer Basic, Construction, and Advanced Courses, the Army Command and General Staff College and the Naval War College. His troop assignments include Platoon Leader, Engineer Equipment Officer, Assistant S-3, and Company Commander, 27th Engineer Battalion (Combat) (Airborne), Fort Bragg, North Carolina; S-3, Assistant Division Engineer, and Executive Officer, 307th Engineer Battalion, 82nd Airborne Division, Fort Bragg, North Carolina; Battalion Commander, 20th Engineer Battalion (Combat), Fort Campbell, Kentucky; and Commander, 36th Engineer Group (Combat), Fort Benning, Georgia.

BG Anderson has served as Liaison Officer and Assistant Resident Engineer, Saudi Arabia District. As a Civil Engineer in the Louisville District, he was named Project Engineer for the Taylorsville Lake Project. BG Anderson also served as the Executive Officer for the Chief of Engineers, Headquarters Corps of Engineers, Washington D.C.; and Land and Naval Facilities Program Manager, Supreme Headquarters Allied Powers Europe.

BG Anderson has been involved in many humanitarian relief operations including Hurricane Andrew as Deputy Joint Task Force Engineer and Operation Restore Hope in Somalia as Army Forces Engineer.

He arrived at Fort Leonard Wood in October 1993 and was assigned as the Director of Training for the United States Army Engineer School until January 1994 when he was selected to serve as the Chief of Staff. In October 1994, BG Anderson became the Deputy Commanding General of the U.S. Army Engineer Center and Fort Leonard Wood.

BG Anderson's decorations include the Legion of Merit, Defense and Meritorious Service Medals, and the Army Commendation and Achievement Medals. He has been awarded the Ranger, Master Parachutist and Air Assault Badges.

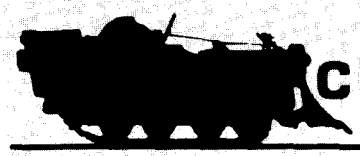
He is a licensed Professional Engineer in Virginia and is a member of the National Society of Professional Engineers, American Society of Civil Engineers, the Society of American Military Engineers, and the Army Engineers Association.

BG Anderson is married to the former Elizabeth Allen Bartley of Hampton, Virginia. They have one daughter, Sarah, who is attending Wesleyan College, Macon, Georgia.

Document Separator

Engineer

THE PROFESSIONAL BULLETIN FOR ARMY ENGINEERS



CLEAR THE WAY

By Major General Joe N. Ballard
Commandant, U.S. Army Engineer School

This issue of *ENGINEER* centers on "jointness"—the ability of U.S. Army engineers to train and conduct operations with our sister services. On the surface, operating in a joint environment seems simple enough; after all, these are other Americans whose language we speak and whose uniforms look somewhat familiar. In practice, however, jointness is very difficult. Even the professional terminology, the jargon, can be baffling. Each service has a host of minor differences in terms of training, equipment, organizations, and doctrine. The additive effect of these differences can be disruptive enough to halt operations until specific arrangements can be put into place. An ancient military toast went, "Confusion to the Enemy!" and glasses were emptied of spirits. Confusion is as debilitating as panic and, above all, we must not confuse ourselves. The true test of jointness is smooth operations from the very start with engineer units of any service who may be conducting operations together for the first time. The great cartoon military strategist, Pogo, once observed, "We have met the enemy and he is us." We cannot afford such a self-made enemy.

Our National Defense Strategy has been recast from the basis of containment of a hostile, ideologically polarized, global threat with the demise of the Soviet Union toward a "more historically normal" condition of protecting American interests on a regional basis. The work to redefine the missions of the U.S. Army and to recast the internal organization of the Army for this role is, as yet, incomplete. The engineer force structure in both the combat and construction engineering missions is subject to restructuring and downsizing. Because it is not clearly understood outside the engineer community, the construction mission is especially vulnerable to well-meaning but unwise external restructuring efforts. Engineers must not be resistant to change or hold on to cherished but obsolete policies. On the other hand, we must guard against "hollowing-out" of capabilities that history and our experiences tell us are essential. On 3 January 1914, seven months before the start of World War I, David Lloyd George, a future prime minister of Great Britain, was quoted in a London newspaper. In the interview, Lloyd George denounced the folly of expenditure on armaments and declared that the state and prospects of the world were never more peaceful. During the current recasting period in American military history, the responsible policy can only be to clearly and consistently articulate our professional judgement. Engineers must be especially clear about operational-level engineering missions, joint and combined considerations, and notional force designs.

"Training is the glue that holds the Army together." Not an original thought on my part or the first time this observation has been made, but it is constantly being proven by events in places that seemed far away from American interests just a few years ago: Somalia, Rwanda, and Haiti. Engineer soldiers must be well-trained and confident in themselves, their buddies, and their leaders to perform and survive in the diverse settings so common in today's world. In some ways a soldier's profession is more hazardous now than it was at the height of the Cold War. Since the end of the Cold War, some 700 American soldiers have received Purple Heart medals for wounds received during foreign operations.

A major "growth industry" within the military services these days is predicting the future. Many very bright people are extending the past into the future. That's always a risky business at best because only the shadows of future great events are cast into the present. "Scientific predictors" generally have a similar record as the ancients who based their statements on the behavior and entrails of birds and goats. Thinking about the future and planning for arriving at a future condition is prudent management. Basing conclusions on the certainty of a future state is imprudent and, even worse, dangerous.

In summary, exciting times. . . no doubt about it! Times filled with the innovative thinking of creative men and women and tempered by the training of engineers, who understand how the laws of physics and the strengths of materials affect human endeavors. We must learn how to achieve synergy, not rivalry, with our sister services; study our profession; and understand the political processes of our powerful democracy, while acknowledging the continuities of history. Essayons!

Engineer

December 1994 Headquarters, Department of the Army Volume 23 PB 5-94-4

UNITED STATES ARMY ENGINEER CENTER AND FORT LEONARD WOOD

Cover photo: *Army and Marine soldiers train together on surveying techniques at Fort Leonard Wood, Missouri. Photo by Jim Anderson.*

FEATURES

DEPARTMENTS

ENGINEER (ISSN 0046-19890) is prepared quarterly by the U.S. Army Engineer School, ATTN: ATSE-T-PD-EB, Fort Leonard Wood, MO 65473-6650. Second Class postage is paid at Fort Leonard Wood, MO, and additional mailing offices.

POSTMASTER; Send address changes to ENGINEER, the Professional Bulletin for Army Engineers, ATTN: ATSE-T-PD-EB, Fort Leonard Wood, MO 65473-6650.

CORRESPONDENCE, letters to the editor, manuscripts, photographs, official unit requests to receive copies, and unit address changes should be sent to ENGINEER, at the preceding address. Telephone: (314) 563-4104, DSN 676-4104.

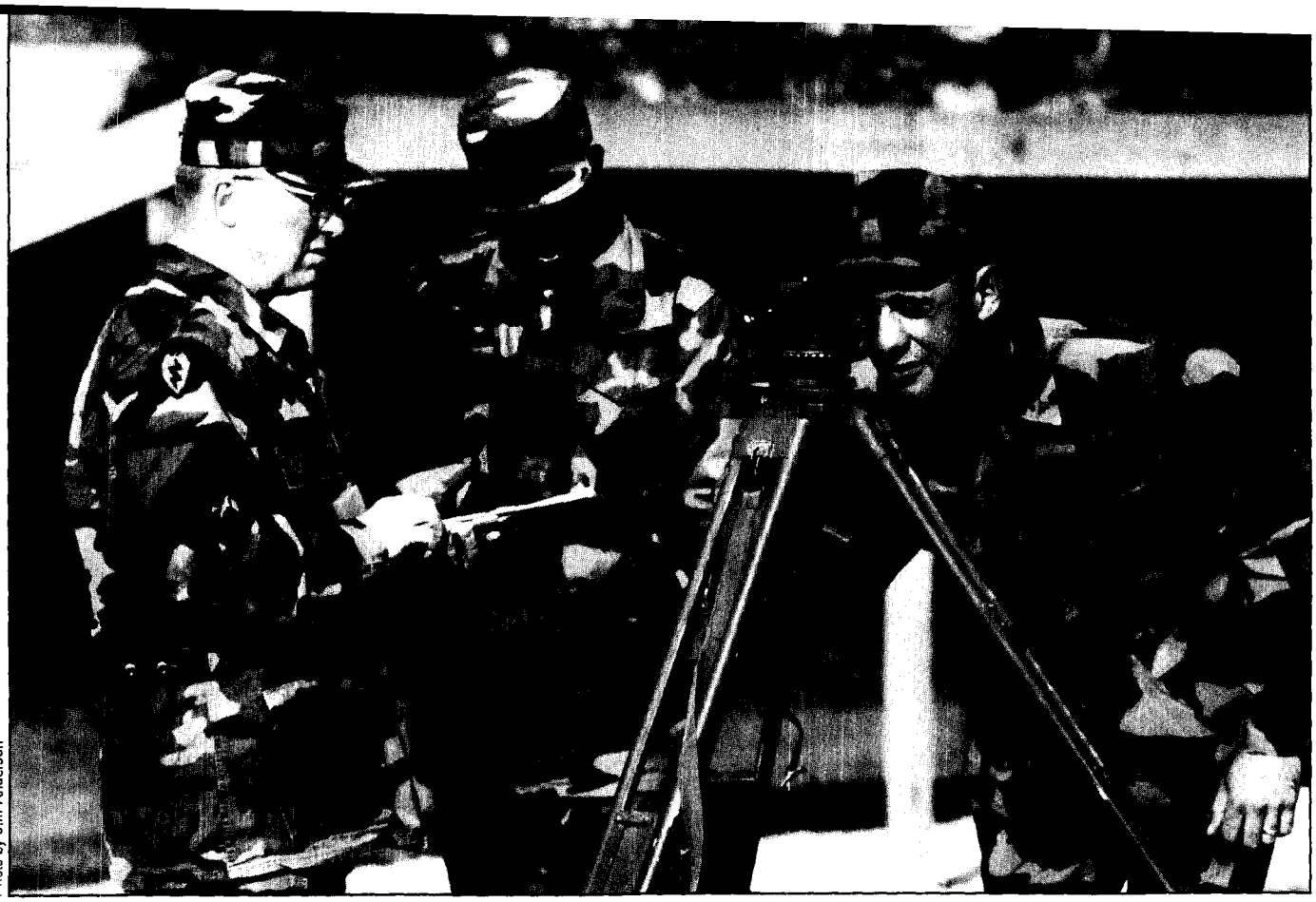


Photo by Jim Anderson

Joint Civil/Construction Engineer Training: It's A Reality

By Connie S. Welch

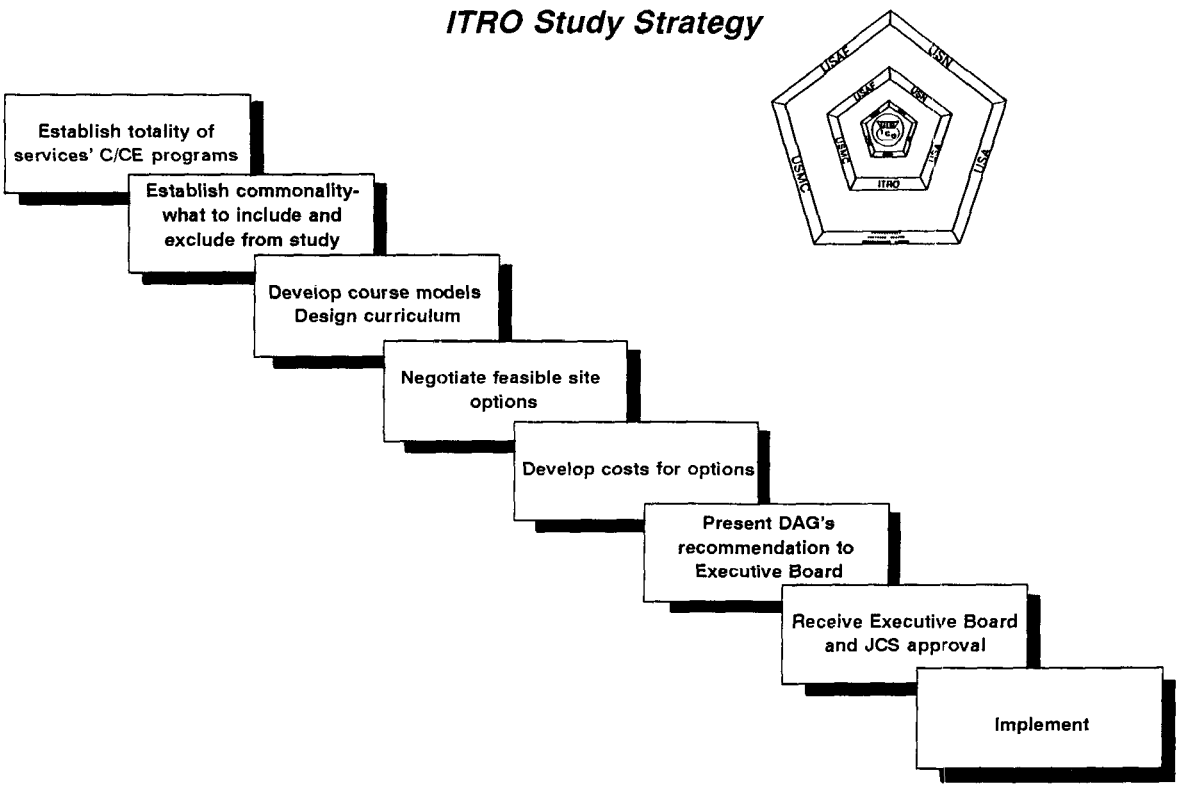
Major changes affecting engineer training are sweeping through the Department of Defense. Since August 1993, Army, Air Force, Navy, and Marine Corps personnel have worked closely to design more efficient and cost-effective ways to train initial entry service members in common civil and construction engineer (C/CE) skills. As a result of their efforts, consolidated and collocated engineer training is scheduled to begin at various locations in fiscal years (FY) 95 and 96.

The Interservice Training Review Organization (ITRO) anticipates that benefits resulting from interservice training will include multiservice appreciation for different tactics, techniques, operating procedures and engineer equipment in addition to significant cost savings. Appreciation for other services' engineer capabilities will lead to improved interoperability and may stimulate joint construction equipment and repair parts acquisition programs.

This is a "good news" story for military engineering and our nation's defense. The complex ITRO process and program strategies described in this article are followed by the personal perspectives of committee representatives from the other services.

Changes began in August 1993, when the Civil/Construction Engineer Interservice Training Review Organization's Detailed Analysis Group (DAG) was formed at the mandate of the Joint Chiefs of Staff (JCS). The purpose of the DAG was to review the C/CE functional areas of all four services to determine if there were cost savings or training efficiencies that could be realized through consolidation or collocation. While some consolidated engineer training among the services has occurred for many years, this is the first initiative that includes all four services in common skills training.

DOD leaders realized that military reductions and diminishing resources provided the ITRO



study team an opportunity to design programs and train all service members with common engineer skills while attaining efficiencies and savings. The mandate by the Joint Chiefs and the ITRO Executive Board, therefore, was to expand study areas and work toward definite "go" decisions. "Make it happen!" was the edict.

The Army was designated to chair the C/CE DAG. First, Brigadier General Robert Flowers and then Brigadier General Phillip Anderson, the prior and current assistant commandant, U.S. Army Engineer Center and Fort Leonard Wood, met the challenge of this complex project with zest and a strong will to succeed.

The tone of the study was set early. Each services' representative (voting member) was empowered to make decisions and plan for their service. DAG members included Captain John Lehman, Commanding Officer, Naval Construction Battalion Center, Gulfport, Mississippi; Lieutenant Colonel Scott Smith, Commander, 366th Technical Training Squadron, Sheppard Air Force Base, Texas; Lieutenant Colonel Charles Rivenbark and (now) Lieutenant Colonel Mark Jennings, Headquarters, U.S. Marine Corps, Washington, D.C.; and Lieutenant Colonel David Boothe, Director of Department of Construction Engineering, U.S. Army Engineer School, Fort Leonard Wood, Missouri. These individuals bought into the project and led the way in making the study a success. They recognized the many benefits to be derived from consolidating or collocating engineer training, over and above the obvious possibility of cost savings:

- Cross fertilization of engineer operating procedures.
- Standardization of training techniques.
- Standardization of equipment for future acquisition and commonality.
- Improved effectiveness of repair parts when operating in a joint environment.

The DAG developed a strategy (above) to accomplish the study and mapped a course of action that included a detailed flowchart with milestones. The approach used to develop course models in the joint arena is similar to that used in a college or university. A student (service member) decides on a major (MOS), and then selects, takes, and passes certain courses to be granted that degree (certificate).

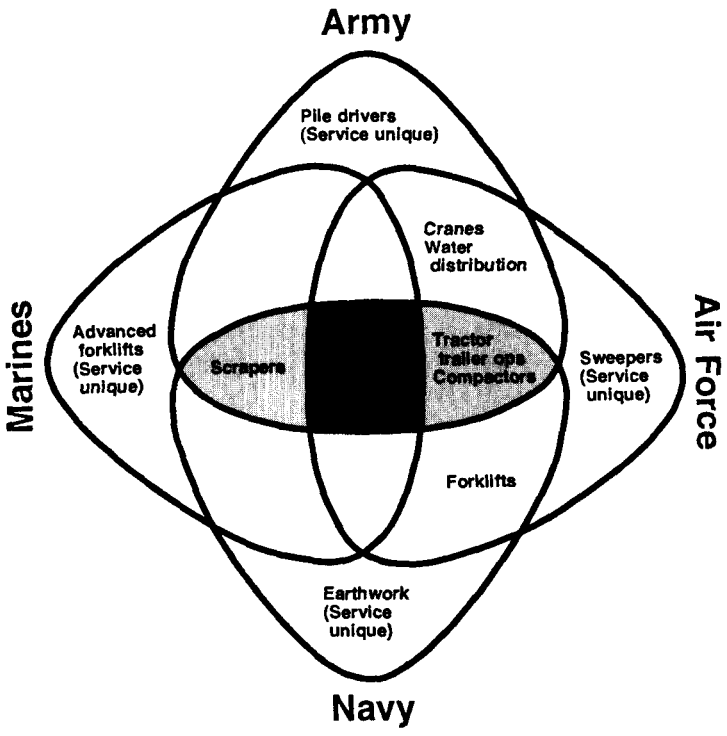
An airman, for example, must successfully complete certain training modules to become a certified equipment operator, plumber or structure specialist. As shown in the equipment operators' course model, page 4, an airman takes about six weeks of common core subjects (graders, loaders, dozers, and excavators) with the other three services. He takes tractor-trailer and compactor operations training with the Army and Navy, forklift training with the Navy, and crane and water-distribution training with the Army. Finally, the Air Force has a service-unique track only for airmen, where he trains on sweepers. The end product is a well-trained Air Force equipment operator, who has received a large part of his or her training in classes with soldiers, sailors and marines.

Approved Study Results for Civil/Construction Engineers

Type	Current Location	Joint Training Location
Equipment Operators	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Camp LeJuene, NC Fort Leonard Wood, MO	Fort Leonard Wood, MO
Engineer Technicians	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Fort Leonard Wood, MO	Fort Leonard Wood, MO
Construction Mechanics	Gulfport, MS Port Hueneme, CA Camp LeJuene, NC Lackland AFB, TX Fort Leonard Wood, MO	Fort Leonard Wood, MO Port Hueneme, CA
Structures (Carpenters)	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Fort Leonard Wood, MO	Gulfport, MS
Plumbers	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Fort Leonard Wood, MO	Sheppard AFB, TX
HVAC/Refrigeration	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Camp LeJuene, NC Aberdeen Proving Ground, MD	Sheppard AFB, TX Aberdeen Proving Ground, MD
Electrician	Gulfport, MS Port Hueneme, CA Sheppard AFB, TX Camp LeJuene, NC Fort Leonard Wood, MO	Sheppard AFB, TX Fort Leonard Wood, MO Camp LeJuene, NC
Firefighter	Goodfellow AFB, TX Memphis, TN	Goodfellow AFB, TX

The DAG met its milestone of making a recommendation for approval to the ITRO Deputy Executive Board by 15 December 1993. The recommended strategy was approved by the ITRO Executive Board and the Assistant Chairman of the Joint Chiefs on 31 March 1994.

Equipment Operators' Course Model

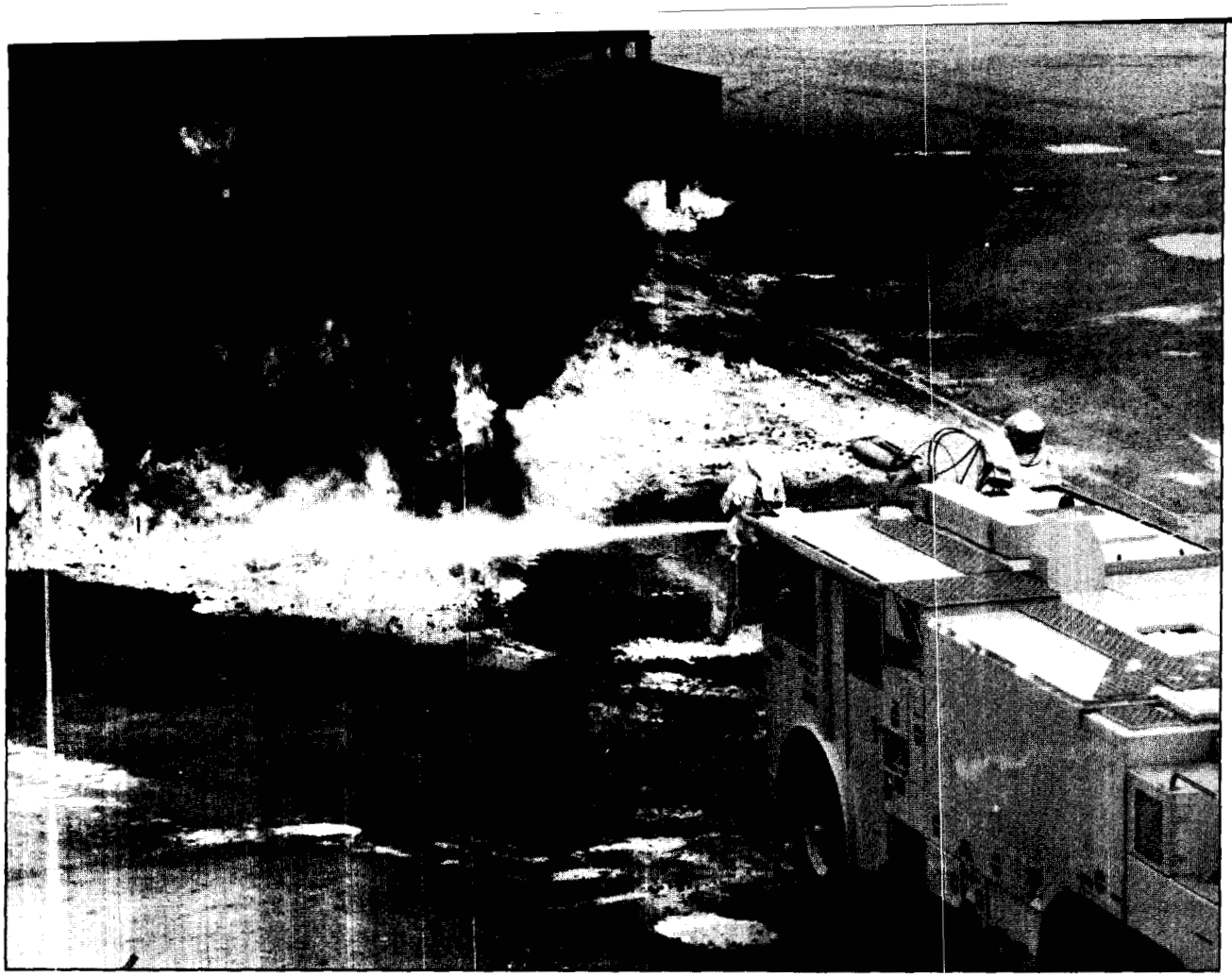


The DAG is now plunging into the implementation process. This difficult part of the ITRO process promises to be especially challenging because of the continually shrinking DOD budget. The major portion of the curriculum development (i.e., course design, programs of instruction, and lesson plans) has been completed and coordinated between services. Curriculum products are now moving forward for approval from each service.

In the year since the study began, much time and effort have gone into changing the joint training concept into reality—and to its current state. The approved study, now ready for implementation, will require extensive planning, coordination, and attention to detail as DAG members hammer out the many issues yet to be resolved. To prepare for full implementation next year, the DAG must resolve some complex issues, including:

Facilities

- Determine billeting standards.
- Allocate specific buildings for administration, maintenance and training that meet each service's requirements.
- Determine standards for training facilities.



Army and Air Force students extinguish a simulated aircraft crash fire at the DOD Fire Protection School.

Equipment
- Identify equipment to be shipped from one training site to another.
- Determine condition standards for equipment being shipped from one training site to another.
- Determine the most effective time to ship equipment.
- Resolve maintenance issues.

Instructor Training Courses/Certification
- Determine content and location of instructor training.
- Determine standards for instructor certification.

Performance Rating Process
- Establish an instructor rating chain. For example, determine how a Navy instructor working for an Air Force course chief will be rated on an Army post.

At this point, implementation milestones have been set and responsibilities assigned. The plan of action is aggressive and will require the continued cooperation, coordination and dedication that have gotten the DAG and its supporting cast to its current state. The end state is that joint training for engineers will begin in October 1995.

The benefits of joint training to the Army and the Engineer School are evident. As a result of this study, Fort Leonard Wood's average daily population will increase by approximately 277 students, instructors, and support personnel, and about $800,000 will be added to the annual operating budget. Additionally, ITRO brings a diverse mission to the post. Joint C/CE training provides both a one-time and recurring DOD cost savings. More importantly, the joint training process will produce the same highly trained Army soldier in every case—and in some cases a better technically trained soldier.

The ITRO study has been a great opportunity. It has allowed members of the working group to join with sister services in a common endeavor to gain engineer training efficiencies and savings. Additionally, it will place all services' engineers in a training posture that mirrors probable joint operations of the future. Actions such as ITRO are vital if the U.S. military is to train to standard within limited resources. Results of this study provide an avenue to do business better in the Department of Defense—and to provide our nation with highly skilled, capable engineers trained to operate in a joint environment.

Connie S. Welch is executive officer for the Civil / Construction Engineer DAG Chairman and technical director for the Department of Construction Engineering, U.S. Army Engineer School. She previously served as technical director for the Engineer School's Department of Instruction. Mrs. Welch holds a bachelor's degree from Southwest Missouri State University.

Joint Civil/Construction Engineer Training

An Air Force Perspective

By Lieutenant Colonel Scott L. Smith

Under the auspices of the Interservice Training Review Organization (ITRO) and the Military Training Structure Review (MTSR) project, each of the military services tasked their respective civil/construction (C/CE) functional communities to participate in a Detailed Analysis Group (DAG) study. The purpose of the study was to conduct a top-down review of C/CE technical training to assess what opportunities existed to consolidate the training presently being conducted by all branches of the armed forces. The key objective of this assessment was to determine, where feasible, how DOD could consolidate C/CE training and conserve resources to the maximum extent possible. In striving to achieve this objective, the DAG was also responsible for improving training effectiveness, maintaining or improving combat readiness, and eliminating or reducing infrastructure. This whole top-down review/study effort, from my perspective as the Chief of the USAF team component of the DAG, has been and continues to be a once-in-a-career opportunity and challenge. Read on if you are interested in knowing why.

Electrical systems apprentice training at Sheppard Air Force Base.

I have had great opportunities in my career to serve at field, major command and Air Staff levels. The icing on the cake has been the chance to serve as a squadron commander two times and for two totally different kinds of squadrons—a civil engineer squadron in an operational flying wing, and a civil engineer technical training squadron in Air Education and Training Command's largest wing. Just about the time I thought I'd been given far more opportunities to make a difference than most at my grade and experience level, I was given the task to spearhead the USAF team on the DAG.

When handed this tasking, I must admit I was a tad pessimistic. The reason was my concern about really being able to achieve "jointness." Although I had just finished the USAF 10-month Air War College resident course, where jointness was a daily motto, and although I personally think jointness is absolutely critical to DOD's success in the future, I had reservations about being able to make it happen. My main teacher over the last 20-plus years, Professor Experience, had virtually convinced me there are far more roadblocks than alternate routes available to achieve the lofty and right goal of jointness. Nonetheless, after recovering from the initial shell shock of the tasking, I could see that this was a once-

Structures training at Sheppard Air Force Base.

in-a-career opportunity. I could help breach a myriad of roadblocks and, where necessary, help build routes to take the Air Force and other services' C/CE training where it needed to go to achieve success in the 21st century.

I also knew that getting this done would be a big, big challenge! It would take a lot of smart, open-minded, nonparochial folks working together to get the job done and done right. It would also require some tough decision making by the senior leadership in all services. Last, but certainly not least, it would create demands for some choice cuts out of the sacred, shrinking money cow to really make it happen.

At the time of this writing, I am elated to report that, with the outstanding help of my counterparts in the other services and the DOD senior leadership, we have successfully seized the opportunity and we are meeting the challenge. The arduous time and effort expended by the DAG has resulted in recommendations that will consolidate and/or collocate training in the following specialties: fire protection; heating, ventilating, air conditioning and refrigeration (HVAC); electrical; utilities, structures, pavement and equipment operations; engineering assistance; and construction equipment mechanics. Training for these specialties is targeted to be spread across seven DOD installations, where the best capability and capacity already exist to accommodate them: Fort Leonard Wood, Missouri; Aberdeen Proving Ground, Maryland; Camp Lejeune, North Carolina; Sheppard Air Force Base (AFB), Texas; Goodfellow AFB, Texas; Gulfport, Mississippi; and Port Heuneme, California.

The DAG referred these recommendations to the ITRO Deputy Executive Board (DEB) early in 1994, and the DEB approved them. The recommendations were forwarded to the ITRO Executive Board, which gave its approval. As a result, the DAG is now posturing to prepare the implementation plan. In this massive undertaking, the DAG will determine how to make the training moves happen as effectively and efficiently as possible. As the DAG works through this process, I am optimistic that we will sustain the extraordinary cooperation that has made our efforts highly successful so far.

From my viewpoint, when all is said and done with this ITRO/MTSR project, all of us in the C/CE business will reap significant benefits from the long overdue initiative to train jointly. For example, we will all gain a much better perspective of what each service's C/CE folks are tasked to do and why. By training together, we will be much more ready and able to fight together when the time comes. We will make strides toward standardizing our equipment and operating techniques, which in turn will save time and money. These benefits, as well as many others, will set us—and those who follow us—up for success in the future. I challenge everyone in the C/CE business to help make this success a long-term reality by building on the jointness foundation the ITRO initiative is putting in place.

Lieutenant Colonel Smith serves as commander of the 366th Technical Training Squadron, Sheppard Air Force Base. He holds masters degrees from Texas A&M University and the University of Wyoming and is a graduate of the Air War College.

A Navy Perspective

By Captain John Lehman

When selected as the Navy's lead for the Interservice Training Review Organization (ITRO) study on construction engineer training, I am sure that I had the same concerns and questions as my counterparts from the other services. I knew what the Seabees of the Navy could do and how they were trained, but I knew very little about the engineering capabilities of the other services. Although I had seen some of their equipment and had met some of their officers (usually at SAME conferences), I was not familiar with their training methods or technical capabilities.

The letter of appointment from the Chief of Naval Education and Training said my goal was to "improve the cost effectiveness of training" by consolidating or collocating training with other services. By doing so, we could eliminate duplication and reduce the amount of equipment and training aids required.

The letter appointed three other knowledgeable members to our team: two officers who were directly involved in Seabee training and a third, a retired Seabee master chief, who headed the Seabee Doctrine and Policy Branch at our headquarters in Washington, D.C. Fortunately, two of these team members had previous experience with the Navy's zero-based training and education review, which like ITRO, was aimed at eliminating waste and duplication within the training process.

At our first all-service Detailed Analysis Group (DAG) meeting at

Instructors check a water-depth gauge during joint Army/Navy well-drilling training at Port Hueneme, California.

Fort Leonard Wood, in September 1993, several things surfaced. First, each service had different titles for their specialty skills. Some of the "engineer" functions we identified were not accomplished by construction engineer units in other services; instead, they were accomplished by other groups, such as transportation. Each service had a foreign language of acronyms and course numbers, which frequently required translation. We each felt that our service had the "best" training program, equipment and facilities. And, all participants were willing to talk about their strengths, but nobody mentioned their training weaknesses.

After comparing student numbers, course lengths, curricula, and possible training locations, we learned that we could adjust curricula to improve the quality of training, and everyone felt more comfortable. Then came the first real test: to have our subject matter experts, all top-notch E6s through E8s who were proud of what they taught, hammer out a program that outlined which training objectives were common and which were service unique. We assumed that we could identify a core curriculum for each skill that would apply to all students. But we also knew there would be some service-unique curricula that would benefit only a single service. Questions had to be answered: Could we use the same curriculum if some services use a brand "X" bulldozer and others use a brand "Z" bulldozer? Will the ITRO courses provide enough operational "stick" time in the field? Can we do this or that?

After much discussion, all committee members were confident that the answer to these and similar questions was, "Yes, we can." Additionally, under ITRO students will receive some training on simulators or equipment that all services do not have now but expect to receive in the future. As our meetings progressed, the rationale for "why we can't" soon became opportunities to enhance training—"why we must!"

Costs were a major factor we had to consider, and we had many questions. Do we need more equipment, new training aids, more facilities, or more instructors or support facilities? What will be the one-time set-up costs for each scenario and which service will pay? Will training spaces or barracks need to be expanded? Can any of the services avoid constructing a facility they were planning to build? Will the recurring annual costs for the 13-week entry-level classes increase or decrease?

Equipment was another concern. Two services use mostly tactical equipment while the other two use mostly commercial equipment. Therefore, we had to decide if we should split the training in half or force-fit the four services together. Training together could result in more service-unique courses than common core courses and could ultimately increase costs.

The ITRO process continued and things seemed to fall into place. By December 1993, the DAG had costed, recosted, adjusted curriculum, and settled on one of twelve alternatives as the most cost effective. Under the recommended alternative, Navy Seabees will receive quality entry-level training at four centers of training excellence: the Seabee Centers at Gulfport, Mississippi, and Port Hueneme, California; Sheppard Air Force Base, Texas; and Fort Leonard Wood, Missouri. The executive board approved our alternative in March 1994, and ITRO was on its way.

Next came an even tougher challenge—implementation. Where would we start the move? This was a major decision because, in many cases, we needed to move *out* at one site in order to accommodate a move *in* from another site. Our challenge was to decide which domino to play first. Moving the administrative and instructor organizations to a base belonging to another service requires that local detachments be established, permanent change of station orders be cut, memoranda of understanding be drafted and interservice support agreements be effected with the hosts. We are making these decisions and implementing required changes now.

Just yesterday someone asked me, "Besides saving money, what will be gained from ITRO?" I didn't have to think long to reply: Since Desert Storm, the U.S. military has operated as a joint force in nearly every significant operation—whether it was a regional contingency, humanitarian relief, disaster recovery or nation assistance scenario. After the services implement ITRO, military engineers will know that each technician, carpenter, electrician, equipment operator, mechanic, plumber, engineering aid, steelworker, and fire fighter received the same basic training, regardless of their service. In the future, as the services move to a standard fleet of military tactical vehicles, we will be able to reduce parts support in the field and work more closely together. Even though each service still has its own missions and functions to perform, each service can better contribute to the overall missions of the Department of Defense because we better understand the capabilities of all the services. After all, we will all have trained together since 1996.

Captain John Lehman serves as commanding officer, Naval Construction Regiment, Gulfport, Mississippi. He holds a master's degree in civil engineering from the University of Texas, Austin, and is a registered professional engineer in Pennsylvania.

A Marine Corps Perspective

By Lieutenant Colonel Charles R. Rivenbark (Retired)

The Marine Corps considers the Military Training Structure Review (MTSR) process, as performed under the current Interservice Training Review Organization (ITRO), as an opportunity to accomplish several goals:

- Reduce our training costs without sacrificing training quality. There should be no noticeable difference between the Marine a unit receives from the Marine Corps Engineer School and one received from the joint school.
- Use the infrastructure available at other service's facilities to reduce the Marine Corps' investment in the training effort. By making more effective use of existing facilities, we can avoid the construction of additional facilities.
- Capitalize on existing training organizations to reduce our manpower investment while training the same number of Marines.

Interservice training is not a new concept for the Marine Corps. We have been involved in consolidated and collocated training for several years. Long before the Joint Chiefs mandated the current round of consolidation efforts, Marine Corps engineers were conducting consolidated and collocated training. We conduct consolidated bulk fuel training at the Army Quartermaster Center and conduct consolidated drafting and surveying training at the Army Engineer Center. Marines now participate in consolidated explosive ordnance disposal training at Indian head, Maryland, and Eglin Air Force Base, Florida. Our crash, fire, and rescue training is collocated with the Naval Aviation Schools at Naval Air Station, Memphis. In addition, we participate, on a quota system, in other training and education, such as the Army Engineer Officer Advanced Course, materials testing course, and advanced petroleum courses.

Throughout the MTSR process, our instructions were to search for reasons to consolidate rather than to search for reasons to remain separate. The Marine Corps' engineer philosophy was that each basic course consolidated must then collocate with the associated journeyman (NCO) course. Therefore, when our engineer equipment basic courses were determined to be compatible for consolidation, we planned to collocate our NCO, senior NCO and warrant officer courses with them. The end result will be that the entire block of engineer equipment training for both operators and mechanics will be either consolidated or collocated with the other services. The alternative would be to consolidate only our basic operator and mechanic courses, leaving the remainder of the training at the Marine Corps Engineer School.

The beauty of the new ITRO procedure is the manner in which course models are constructed. Subject matter experts from all services have equal status when they create a course model. This ensures that the unique needs of each service are identified and satisfied.

In the new engineer equipment course model, the Marine Corps anticipates providing to the Fleet Marine Force equipment operators who are even more qualified than today's course graduates. As a result, the load now shouldered by individual Marine engineer units to upgrade operator licensing will be reduced. Let me explain why this will occur. Unlike the Army, the Marine Corps has only one military occupational specialty for operators of all our engineer equipment (MOS 1345). Current Marine Corps training does not license basic engineer operators at school; instead, students are licensed after they join their new unit. We use this system because the individual organizations (Marine Wing Support, Force Service Support Group, and Division) use different types of heavy equipment. After the new course model is implemented, Marine students will receive training on several types of equipment not included in our current program. Because students will learn to operate more types of equipment under the joint training concept, Marine units will have more time to concentrate on preparing for deployment and increasing readiness.

Although the "bottom line" was the primary reason for the training reviews, common sense was the rule we used during every decision-making session. Joint engineer training, as recommended during the MTSR process, will truly assist in training Marines for the Marine Air-Ground Task Force.

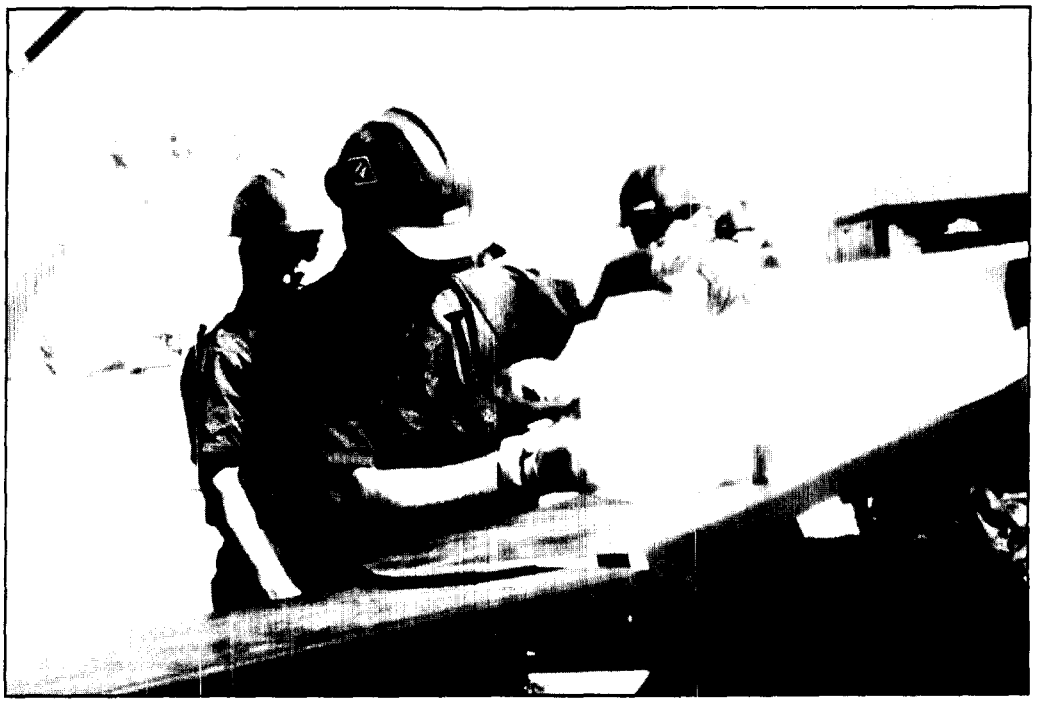
Lieutenant Colonel Rivenbark (retired) was the Marine Corps representative for the Civil/Construction Engineer Detailed Analysis Group. He last served as the head, Real Property Maintenance Activity Policy Section and MOS Specialist for Utilities and Engineers, Headquarters, U.S. Marine Corps. He is a registered professional engineer in Virginia and North Carolina.

Navy Seabees and the Civil Engineer Corps:

Providing Skills to the Joint Environment

By Rear Admiral Jack E. Buffington, CEC, USN, and Lieutenant Commander Michael Bowers, CEC, USN

In today's climate, military numbers and assets are decreasing, missions are becoming more diverse, reliance on reserves in war plans is increasing and joint operations are commonplace. As this trend continues, military professionals must learn about and work with their counterparts in fellow services. This article introduces the Naval Construction Force component of joint service engineering and contingency construction.



Seabees constructing a K-Span building during Desert Shield/Storm.

Civil Engineer Corps Officers

Since 1867, Civil Engineer Corps (CEC) officers have been responsible for building and maintaining the Navy's shore establishment. For the past 52 years, CEC officers have led Seabee construction battalions in a multitude of missions. Through the years, these men and women have been recognized by the Navy and Marine Corps as engineering professionals. Today, all CEC officers have a bachelor's degree in engineering or an engineering-related field, and more than half of them have earned graduate degrees, primarily through Navy-funded postgraduate school. Additionally, professional registration is a key milestone for promotion to senior ranks within the CEC. Overall, 42 percent of active duty officers are registered professional engineers or architects, while 90 percent of O5s (commanders) and 100 percent of O6s (captains), O7s and O8s are registered.

Civil Engineer Corps officers serve in a variety of billets around the world. Analogous to some aspects of the Army Corps of Engineers, most of our officers are dedicated to stateside or overseas base facility maintenance and repair functions, or they supervise

Seabee Enlisted Ratings	
Equipment Operator (EO)	Operation of construction equipment, transportation, blasting/rock crushing, well drilling, and paving.
Construction Mechanic (CM)	Construction and automotive equipment maintenance, repair, overhaul, and management.
Builder (BU)	Carpentry, masonry, reinforced concrete, and interior finish work.
Steelworker (SW)	Welding, structural steel erection, sheet metal and ductwork fabrication.
Construction Electrician (CE)	General electrical, telephone systems, and power generation and distribution.
Utilitiesman (UT)	Plumbing, air conditioning systems, water production and distribution, sanitary and waste disposal.
Engineering Aid (EA)	Engineering technician, drafting and surveying, and soils and material testing.

In a Seabee battalion, tradesmen are organized in companies by related skills. Equipment operators and mechanics, as well as the battalion's complement of vehicles and equipment, form one company. The camp maintenance/utilities construction company consists of construction electricians and utilitiesmen. Builders and steelworkers, who are vertical construction tradesmen, generally are organized together in one or two companies, based on their mission and the number of detachments. Engineering aids form part of headquarters company in the operations department.

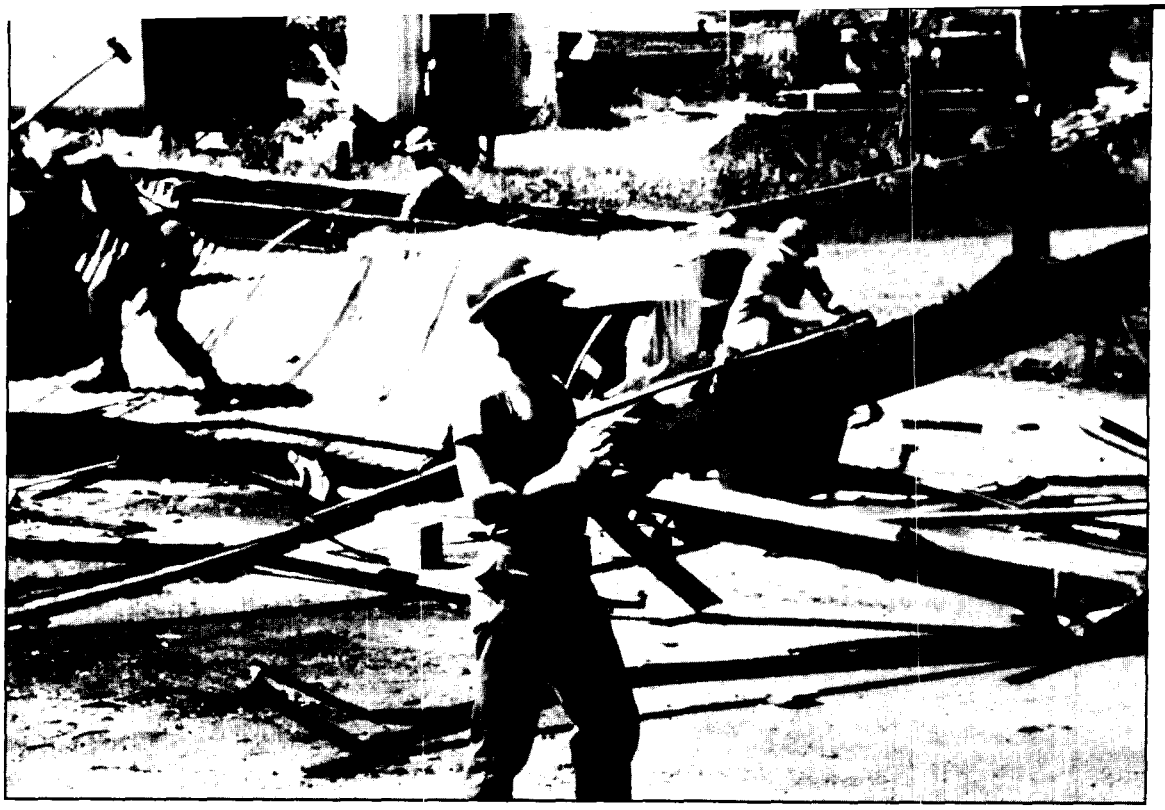
the construction of shore facilities by independent contractors through Resident Officer in Charge of Construction offices. One-fifth of our officers serve in staff billets assigned to the Naval Facilities Engineering Command (NAVFAC) headquarters in Alexandria, Virginia; the Pentagon; or fleet or Marine Corps shore and operational commands. Thirty-four staff billets are designated as "joint" duty. There, CEC officers become familiar with engineering practices; contingency construction techniques; warfare doctrine; and philosophies and objectives of the Army, Air Force, and Marine Corps, as well as host nations. Through these educational and challenging assignments, officers digest what it means for our military services to be "interoperable."

At any given time, about 100 officers are attending graduate schools or joint service schools or serving as instructors or staff at the Naval Civil Engineer Corps Officer School and the Naval Facilities Contracts Training Center (both in Port Hueneme, California) or the Naval Construction Training Centers in Port Hueneme and Gulfport, Mississippi. The remaining 10 percent of our officers are serving in a variety of operational components of the Seabees.

Seabees

Naval Construction Battalions - the Seabees - were established in 1942. The Seabees have established a "can-do" reputation based on their motto: *construimus, batuimus:* "we build, we fight." During World War II, from Guadalcanal to Okinawa, they went ashore with U.S. Marines to build airstrips and bases. In Europe, they took part in amphibious invasions from Sicily to Normandy. Since the 1960s, Seabee civic action teams have been invited to developing nations to build and repair schools, hospitals, orphanages, utilities, roads, and bridges. Seabees in Vietnam built bases from the Mekong Delta to the demilitarized zone. In the 1970s, Naval Mobile Construction Battalions (NMCBs) began to expand a communications station on the island of Diego Garcia, in the Indian Ocean. Eleven years later, with the help of civilian contractors, Diego Garcia had evolved into a large naval facility capable of supporting both ships and aircraft.

Seabees recently participated in Somalian relief efforts and in a variety of other independent and joint service contingencies and disaster-recovery operations. During Operations Desert Shield and Desert Storm, Seabees built aircraft hangars and taxiways, ammunition supply points, perimeter defenses and camps for thousands of troops—primarily Marines. Recently, Seabees have helped in recoveries from earthquakes in California, monsoon floods in Bangladesh, hurricanes in the



Nearly 800 Seabees were involved in recovery efforts in the wake of Hurricane Andrew. Here, they are cleaning up a neighborhood in Dade County, Florida.

Caribbean and a major volcanic eruption in the Philippines.

Some 325,000 Seabees and CEC officers served in World War II. Currently 10,000 Seabees and 1,375 CEC officers serve on active duty, while an additional 1,200 officers and 16,000 reserve Seabees are integrated into Navy/Marine Corps warfighting doctrine. Until 1993, women were excluded from operational components of the Seabees. This year, however, both officer and enlisted women are being fully integrated into all Naval Construction Force (NCF) units.

Seabee Mission

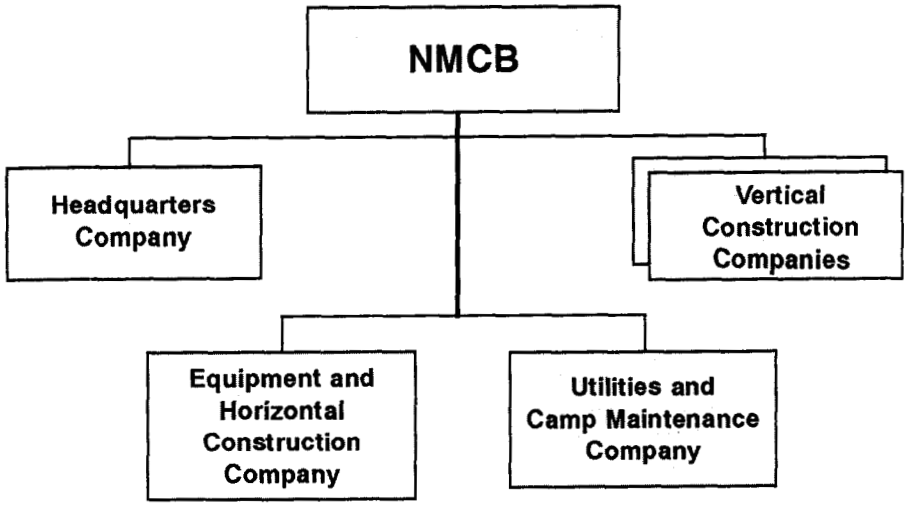
Based on current doctrine, the Seabees provide the following support to the U.S. Navy and Marine Corps and, when directed, to other services and agencies of the government:

- Responsive military advanced base construction support, including operational, logistics, underwater, shore, and deep ocean facilities construction, maintenance and operation.
- Military construction in support of Marine Air-Ground Task Force (MAGTF) operations.
- Capability to defend projects, camps and convoys.
- Amphibious assault and ship-to-shore construction support.
- Battle damage repair operations.
- Disaster control and recovery operations.
- Civic action employment.

The Seabees usually are linked with Marine Corps contingency plans, providing the Fleet Marine Force and MAGTFs extensive construction capabilities not inherent to Marine engineer forces. For example, the Seabees provide ammunition supply points, expeditionary airbases, operations buildings, port improvements or construction, warehouses, paved roads, and high voltage electrical distribution. Typical NCF projects also include follow-on enhancement work, which may have been initiated by other engineer units such as Marine Engineer Support Battalions, Combat Engineer Battalions, or Marine Wing Support Squadrons. Enhancement projects include constructing gravel or paved roads from pioneered lines of communication, completing expeditionary airfields installed by other engineer units, and installing permanent bridges to allow reuse of expeditionary bridges in the forward areas.

While working on projects, NCF units provide onsite defense for their construction sites or they join with other units as part of a perimeter defense force. NCF personnel, however, are not trained or equipped for all combat support tasks. Unlike Army and Marine Corps combat engineer units, explosive breaching of obstacles; minefield installation, marking or clearing; explosive ordnance disposal; and other combat engineer support tasks associated with direct support to ground combat elements are not normally executed by NCF units. In contrast, NCF units are highly skilled construction specialists, capable of executing general engineering (general combat service support, sustainment engineering, and survivability

Naval Mobile Construction Battalion Organization



enhancements) that exceeds the current capabilities of many other engineer units.

Seabee Organization

Naval Construction Brigade (NCB). Two NCBs are under the operational control of the Commanders in Chief of the Atlantic and Pacific Fleets. The 2nd NCB is located in Norfolk, Virginia; the 3rd NCB is located in Pearl Harbor, Hawaii. As higher echelon commands, the brigades normally are not deployed. Exercising administrative and operational control over regiments operating within their geographical area of responsibility, an NCB acts as the direct coordinator and technical advisor to fleet and component commanders desiring or requiring Seabee support.

Naval Construction Regiment (NCR). A deployed regiment directs the distribution of battalions and other NCF assets in theater, monitors task progress and quality of construction, and reviews ongoing planning and operations. During peacetime, two active training regiments are responsible for the readiness of NMCBs. They are located at the construction battalion centers at Gulfport and Port Hueneme. In addition to the two training regiments, two active duty and four reserve regiments are available to deploy to regional conflicts.

Naval Mobile Construction Battalion(NMCB). Eight active duty and 12 reserve battalions form part of today's NCF. Composed of 24 officers, 745 enlisted personnel and 230 pieces of construction equipment, an NMCB is capable of self-sufficient deployment by air or by sea within six days of notification. For rapid deployment, each battalion is equipped with an air detachment (AIRDET) of 89 men and supporting civil engineer support equipment. The AIRDET is capable of deploying independently to an austere environment on Air Force

Seabees performing runway repairs in Somalia.

Naval Construction Force		
Unit	Active	Reserve
Naval Construction Brigade	2	-
Naval Construction Regiment	2	4
Naval Construction Regiment (Training)	2	-
Naval Mobile Construction Battalion	8	12
Naval Construction Force Support Unit	-	2
Construction Battalion Maintenance Unit	-	2
Underwater Construction Team	2	-
Construction Battalion Unit	19	-
Naval Beach Group		
Amphibious Construction Battalion	2	-

transport aircraft within 48 hours notice. The battalion is also capable of forming task-oriented detachments up to one-half the size of the battalion, which operate independently in combat or low intensity conflict environments.

Adding to the self-sufficiency of the battalion, NMCBs are manned with several officer and enlisted ratings besides Seabees and CEC officers. They include: corpsmen, dental technicians, mess specialists, supply officers and various supply personnel, personnelmen, yeomen, gunners mates, postal clerks, and disbursing personnel; plus a doctor, dentist, chaplain, legalman, photojournalist, and a Marine Corps senior enlisted advisor. The battalion also has a team of skilled individuals certified in sea embarkation and air embarkation through a joint service or Air Force school.

Amphibious Construction Battalion (PHIBCB). Deployed with amphibious readiness forces, the mission of the two PHIBCBs is to provide immediate "over-the-beach" support to Marine forces. They provide a logistics link between ship and shore during amphibious operations. Personnel in an amphibious battalion are skilled in floating and elevated causeway construction, installation and operation of ship-to-shore fuel systems, and assembly and operation of self-propelled pontoon barges for cargo/equipment transfer operations. The 53 officers and 991 enlisted personnel assigned to a PHIBCB provide necessary beach improvements and camp support for the Naval support element of a joint operation.

Underwater Construction Team (UCT). The two UCTs are self-sustaining construction diving units that consist of six CEC officers and 99 enlisted personnel. They provide a wide range of underwater construction capabilities, including construction, inspection and repair of ocean and waterfront facilities, underwater battle damage assessment/repair, and underwater construction support of amphibious operations. Each UCT has three active and two reserve air-deployable diving teams plus a shore support component. UCT ONE is located in Little Creek, Virginia, and UCT TWO is in Port Hueneme.

Construction Battalion Unit (CBU). Nineteen CBUs are located at bases in the United States. Each unit is composed of one officer and 44 enlisted personnel. Peacetime employment of a CBU centers on construction and repair of shore facilities at installations where they are assigned. The CBU contingency mission, however, is to provide construction, operational, and maintenance support of rapidly deployable 250-bed or 100-bed combat-zone, disaster-relief, or low intensity conflict hospitals. When necessary, two CBUs are combined to support a 500-bed or larger fleet hospital construction mission.

Reserve Units

Construction Battalion Maintenance Unit (CBMU). Two CBMUs manned by reservists are available for recall. A CBMU consists of 7 officers and 329 enlisted personnel. Their mission is to provide maintenance (public works/minor construction) support to a forward base before or after construction has been completed. This plan allows NMCBs actively engaged in a conflict to redeploy to more forward battle areas or to another geographical region, if necessary. A CBMU also provides limited defensive warfighting capability, eliminating the need for civilian construction personnel in a combat zone.

Naval Construction Force Support Unit (NCFSU). The reserve NCFSU includes 12 officers and 202 enlisted personnel. It provides logistical and engineering support to multiple NMCBs in

"Despite the forces at work diminishing our assets and manpower...we must strive to build interservice relationships on common ground."

theater by augmenting the following mission areas: design, planning and estimating; construction material expediting/delivery; heavy equipment maintenance and repair; and long-haul transportation, paving, and concrete placement.

Peacetime Operations

Seabee battalions operate on a rotation cycle that has them operationally deployed for seven months outside the continental U.S., followed by seven months of home-port duty for training and refitting. During a 7-month deployment, battalions embark to forward deployment sites in Guam, Okinawa, Spain, and Puerto Rico. While overseas, the NMCB functions independently, under the auspices of the area commander, performing preplanned on-site construction. Projects include construction of permanent paved roads, replacement of electrical distribution systems, construction of new buildings and utilities, rehabilitation of barracks, or other such construction. On deployment, a battalion typically will send detachments on various construction missions within the operating theater. Between 13 and 100 personnel, led by senior enlisted Seabees or junior officers, deploy directly to sites such as Honduras, Panama, Cuba, Japan, Korea, and several islands in the South Pacific. On deployment, battalions emphasize construction training, command and control skills, safety, and autonomous operations. Frequently, battalions on deployment also participate in area joint exercises, such as Team Spirit in Korea and Joint Chiefs of Staff/NATO joint-combined exercises in Europe.

Recent Joint Operations

Seabees have participated in a variety of joint service operations in the past few years. Recent examples of NCF elements in the joint arena follow:

Operation Desert Shield/Storm, 1990-91. One regiment, four battalions, one tailored NCFSU, two CBUs and one UCT deployed in support of Navy and Marine forces. In Southwest Asia, the Seabees constructed 4,750 buildings (some K-Span), aircraft hangars, six million square feet of aircraft parking aprons, 14 galleys to feed 75,000 people, and a 40,000-man enemy POW camp. They also maintained 200 miles of unpaved desert four-lane divided highway as main supply routes, erected fences and steel security towers, installed major electrical distribution systems and sanitation facilities, constructed thousands of meters of concrete decks and walls, and fabricated mock artillery pieces and tank turrets.

Hurricane Andrew Recovery, Florida, August 1992. Working with the Army Corps of Engineers and Joint Task Force (JTF) Andrew, the equivalent of one Seabee battalion from several units assisted in the recovery effort. Under the JTF, the Seabee effort was concentrated on restoring 278 schools damaged by the hurricane. In 13 days, Seabees repaired roofs, insulation systems, air conditioning, and electrical power in nearly 200 schools—the equivalent of more than $2 million in repair work.

Operation Restore Hope, Somalia, 1993: One regiment and two battalions deployed, attached to a Marine expeditionary unit commander. The Seabees worked hand-in-hand with coalition engineering units and Army, Air Force, and Marine engineers to construct encampments and repair roads, bridges, airfields and other facilities in country. CEC officers managed construction contracting support by Brown and Root via a Corps of Engineers logistics contract.

Deployed Medical Facility, Zagreb, Croatia, 1994. Since March, 34 Seabees have provided public works and minor construction support to the contingency hospital, originally set up and operated by the Army and Air Force. Due to their embark skills, a team of five Seabees are assigned to the United Nations airfield to coordinate flight-line operations. These equipment operators act as a cargo handling and manifesting unit, loading and unloading U.S., Russian, and other forces' transport aircraft.

Operation Sea Signal, Guantanamo Bay, Cuba, 1994. Two Seabee AIRDETs worked closely with an Air Force RED HORSE unit, Army Logistics Task Force 64 personnel, an Air Force Prime BEEF unit, and Marine engineers to construct migrant camps, security, and sanitation facilities for more than 40,000 Cuban and Haitian refugees.

Restore Haiti, 1994. An amphibious Seabee battalion deployed in support of a potentially aggressive over-the-beach invasion, which was diplomatically averted. Several CEC officers have mobilized for logistics contracting needs in Haiti. CEC

Navy Seabees worked diligently with the Army, Air Force, and Marine engineer units to construct tent camps at Guantanamo Bay, Cuba, for Haitian and Cuban refugees. Seabees erected additional refugee camps in Panama and on the island of Grand Turk.

officers and a UCT team, under the direction of the JTF engineer, inspected port facilities, piers and harbor cranes to determine the extent of repairs required for continued operation support.

Joint Initiatives

Joint Publication 1, released in 1991 by the JCS, is a capstone document that guides joint warfare concepts. As stated in this publication:

"Service skills form the very core of our combat capabilities. Joint warfare does not lessen Service traditions, cohesion, or expertise. Successful joint operations are impossible without the capabilities developed and embodied in each service..."

This document further embraces the importance of interservice "team building." Fully involved in interservice teamwork, the Seabees are supportive of several initiatives aimed at improving service interoperability.

Perhaps the greatest area in which to exploit improvement is the training environment. Specifically, progress to date by the Interservice Training Review Organization (ITRO) has been promising. Soon, our construction engineer technicians will be trained at five consolidated training centers of excellence. The Seabees will host training for carpenters, builders, structures (Air Force carpenters) and steelworkers at Gulfport and mechanics at Port Hueneme. Equipment operators and engineering aids are scheduled to attend training by the Army at Fort Leonard Wood, while the Air Force is planning to train electricians, plumbers, and utilitiesmen at Sheppard Air Force Base, Texas.

More importantly, it will be increasingly crucial that our engineering officers, who will be placed in strategic positions of responsibility at unified commands, gain greater exposure to engineers of other services. Two ways in which this can be accomplished is through improved officer billet exchange programs and guest seminars at advanced engineer officer courses. Further, by participating in activities sponsored by the Society of American Military Engineers (SAME) and by developing a strong joint professional reading program, our officers will gain tremendous insight into views expressed by their counterparts and the JCS.

We must also place more emphasis on procurement and logistics. Weapons systems, communications equipment, and other equipment and parts compatibility in the field must be optimized. Interservice and theater-level working groups should continue to plan service responsibilities for long-haul transportation, chemical-biological detection and decontamination, bulk liquids storage and transfer, and development of water resources. Moreover, associating together on research and development issues offers unique economies of scale.

The Future

Joint efforts create a common perspective from which to plan and operate. Ultimately, unified operations fundamentally shape the way we think about and train for war. And despite the forces at work diminishing our assets and manpower, ostensibly making each service fight for its own resources, we must strive to build interservice relationships on common ground. We must understand each service's mission and capabilities and create doctrine for effective operations. Collectively, we need to further improve in many engineering areas—and the Seabees stand ready to move forward with the other branches of our joint team!

Rear Admiral Jack E. Buffington, CEC, U.S. Navy, is the Commander, NAVFAC, and the Chief of Civil Engineers. In April 1994, he became the president of SAME.

Lieutenant Commander Bowers serves in the Seabee Division of NAVFAC.

Avoiding

The Mine-Clearing Line Charge (MICLIC)

An Engineer's Nightmare

By Captain Frank T. Akins

10 November 1994, 1005 hours: It was a hot morning—even for Africa—and the on-going war was heating up. Lieutenant Colonel Ross Chamberlain, engineer battalion commander, received a FRAGO for the next day's mission from the brigade task force commander. According to intelligence, the enemy had emplaced a 150-meter-deep mine-and-wire obstacle directly in the path of the task force, and a bypass was out of the question. LTC Chamberlain was directed to task organize into the task force breach team and to conduct a deliberate breach in support of the brigade's offensive mission. Preparation went as planned, and every engineer company commander reported their engineer systems to be fully mission capable. The OPORD was received at 1800 hours, and checks and rehearsals were executed to standard. Simulated MICLIC firings occurred during rehearsals at a secure location that closely resembled the anticipated enemy obstacle. Wake-up was at 0245 hours, and the task force was moving by 0350 hours. When the anticipated obstacle was encountered at 0730 hours, the task force suppressed, obscured, and secured the intended breach site. Enemy forces were held at bay by well-coordinated direct and indirect fires. LTC Chamberlain's blood boiled, and he could already taste unequivocal victory. Every available MICLIC was moved forward—but they failed to fire! The task force lost momentum and began to receive withering direct and indirect fire. "We're dying out here!" gasped the task force commander over the radio. Then...silence.

LTC Chamberlain awoke in a cold sweat. On leave with his family in Maine, he knew he had to go back to the battalion and take care of the "MICLIC nightmare" while there was time—before the upcoming National Training Center rotation. "We must have an effective program enforced by my chain of command to make those things work," he thought. Then he drafted this outline:

- Maintenance and Training Program
- MICLIC Malfunctions
- Tactical Assembly Area Checks
- Assault Position Checks

LTC Chamberlain drove back to his unit and called a meeting with the company commanders, the XO, the S3, the S4, the command sergeant major, and the maintenance technician, and presented his maintenance and training concept. The company commanders admitted that they lacked in-depth knowledge of the MICLIC and were not satisfied with current MICLIC training. An effective training program definitely was needed.

The battalion maintenance technician had recently called Rock Island Army Depot and had a draft maintenance plan ready for review. He reported that the MICLIC had technical malfunctions that could be reduced but not always eliminated. He would review an after-action report on the MICLIC from Operations Desert Shield/Desert Storm to ensure that all problems identified in it were addressed in his plan. The S3 would give professional development classes to officers and NCOs on the operation of the MICLIC and work with the maintenance technician to synchronize maintenance and training. The S4 ensured that the inert and live charges were ordered. He recommended that the M68 inert line charge containers remain with the unit rather be returned to the ammunition supply point because these containers have electrical connectors that can be reused for set-up and prefire checks. After several days of planning and consultation at the user level, their program was ready for trial.

Maintenance and Training Programs

The maintenance technician reported that, during motor stables, launcher and trailer maintenance were ignored until the line charge was needed. Squad leaders did not have the necessary technical manual (TM 9-1375-215-14&P, 1992 issue) or technical bulletin (TB 43-0001-36-5, 1 January - 31 March 1994 reporting period). In addition, critical parts were missing on MICLIC launchers and trailers. He called the battalion publication NCO to order the manuals. Then he met with the S3, and they agreed on the following program:

Maintenance Program

- Develop routine command-enforced maintenance checks for the launcher and the trailer, including systematic checks with an inert line charge or empty inert charge container.
- Involve leaders directly to ensure that maintenance deadline deficiencies are corrected.

Training Program

- Focus the officer and NCO professional development classes on MICLIC operation.
- Ensure that live and inert line charges are available for training; obtain empty M68 inert line charge containers to use during set-up and prefire checks.
- Reserve the range for live MICLIC training after everyone can correctly perform set-up and prefire checks.
- Develop internal checklists and closely monitor on-site maintenance and training events for the MICLIC:

  - Perform preventive maintenance checks and services (PMCS) of the launcher and trailer "by the book."
  - Use TM 9-1375-215-14&P and TB 43-0001-36-5 in garrison and the field, and perform follow-up checks to ensure that deficiencies are corrected.
  - Perform prefire checks in the tactical assembly area and in the assault position; use inert and live line charges in training.

MICLIC Malfunctions

The battalion maintenance technician called Rock Island Army Depot and reviewed the Desert Storm MICLIC after-action report, all material work orders, and TM 9-1375-215-14&P and TB 43-0001-36-5. Then he compiled the following list of known MICLIC malfunctions that he wanted to curtail or prevent:

- The arresting cable breaks when the rocket reaches its apex.
- The rocket does not fire, or it fires but does not travel far enough.
- The rocket fires but does not leave the launcher.
- The launch arm is damaged when the MICLIC is towed over rough terrain.
- The launch arm alignment pins are damaged when the MICLIC is towed over rough terrain.
- The rocket does not fire even though preliminary checks show that the entire electrical firing circuit is good. The rocket is labeled "MISFIRE" according to procedure and is shipped back to the factory; there, the rocket is tested and fires.
- The neutral safety switch gives false readings.
- The neutral safety switch plug wires are easily damaged.
- The cable routing from the MICLIC to the towing vehicle degrades the vehicle's nuclear, biological, and chemical (NBC) capability.
- The trailer is damaged when it is towed at speeds exceeding 15 mph.
- The trailer's quick-release mechanism malfunctions when it is dusty.
- The firing and rocket systems lack sufficient redundancy.
- The MICLIC cannot be fired unless the trailer is on relatively level and stable ground.
- The M34 blasting machine tests "GO" yet lacks enough voltage to fire the MICLIC.
- The fuze malfunctions.
- The safety switch assembly is cross-wired from the factory (wires are not color coded), yet checks indicate "GO."
- The entire electrical system cannot be tested without live or training linear charges.

The following checklists were developed to reduce the number of MICLIC malfunctions. The checklists, however, do not replace TM 9-1375-215-14&P, TB 43-0001-36-5, or common sense.

Tactical Assembly Area Checkli

1. Obtain the appropriate manuals:
(a) TM 9-1375-215-14&P (The 1992 issue is current).
(b) TB 43-0001-36-5 (1 January - 31 March 1994 reporting period). It has electrical check information not found in the current technical manual.

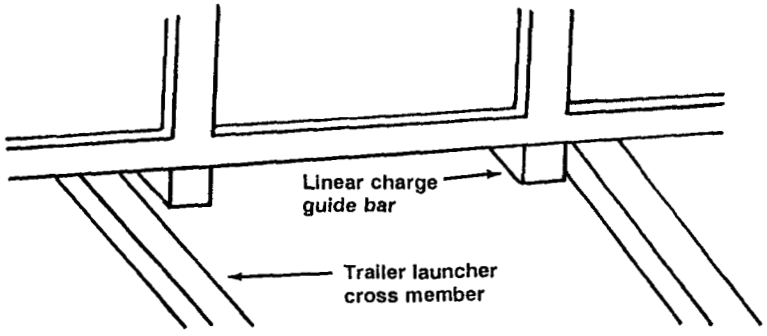
2. Configure the launcher and trailer as follows:

Launcher/NSN	*Authorized Trailer*
MK155 MOD 0/1055-01-203-5883	**M353 only**
MK155 MOD 1/1055-01-281-2770	**M353 or M200A1**
MK155 MOD 2/1055-01-340-6084	**M353 only**
MK155 MOD 3/1055-01-327-3106	**M353 or M200A1**

The launcher and trailer must be "married up" correctly and the turnbuckles must be secure and tight. Otherwise, the charge will jump around during towing and deployment, possibly causing a misfire. Items 4 and 5 give the correct procedure.

The M200A1 trailer must be modified; TB 9-2330-323-30 contains the necessary instructions.

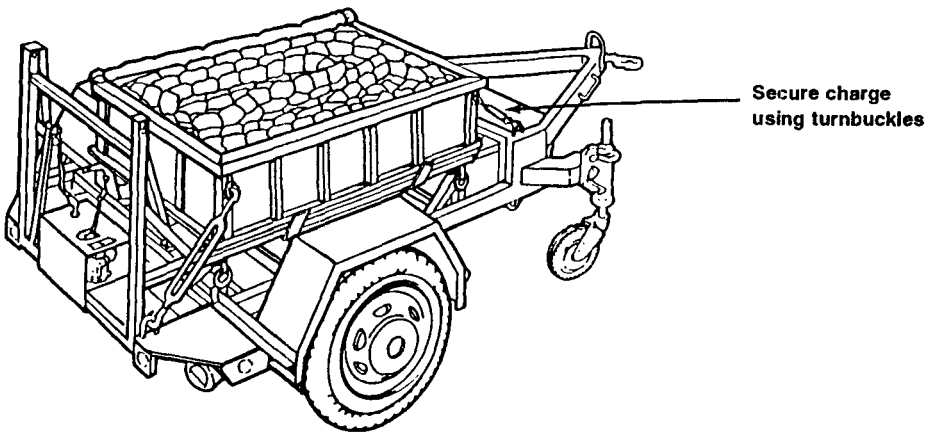
3. Position the linear charge on the launcher so the guide bars of the linear charge are between the cross members of the launcher, as shown:



4. Bolt the launcher tightly to the trailer with flatwashers, lockwashers, 15/16-inch nuts, and U-bolts.

5. Secure the linear charge to the trailer's lifting rings with all four turnbuckles. Tighten the turnbuckles, then use a 1 1/8-inch open-end wrench to tighten the locknuts on the turnbuckles. The open face of the turnbuckles should point away from the container.

Caution: Do not secure the linear charge container to the launcher or the charge may not fire correctly (see the following illustration).



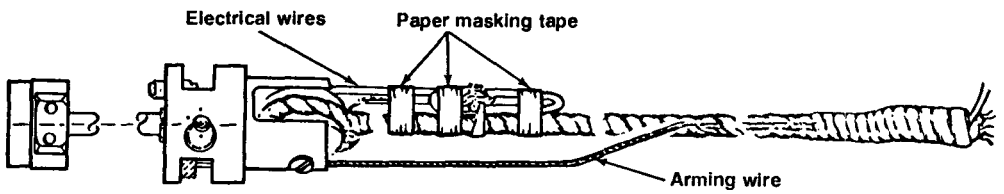
6. Check the fuze installation by feeling through the nylon sock after the launcher is on the trailer. Ensure that the electrical wires running under the sock are taped on one side of the arresting cable and that the arming wire is on the opposite side. If the electrical wires are not taped separately from the arming wire, then complete the following steps:

(a) Remove the hose clamp.

(b) Pull back the nylon sock.

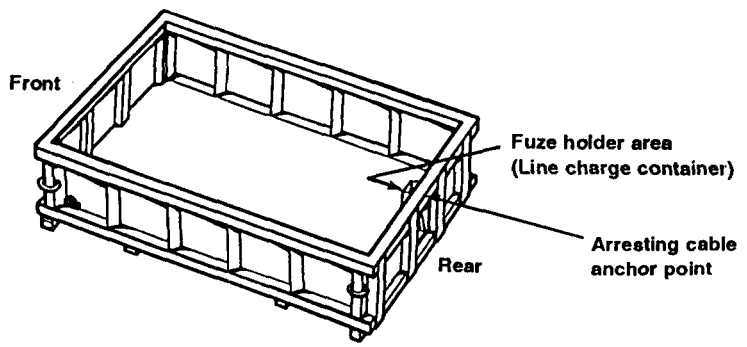
(c) Align the electrical wires on the side of the arresting cable that is opposite the arming wire, and secure the electrical wires with masking tape.

Caution: Use paper masking tape, which will break away (not stretch) during deployment. Never use electrical or "100 mph" tape because it will stretch during deployment (see the illustration below).



7. Avoid pulling on the arresting cable when working with the fuze. Pulling may damage the shorting loop built into the end of the arresting cable. The shorting loop is a system safety feature that prevents accidental detonation of the line charge.

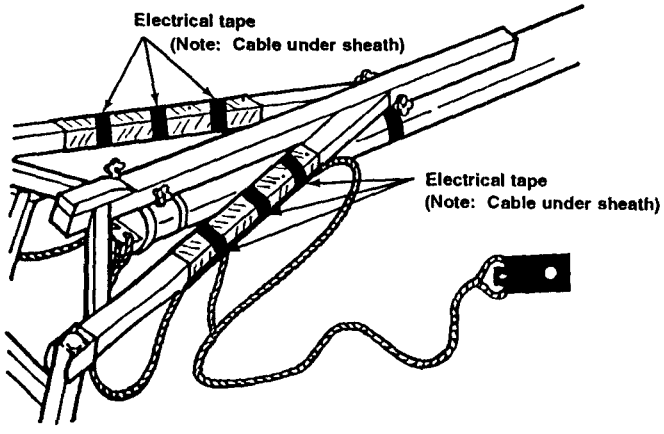
8. Secure the fuze in the fuze holder after completing the fuze installation procedure, as shown:



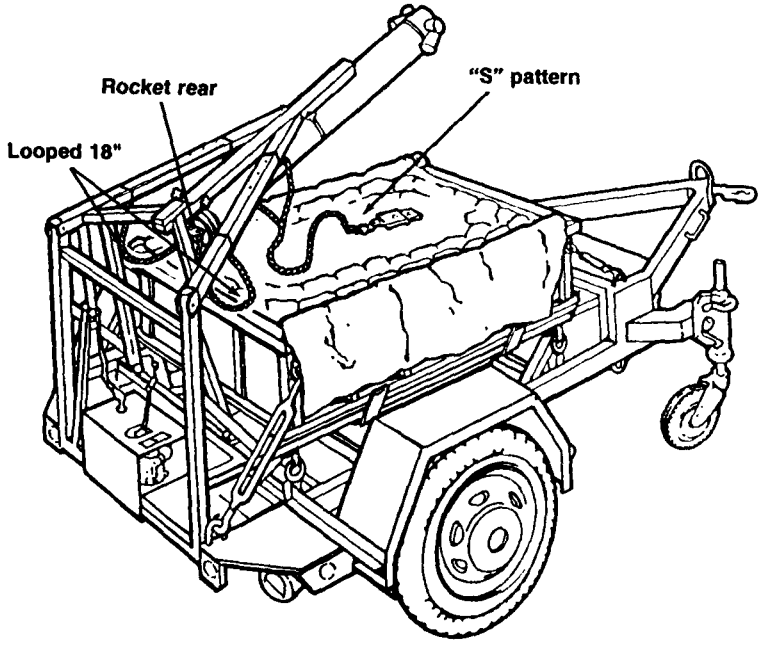
Caution: An unsecured fuze may be damaged when the line charge is deployed and result in a misfire.

9. Position the protective nylon cover on the linear charge container after the assembled fuze is installed in the fuze holder. The protective nylon cover must be peeled back from the center to install the rocket motor. The nylon cover, part of the basic issue items, should be in the launcher storage compartment. It protects the charge from dirt.

10. Loop the rocket bridle cables 18 inches and insert them under the cable sheath on the launch rail during the rocket motor installation. Use electrical tape to secure the cable under the cable sheath in three locations, as shown:



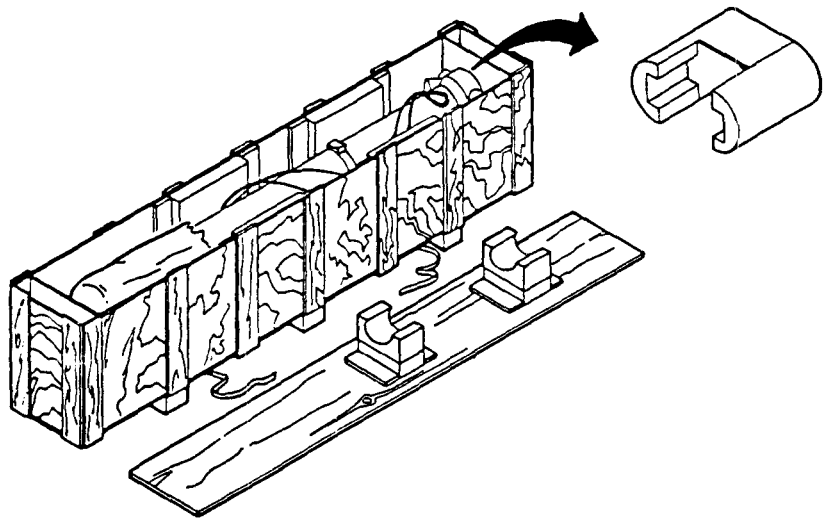
Ensure that the cable on top of the linear charge is in an "S" pattern from the rear to the front of the linear charge container. The cable sheath helps the charge deploy. Point the rocket harness connector forward (toward the minefield) and position it toward the front of the linear charge container to achieve the "S" pattern. This pattern minimizes whipping action during deployment, which may cause a misfire (see the illustration).



Caution: Handle the MK22 Rocket Motor with extreme care because the electrical lead at the rear of the rocket motor breaks easily. Always lift the rocket from the box by placing your hands around the rocket tube. Do NOT lift the rocket by the bridle cables or the electrical lead.

To prevent a misfire, position the rocket motor electrical lead over the end of the linear charge container; do not tie, secure, or tangle the lead to the launcher. Do NOT throw lead wires over the launching rail.

11. Protect the rocket from road shock if the MICLIC must be towed before it is fired.
(a) Lower the launch rail as far as possible to take pressure off the hydraulic system.
(b) Insert the ball lock pins in the lock position.
(c) Use the foam packing insert from the rocket motor shipping box/container to protect the motor during transport, as shown in figure below:



(1) Trim an inch from the bottom of the foam insert so it will fit between the rocket motor and the linear charge.

(2) Place the insert under the rocket motor headcap. This allows the rocket motor to rest on the foam insert instead of on the linear charge container.

Do not allow the rocket motor to hit the front of the linear charge container when the launch rail is lowered. If it does, the charge container is installed incorrectly. Refer to item 3 and reinstall the linear charge.

To avoid internal damage to the MICLIC, tow it over smooth roads whenever possible. Do not exceed 15 mph if the MICLIC must be towed over rough terrain. In wet conditions, check the brake drums for internal buildup of mud and debris. The quick-release mechanism must be free of dust and dirt to function properly.

12. Ensure that at least two M34 blasting machines are in the vehicle that will tow the MICLIC at the time of firing. As stated in TM 9-1375-203-15, Change 1, depot and division personnel must test the blasting machines before deployment to ensure that they deliver the correct amount and duration of voltage. This complete check will ensure the blasting machines function when needed.

Assault Position Checklist

Double-check the MICLIC after it is prepared for firing if it was towed. The MICLIC must be in a covered and concealed position during the check.

1. Place the ball lock pins in the raised position and put the launch rail in the firing position.

2. Open the protective cover. Allow the cover to hang over the sides of the container, but ensure that it does not interfere with the linear charge.

3. Ensure that no part of the linear charge or rocket bridle cable hangs out of the container.

4. Ensure that the rocket bridle cable is under the cable sheath.

5. Ensure that no more than 18 inches of bridle cable is looped up from the rocket motor to the cable sheath.

6. Ensure that the bridle cable lays in an "S" pattern on top of the linear charge.

7. Ensure that the fuze is securely installed in the fuze holder.

8. Insert the firing pin in the rocket motor headcap.

Reporting MICLIC Malfunctions

If the MICLIC malfunctions after performing all of the checks, report the equipment malfunctions to Armament, Munitions, and Chemical Command (AMCCOM) Rock Island, Illinois, as described in AR 75-1. As a minimum, call Mr. Eyskens, AMCCOM, at: DSN 793-7535; commercial (309) 782-7535. Or use the E-mail address: QAS1C-@RIA-EMH2.ARMY.MIL. The datafax number is: DSN 793-7136 or commercial (309) 782-7136. If AR 75-1 is not available, check with the MOS library, the ammunition supply point, or the battalion S4. If not available from those sources, call the Army "Publication Hotline": (410) 671-2533/3775. Call only when absolutely necessary.

After Preparation and Training

LTC Chamberlain pressed his commanders, and MICLIC training became systematic and effective. On 15 January, the battalion went on alert for a possible deployment to the Middle East. "It looks as if our training just might save our hides," LTC Chamberlain exclaimed to the S3. "Yes, sir!" responded the S3. "But you should see the poor performance of the field sanitation teams and the ragged condition of the mobile kitchen trailers." LTC Chamberlain glared and then roared to the S1, "I want to see those company commanders in my office now!" "It never ends," he thought as he heard boots pounding up the hall to his office. "We correct one problem and then there are two more. Just another day in the Corps."

Captain Frank T. Akins serves as Chief of Demolitions at the U.S. Army Engineer School. He is a graduate of the Engineer Officer's Advanced Course and CAS3 School.

Letter To The Editor

Reference: "Advances In Mine Warfare: Antitank Mines," by William C. Schneck, Malcolm Visser, and Stuart Leigh, ENGINEER *magazine, November 1993.*

Gentlemen:

I read your subject report "Antitank Mines" with great interest. As the chief of the German Mine Documentation Center, I am very interested in this subject area. Included in our mission is the documentation of all worldwide produced mines.

In order to prevent the dissemination of inaccurate information, permit me to make some remarks regarding the German mines and mine system.

1. Table 1: The Antitank (AT) Mine FFV-028 is produced in Sweden and was introduced into use by the Swedish Army. That mine, when introduced in the German Army, was designed as antitank mine DM 31. It is a further development [upgraded version] of the FFV-028. The difference in the DM 31 is a self-safety mechanism, seen on its exterior through a red marked casing, that is pushed out after expiration of the mine effectiveness, thereby signing the safe-state of the mine. Contrary to the FFV-028, the DM 31 can be reactivated by mine experts after the expiration of the safe-state. . A differentiation of both of these mines is, therefore, necessary and worthwhile.

2. Table 2: The AT mine PM-60 is a mine of the former National Peoples Army (East German Army - NVA) that was not taken into the permanent inventory of the Bundeswehr. All stocks will be destroyed and it should not be in your documentation.

3. Table 3: In addition to the two mentioned delivery systems, the Bundeswehr has the rocket launcher LARS (range 8 - 14 km, 180 miles) and MARS (range 40 km, 336 miles), both of which can shoot the AT mine AT-2. The documentation should be expanded to include these two systems.

With friendly greetings,

Potocnik, Captain, German Army.

Authors' Reply

The information provided by Captain Potocnik of the Bundeswehr on the DM-31, PM-60 and the German mine delivery system is most welcome. The sharing of such information between allies is important for ensuring interoperability and thereby success in future operations.

However, we believe the East German manufactured PM-60 antitank mine should remain on the list of mines that may be encountered by U.S. (and allied) forces in future contingency operations. Even though the Federal Republic of Germany is destroying the stockpile of PM-60s inherited from East Germany, this mine may still be encountered in parts of Africa and Southeast Asia, where it was exported by the communists during the Cold War.

William C. Schneck

Malcolm Visser

Stuart Leigh

Lessons Learned: Working with the M9 ACE

By Peggy McAvenia, Sergeant First Class Tommy Simmons, and Sergeant First Class William Whitacre

The following lessons apply to U.S. Army and Marine Corps engineer units that are authorized the M9 Armored Combat Earthmover (ACE). The lessons are based on a post-fielding training effectiveness analysis (PFTEA) survey performed by the Directorate of Evaluation and Standardization in the fall of 1993.

Fielding of the ACE, which began in 1988, has been completed for most Active Component (AC) Army units and is still under way for Reserve Components (RC) units. Many units have experienced maintenance and operation problems with this vehicle. To confirm information reported by field commanders, Engineer School leaders requested that a PFTEA be performed before fielding was completed. Therefore, AC units that had employed the ACE in training or in combat for a year or more were surveyed in September 1993. The issues identified in that survey are summarized under Doctrine, Training, Leadership, Organization, Materiel, and Soldiers (DTLOMS) headings.

Doctrine

ISSUE: In the field, the ACE is being used primarily for survivability tasks, such as digging fighting positions.

DISCUSSION: The ACE was designed primarily to support mobility operations and some countermobility missions. In the field, however, engineer units use the vehicle primarily for digging fighting positions during survivability operations.

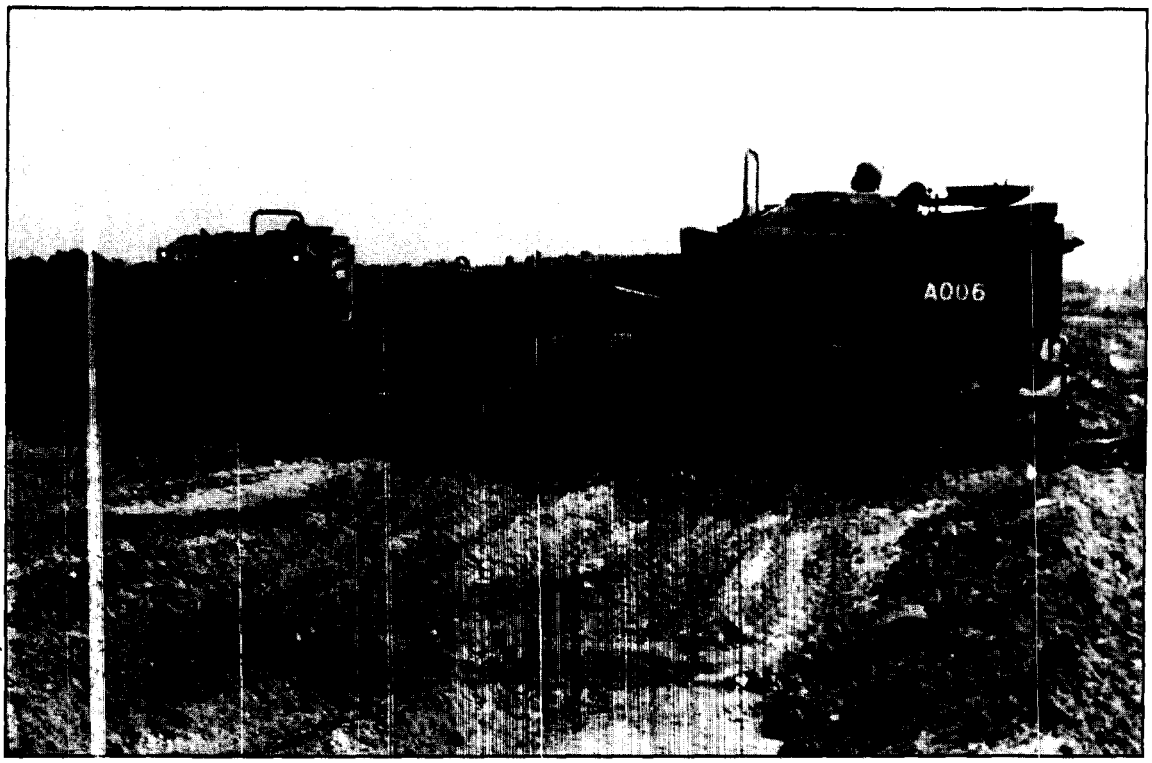


Photo courtesy of United Defense

Soldiers use a pair or ACEs to construct an antitank ditch.

FUTURE RESOLUTIONS: To decrease the amount of time maneuver units need to construct fighting positions using the ACE, the Engineer School has developed a modified (hasty) two-tiered fighting position. (See article, page 29). The school has also revised work-rate planning factors for the ACE to more accurately reflect the vehicle's diverse capabilities. The revised factors will appear in FMs 5-71-2 and 5-71-3, which are scheduled for publication in fiscal year (FY) 95. Until then, information about the planning factors will appear on the Engineer Bulletin Board System (EBBS) and in the PFTEA report. If your unit needs access to EBBS, call (314) 563-0131, extension 3-5305, for information on securing a systems operation disk.

Training And Leadership

ISSUE: Maneuver units operate the ACE beyond its capabilities.

DISCUSSION: Since bulldozers have been removed from the table of organization and equipment (TOE) of engineer support units, maneuver commanders often request that support units use the ACE to perform mobility, countermobility and survivability tasks formerly performed by dozers. Some maneuver unit commanders ignore the blade capabilities and digging sites recommended by their engineer officers. Instead, they request that operations be performed in soils or rocky terrain that exceed the capabilities of the ACE. The result is damaged vehicles and, sometimes, injured personnel.

Survey results show that many ACE operators travel with the blade in the lowered position because of the time required to fold the blade. This practice must stop! It is a serious safety hazard and may also cause extensive damage to the blade. At Fort Leonard Wood, operator training for the ACE has stressed the need to travel with the blade in the folded position since 1990. At that time, the lowered blade was identified as a factor that contributed to the deaths of two soldiers involved in a training accident.

RECOMMENDATIONS:

- Engineer officers and noncommissioned officers (NCOs) must ensure that the ACE is employed properly within its capabilities and limitations.
- ACE operators must travel with the blade in the folded position. Until an automatic blade folder is installed, units must allow for a delay of 20 to 30 minutes to fold the blade.
- Unit leaders and equipment operators must be trained to employ the equipment properly. At the Engineer School, leadership training on the ACE has been added to the Basic and Advanced Engineer Officer Courses and to the Basic NCO Course. It will soon be added to the Advanced NCO Course.

FUTURE RESOLUTION: The Engineer School should develop guidance on the types of soil and terrain where the ACE can and cannot operate safely.

ISSUE: There is a direct relationship between a unit's organizational readiness rate (ORR) and its level of operator and mechanic experience, sustainment training and degree of supervision.

DISCUSSION: Unit leaders expect to receive fully trained, journeyman-level operators from the Engineer School, who do not need supervision when they operate the ACE. They also expect to receive mechanics who are well versed on repairing ACE-specific problems. This level of training is not possible, given the time restrictions and additional training requirements in the MOS 12F and 62B Advanced Individual Training (AIT) courses. Survey results show that units with short train-up times and limited supervision of ACE operators have low ORRs. Inadequate supervision also contributes to increased accident rates. The average experience level of ACE mechanics is less than one year. While that experience level is typical for newly fielded equipment, sustainment training in the unit is required to achieve and maintain high ORRs.

RECOMMENDATION: To improve ORRs for the ACE, unit leaders must establish sustainment training programs for both operators and mechanics. They must also establish dig sites for operator sustainment training. New operators must be closely supervised for at least one or two years, depending on the frequency of task performance on the vehicle.

ISSUE: Units must provide more opportunities for operator training on the ACE.

DISCUSSION: Survey results show that 78 percent of the ACE operators have one year of experience or less in performing tasks with the equipment. The lack of operator experience results in high levels of vehicle maintenance. In the PFTEA survey, all units with short train-up times or limited training opportunities for their ACE operators had high maintenance levels.

RECOMMENDATION: It is critical that units act aggressively to develop training opportunities for their ACE operators. By doing so, they will increase their level of expertise and significantly reduce maintenance costs.

ISSUE: ACE operators who are separated from their units need close supervision by engineer leaders.

DISCUSSION: Few new ACE operators receive close guidance or supervision when they are sent to

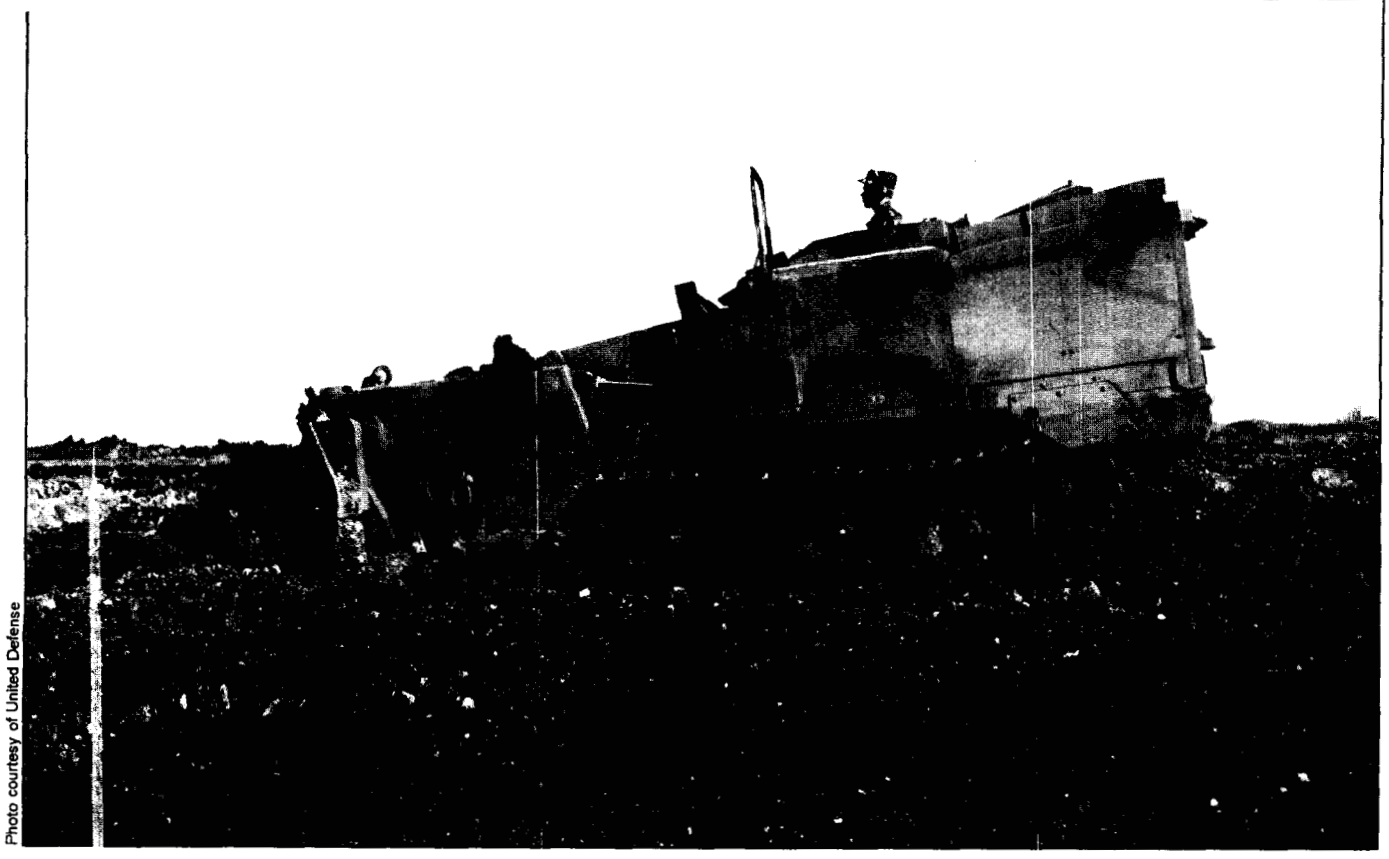


Photo courtesy of United Defense

The M9 ACE is used to dig a vehicular fighting position.

support maneuver units. The primary reason for close supervision is to prevent accidents and misuse of the equipment by the supported unit. New operators usually lack the seasoned judgement of their supervisors and may force the ACE to perform beyond its capabilities or cause damage while operating the equipment in difficult soil conditions.

RECOMMENDATION: To ensure proper procedures are followed when the ACE is separated from its engineer unit, the equipment operator must be supervised by senior career management field (CMF) 12 personnel. The supervisor should serve as the control or point of contact for the engineer unit and the maneuver commander.

Organization

ISSUE: Efficient use of MOS 12F personnel.

DISCUSSION: Survey results show that most units use E4-grade soldiers to operate the ACE. However, when the ACE is to be separated from the engineer unit or when one ACE is operated by itself, commanders prefer to use E5-grade soldiers as the operator. Higher grade soldiers are preferred because of the degree of responsibility and experience required in those situations.

RECOMMENDATION: For more effective ACE operations, unit leaders should consider the operator's experience level when assigning personnel to engineer equipment. Use the most experienced sergeants as ACE operators. Use less experienced operators for the AVLB and CEV.

ISSUE: Table of organization and equipment (TOE) deficiencies.

DISCUSSION: ACE operators currently are assigned to combat engineer company line platoons. Because training resources are limited, they usually are not cross-trained in their MOS 12F tasks to operate the CEV and AVLB. The lack of qualified supervisors and experienced operators in line platoons adversely affects unit readiness for ACE operations.

RECOMMENDATION: Engineer commanders consolidate their ACEs in garrison to maximize the effectiveness of equipment training and maintenance.

FUTURE RESOLUTION: Engineer School leaders are studying the feasibility of consolidating the ACEs in the assault and obstacle platoons. Consolidating them in one location may facilitate effective cross training and enhance maintenance management and the employment of engineer equipment and personnel.

ISSUE: Engineer companies lack the organic capability to maintain the ACE properly.

DISCUSSION: Fielding of the ACE has increased the maintenance problems that engineer companies encounter with their combat engineer vehicles. The number of mechanics authorized to engineer companies was not increased when the ACE was fielded, which added to an already heavy maintenance requirement. Also, MOS 62B mechanics attending AIT are trained on maintenance systems not specific vehicles, such as the ACE. In spite of these limitations, engineer companies must be innovative in solving

their maintenance problems. For example, units might consider consolidating their ACEs at the garrison level.

RECOMMENDATION: Units should consider using Logistics Assistance Office (LAO) technicians, who are available on most AC Army installations, to help solve maintenance problems on the ACE. Units may also consider hiring civilian mechanics to maintain this vehicle. To ease the pressure on engineer unit mechanics, assign the most experienced mechanics to the ACE. Unit leaders must support sustainment training for both ACE operators and mechanics because training is key to improving maintenance levels.

ISSUE: An alternate operator is required to safely perform some tasks with the ACE.

DISCUSSION: Survey results suggest that an alternate operator is required when the ACE is operated continuously and when the tracks and road wheels are changed.

RECOMMENDATION: Units designate and train an alternate operator to assist during continuous operations and some maintenance operations.

Materiel

ISSUE: Materiel improvements are needed for the ACE.

DISCUSSION: The ACE is now in phase III of its Systems Improvement Plan (SIP). Most of the materiel issues revealed in the PFTEA are being resolved by the SIP. Brief descriptions of materiel improvements included in phases III and IV of the SIP follow:

- Hydraulic troubleshooting: Completely rewrite all procedures.
- Final drive redesign: Redesign the oil fill indicator and improve the output shaft seals.
- Automatic track tensioner: Develop a system to automatically adjust the track tension when the operator switches between sprung and unsprung modes.
- Hub redesign
- Hardened track pin
- Automatic blade folder: Enables the operator to remotely fold and unfold the dozer blade from the crew compartment.
- Steel dozer blade
- Actuator mounting rings: Provide a stronger mounting point.
- Bowl floor access plates: Provide better access to front actuators for troubleshooting and maintenance.
- Hydraulic test points: Reduce the need to connect and disconnect hydraulic lines when troubleshooting problems. Move the test points to more accessible locations.

RECOMMENDATION: The Engineer School continue to implement the SIP program. The Tank Automotive Command continue to develop an updated logic tree hydraulic troubleshooting chart.

ISSUE: ACE operators and maintenance personnel lack reference materials for the vehicle.

DISCUSSION: The current (1986) 12F STP does not contain tasks for the ACE. Other publications frequently are not distributed at the operator and maintainer levels, where the work is performed.

RECOMMENDATIONS: Leaders must provide ACE operators and mechanics access to current manuals. Also, units must provide copies of publications such as the M9 ACE *News and Views* to operators and mechanics.

FUTURE RESOLUTION: The Engineer School is developing a new MOS 12F Soldiers Training Publication (STP), which is scheduled for publication in the 1st quarter of FY 96. Sections of the draft publication pertaining to the ACE will be placed on the EBBS by December 1994.

Soldiers

ISSUE: The ACE lacked developmental considerations for Manpower and Personnel Integration (MANPRINT) issues.

DISCUSSION: The ACE was developed before the MANPRINT program was implemented; however, future modifications of the vehicle will address new and unresolved MANPRINT issues. Some examples are described in the previous Materiel section.

FUTURE RESOLUTION: Issues identified during this PFTEA survey indicate that problems arise when aggressive user input and front-end analysis of potential MANPRINT-related concerns are lacking. The PFTEA also clearly shows the value of the MANPRINT program. Future acquisitions must identify and resolve MANPRINT issues early in the materiel-acquisition process.

Peggy McAvenia is an instruction systems specialist with the Directorate of Evaluation and Standardization, U.S. Army Engineer School (USAES).

Sergeant First Class Tommy Simmons is a combat development NCO with the Directorate of Combat Developments, USAES.

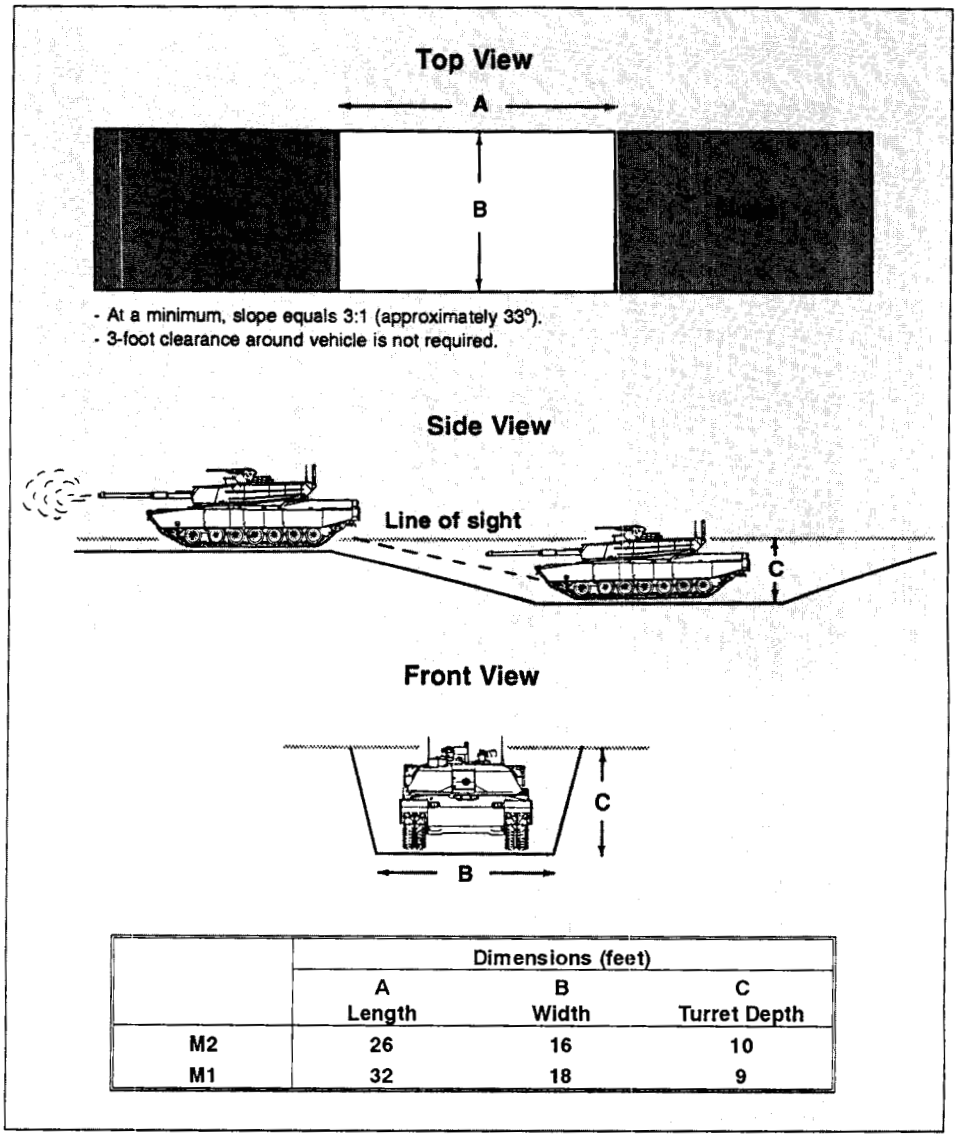
Sergeant First Class William Whitacre is a senior training developer with the Directorate of Training, USAES.

ENHANCING SURVIVABILITY OPERATIONS

By Major George DeMarse

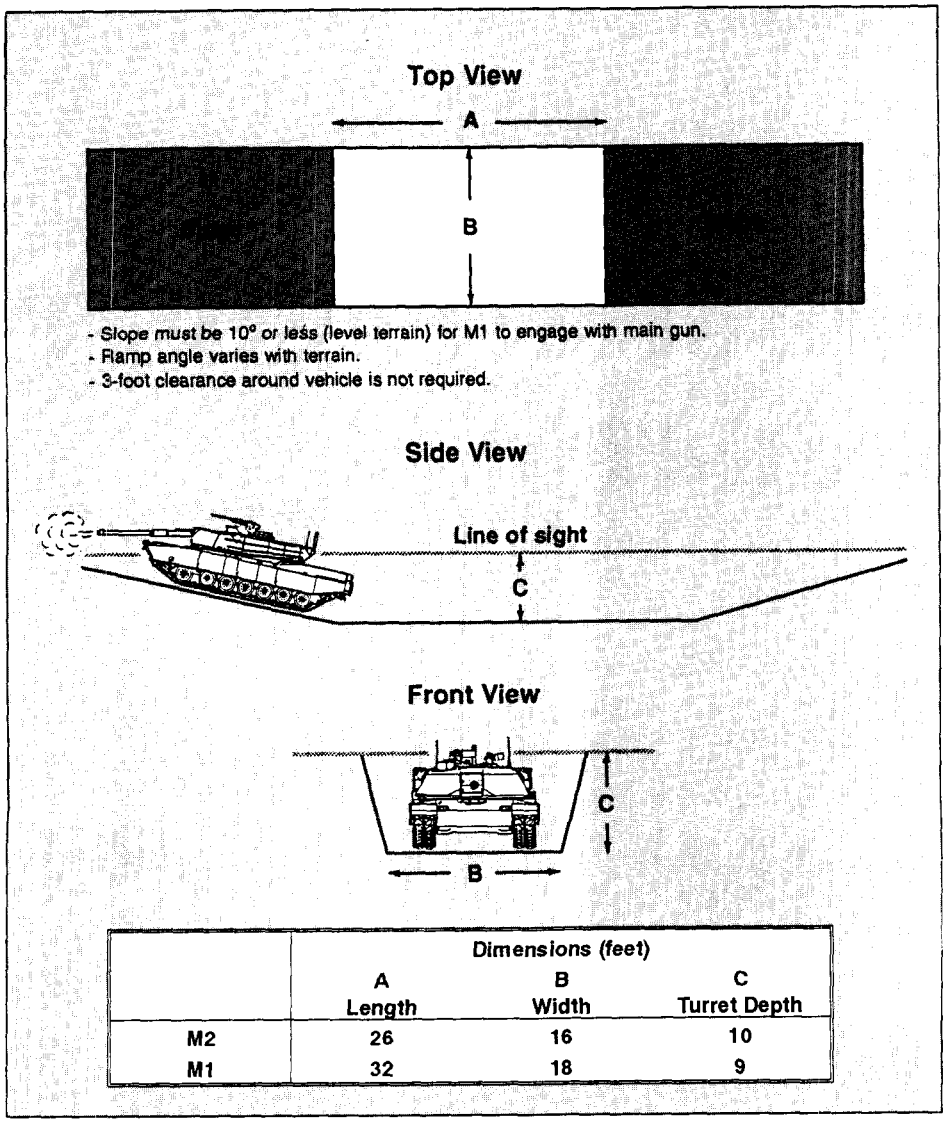
Current Army doctrine stresses the importance of having balance and a range of options to be successful on the battlefield. As battles are fought, combatant forces are required to attack or defend in a deliberate or hasty fashion. The engineers' ability to support the maneuver mission is primarily influenced by this basic nature of combat—attack or defend. Regardless of the engineer function, our ability to contribute to the maneuver mission hinges on the ability to provide options that maximize our engineer capabilities.

The following information explains and clarifies recent changes in U.S. Army survivability doctrine. To provide additional flexibility in survivability operations, the Engineer School has developed two hasty fighting positions (Figures 1 and 2). In developing these positions, the primary intent is to enhance engineers' contribution to defensive operations and to best utilize survivability assets on the battlefield.



	Dimensions (feet)		
	A Length	B Width	C Turret Depth
M2	26	16	10
M1	32	18	9

Figure 1. Modified Two-Tiered Hide Position



	Dimensions (feet)		
	A Length	B Width	C Turret Depth
M2	26	16	10
M1	32	18	9

Figure 2. Modified Two-Tiered Fighting Position

In combat, time is critical, and planners template it based on predictions concerning the terrain and enemy and friendly forces. Defensive operations require the defender to predict where and when he expects to encounter the attacker. Battlefield preparations in the defense follow an evolutionary process. As time permits, units conduct defensive preparations and continue to improve their battle positions. Vehicle fighting positions evolve from hasty to deliberate as the situation develops.

As a unit transitions to a defensive operation, the engineers usually begin to construct hasty positions in preparation for counterattacks and unexpected enemy actions. Combat engineers support this phase of the defensive operation primarily by concentrating their effort on the enemy's most likely avenue of approach. Initially, M9 ACEs (ACEs) are used to construct hasty positions forward. Combat engineers concentrate on preparing hull defilade and modified two-tiered hide and fighting positions, which are constructed based on METT-T.

For example, a task force commander decides to array his forces as depicted in Figure 3, page 31. Based on METT-T, he positions a maneuver company team on the southern flank to overwatch the engagement area. The task force engineer recommends that company teams in the south and the center (A and B) receive priority for survivability support. Therefore, the ACE operators begin to construct hide positions to protect those units from indirect fires and observation. The task force staff war-games the engagement area fight and expects it to last about 4 minutes. The company team in the south initially fights from their modified two-tiered hide and fighting positions, maintains a proper stand-off, and subsequently fights in sector until the enemy is destroyed. It is given specific engagement and target criteria to take the best advantage of the modified two-tiered positions. The commander designates a break line to prevent a decisive engagement.

The company team in the north (C) has suitable natural cover and concealment; it requires minimal blade effort. The company in the center requires extensive survivability effort. They need ACEs to construct modified two-tiered positions for temporary protection until dozers arrive from corps to complete the deliberate positions. Based on the war game, the company in the center can expect to receive the brunt of the attack. Those soldiers are expected to maintain the fight while the other companies maneuver and fight the enemy in depth.

An important consideration for the commander is the interrelationship between the fight and the survivability plan. Time is always a constraining factor. If soldiers can save 30 minutes or more on constructing each vehicle position, or if they can take advantage of the terrain and eliminate the need to construct some positions, then they can maximize their ability to survive and fight in a mobile or area defensive battle.

The modified two-tiered hide and fighting positions are

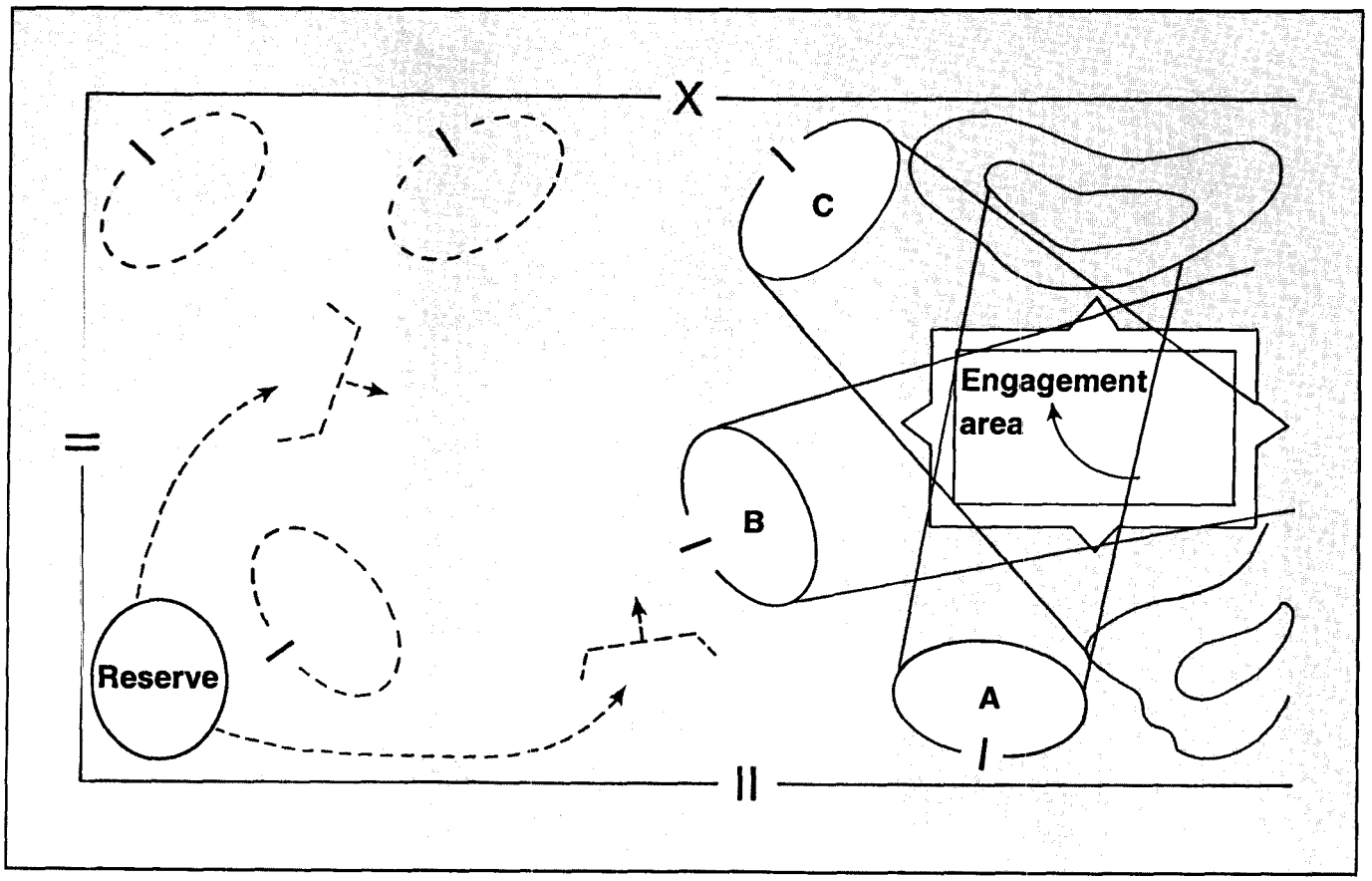


Figure 3. Task Force Defense

designed to help units take maximum advantage of the time and equipment available to them. **The hide position** (Figure 1) is most useful in situations where the friendly vehicle can engage the enemy from a flank or inconspicuous position. It is not designed to protect the vehicle while it fires. As the crew acquires the target, the vehicle moves out of its hole to engage the enemy target. When the engagement is finished, the vehicle can either return to its hide position or maneuver against the enemy.

The modified two-tiered fighting position (Figure 2) provides both a hide position and a fighting position for the vehicle. This position is most useful where the natural slope of the terrain allows the vehicle to effectively engage its target. The vehicle remains in the hide position until the target is acquired; then it moves to the forward slope of the position to engage enemy targets.

Engineers cannot rely completely on two-tiered, deliberate fighting positions while preparing for defensive operations. The modified two-tiered positions described above provide options that take advantage of the terrain and are well suited for an engagement area fight. Engineers must understand the capabilities of the ACE and employ it accordingly. The ACE is best suited to construct hasty fighting positions. Dozers, provided by corps, will come forward and construct deliberate fighting positions. As defensive preparations mature and evolve, engineers must construct and improve survivability positions by employing a combination of dozers and ACEs.

Engineer survivability doctrine, like defensive operations, evolves to create the best conditions for success on the battlefield. Engineer soldiers and equipment are fully capable of executing the overall engineer mission. Engineer leaders must consider the aspects of METT-T, recommend appropriate options, position engineer assets at the right time and place, and supervise execution of the plan. By employing the added survivability positions described above on the battlefield, engineers can provide options that better support the defense as it progresses from a hasty to a deliberate operation.

Major George DeMarse is the senior writer/instructor at the Engineer School. He previously served as a task force engineer trainer and engineer battalion staff trainer at the National Training Center. Other assignments include platoon leader, executive officer, and company commander in the 4th Engineer Battalion, Fort Carson; and assistant S3, 23rd Engineer Battalion, 3rd Armored Division. Major DeMarse holds a masters degree in business and is a graduate of the Command and General Staff College.

Maintenance Operations:

Triumphant March or Swan Song?

By Sergeant First Class Thomas Moeller

Maintenance is easy. Maintenance operations are difficult! The first rule of maintenance is - "If it's not broke, don't fix it." Maintenance operations have no simple rules, only complex solutions. Maintenance is performed on equipment—trucks, tanks, radios, weapons, and aircraft. Maintenance operations include every soldier, every activity, and every asset of the unit. They are affected by every environmental factor imaginable—time, money, personnel, weather, facilities, command climate, etc.

Effective maintenance operations begin with a plan that incorporates doctrine, training, leader development, organization, material, and soldiers (DTLOMS) to the fullest extent to reach specific objectives. The plan becomes dynamic and evolutionary. It begins with soldiers and requires each soldier's willingness to do what is right for the unit. The commander's most important roles are to create that willingness and to focus the will of the entire unit on maintenance.

Thomas Peters and Robert Waterman, in their best-selling book *In Search of Excellence,* identified one characteristic common to successful companies: All members of the organization understood what the company, as an organization, valued. Arguably, what is valued in an engineer organization could be many things. I submit that for engineer units to accomplish their mission (their reason for existence), properly performed maintenance is of the most value. Maintenance in some units is like a bad habit—everyone seems to be trying to break it! In other units, soldiers try to forget it exists. But in units that have good maintenance values, mission accomplishment is easily achieved.

Soldiers

Today's maintenance soldier has a more demanding job than ever before. Fielding new equipment, aging on-hand equipment, fewer dollars, fewer personnel, and fewer units are facts of life. The current focus on deployability has become a driver not a goal. New personnel arrive with fewer basic skills. The complexity of new diagnostic equipment means on-the-job retraining for the "old hand." CD-ROM manuals and ULLS computers create a "future tech" environment that is conducive to instant information but not instant maintenance. And equipment readiness rates must be maintained or commanders and units are subject to pressures not experienced since the days of Zero Defects. "We've done so much for so long with so little, we can do anything with nothing!" Have you ever heard that before? As a saying it is cute. As an attitude it is revealing. As a commander's expectation it is unrealistic.

There are deeper problems in that philosophy than unrealistic expectations. It assumes that maintenance is only the motor sergeant's responsibility. It does not support an equal distribution of work. It causes serious morale problems. And, it usually interferes with maintenance plans. Good maintenance isn't something that happens during the night, after all the troops go home (night shifts are seldom effective), nor does it happen overnight (unlike UPS deliveries).

Maintenance is a full-time mission and should not be attacked without an OPORD or maintenance plan. A proper mental attitude—knowing what is valued—is necessary when preparing for any mission.

Attitude adjustment begins with leaders. Their willingness must be apparent and contagious, and their values must coincide with those of the unit. Attitudes are reflected in words: Mechanics are not "grease monkeys." The motor pool is not a "shade tree operation." Nor is it the local auto dealership with drop-it-off-by-9-and-its-ready-by-4 service. Attitudes are also reflected in actions: The motor pool is the place where a unit is built and trained

while maintenance is performed. Each task is an intrinsic part of a complex and comprehensive maintenance plan (OPORD), designed to have everyone contributing, with specific phase lines to cross at directed times. It is everyone's mission to keep the world's best equipment running and ready.

Training

Unit personnel must work as a team to keep their equipment operational. That includes all equipment, from the smallest hand tools to the largest rolling stock, from shovels and wheelbarrows to dump trucks and cranes. When equipment is due a scheduled service, the entire team must be involved to ensure that it is completed on time and to standard. Each soldier plays a vital part in the overall scheme. Maintenance is everyone's job, not just the equipment operator or personnel in the motor pool.

The equipment operator must participate at the scheduled service to ensure that "his" equipment receives the best service possible. The newest team member is there to assist and learn, so that one day he or she can become a top-notch, maintenance-conscious operator. Other team members are there because their presence builds pride and esprit de corps. Leaders are there to ensure that everything runs smoothly and to teach and set an example. Good maintenance can't be performed from the platoon command post or the snack bar; it requires every leader's presence. Everyone needs to crawl under, over, and around the equipment.

The most demanding PT I ever experienced was an activity called *The Maintenance Derby*. We crawled under, over, and around every piece of equipment in the motor pool. We had to locate certain U-joints, bleeder valves, grease fittings, frame members, and the like on every piece of equipment in the unit, and we were timed and scored in the process. The results opened some eyes!

Maintenance is training and must be conducted the same way: focused, interesting, challenging, and free from distractions. Every soldier must be trained on the new equipment. The current levels of sophistication found in on-board computers and diagnostics, "smart" engines, and other state-of-the-art automotive features make equipment training a challenge. Units must invest in training opportunities seldom envisioned before. Leaders should consider innovative incentives, such as allowing mechanics to wear ASE certification patches on coveralls worn in garrison.

Maintenance takes a lot of effort. It's not magical! It's not an illusion, and it doesn't happen with smoke and mirrors. Motor sergeants keep nothing up their sleeves, nor can they pull rabbits out of their BDU caps. Maintenance activities, from daily PMCS sessions to periodic services, must be scheduled and religiously followed. If other missions must take priority, they must be the exception because, sooner or later, the absence of proper maintenance will tell the tale.

Leader Development

If ingrained maintenance values are the foundation of any program, then leader development is the cornerstone. Did you ever see a sergeant carrying around the last three years' issues of *PS Magazine* during motor stables? No, of course not! But, did you ever see an NCO with articles on every piece of team equipment, clipped from the last three years' worth of *PS Magazine*, neatly indexed in a dog-eared, well-worn pocket guide? And he was using the guide to supplement maintenance being performed by team members gathered around the equipment. Did you ever see an NCO pull out an electronic notebook and refer to it for maintenance tips he had cached in digits for display on a backlighted LCD screen? If you have, then you've seen leadership you should emulate.

Training, seminars, and conferences conducted (often free of charge) by commercial manufacturers provide access to new ideas and techniques. Attending a local trade show or reviewing the latest trade magazine may reveal techniques of significant importance and result in saving time and money. Maintenance seminars should be offered at functions like the Senior Engineer Leader Training Conference (SELTC), and special seminars should be conducted during warrant officer and advanced NCO courses.

Organization

Fixing the number of mechanics authorized in a unit is an impossible task for a commander, even if that piece of our organization is broken. That task must be performed by the Engineer School leadership. But, commanders can supplement their maintenance organization, ensure that operators are qualified on equipment as a part of unit licensing procedures, and prevent operator hopscotch—the senseless moving of operators from one piece of equipment to another.

Materiel

Maintenance plans must integrate the operational use of supporting elements—wreckers, welders, contact trucks, and common tool sets. In addition to securing and using tools provided for maintenance,

(Continued on page 43)

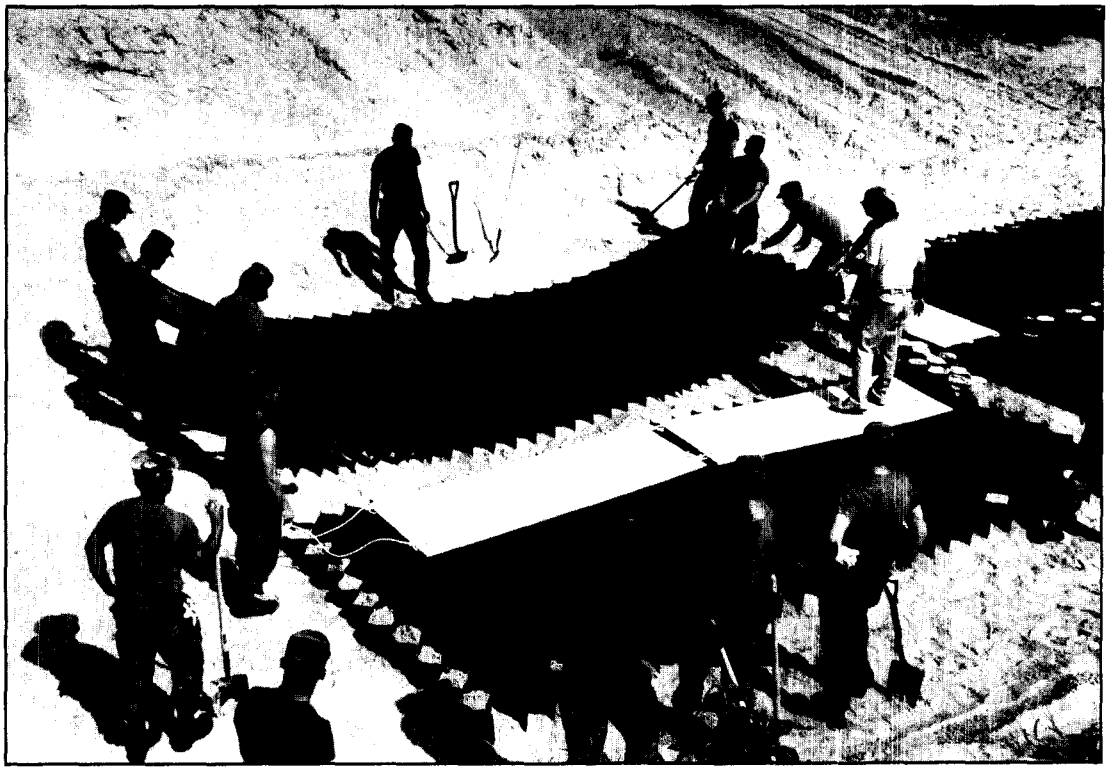
Sand Grid: A Multipurpose Construction System

By Sergeant First Class Donald H. Purinton and Sergeant First Class Roger L. Harrison

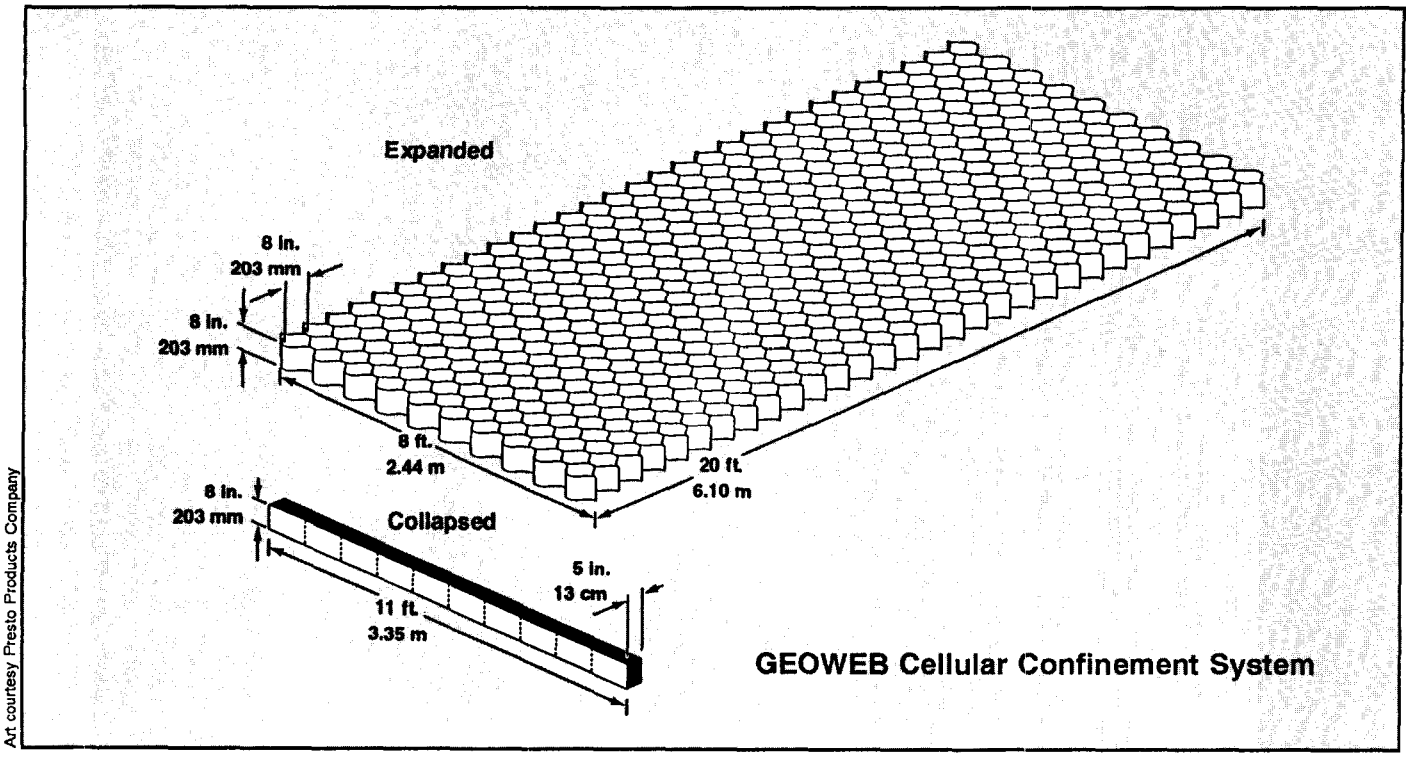
Military engineers build many types of structures. While a wide variety of construction materials are available, a geosynthetic called *sand grid* has been the most tested and proven. Although often overlooked by Army engineers, sand grid is an excellent method of field-expedient construction. It is made from high-density polyethylene and is used to confine and compact granular soils such as sand during the construction or repair of roads, airfields, field fortifications and other expedient structures.

Development

Sand grid, known commercially as Presto GEOWEB Cellular Confinement System, was developed at the U.S. Army Waterways Experiment Station (WES), Vicksburg, Mississippi, during the late 1970s in a cooperative research effort between the U.S. Army Corps of Engineers and the Presto Products Company, Appleton, Wisconsin. The original concept involved confining and compacting sand or sandy soils in interconnecting cellular elements, called grids, to produce a load-distributing pavement base layer. The resulting design is honeycomb-like in appearance. When filled with sand, the grid can be used to expediently construct pavement structures in areas with poor trafficability. The fill material can be in-place or locally borrowed, poorly graded sands found almost anywhere in the world.



Road construction with sand grid proceeds quickly. Here, soldiers are expanding and emplacing sand-grid sections at Fort Story, Virginia.



Art courtesy Presto Products Company

Availability

Sand grid sections (National Stock Number 5680-01-198-7955) are expendable Class IV supply items that cost $181 each. The plastic grids are available in 11-foot by 8-inch by 5-inch collapsed sections that weigh 110 pounds each. When fully expanded, the sections measure 20 feet by 8 feet by 8 inches. Sand-grid construction is very economical, costing about $1.50 per square foot.

Sections of sand grid are palletized for deployment and are delivered in 3,000-pound pallets that contain 25 collapsed sections. One M872A1 40-foot trailer load of pallets contains enough sand grid to construct one-half mile of 16-foot-wide road. The sections are easily dismantled and collapsed for reuse.

Uses

Sand grid is easy to use. And the basic construction procedures are the same for all of its many uses: expand and emplace sections, fill with soil, and compact.

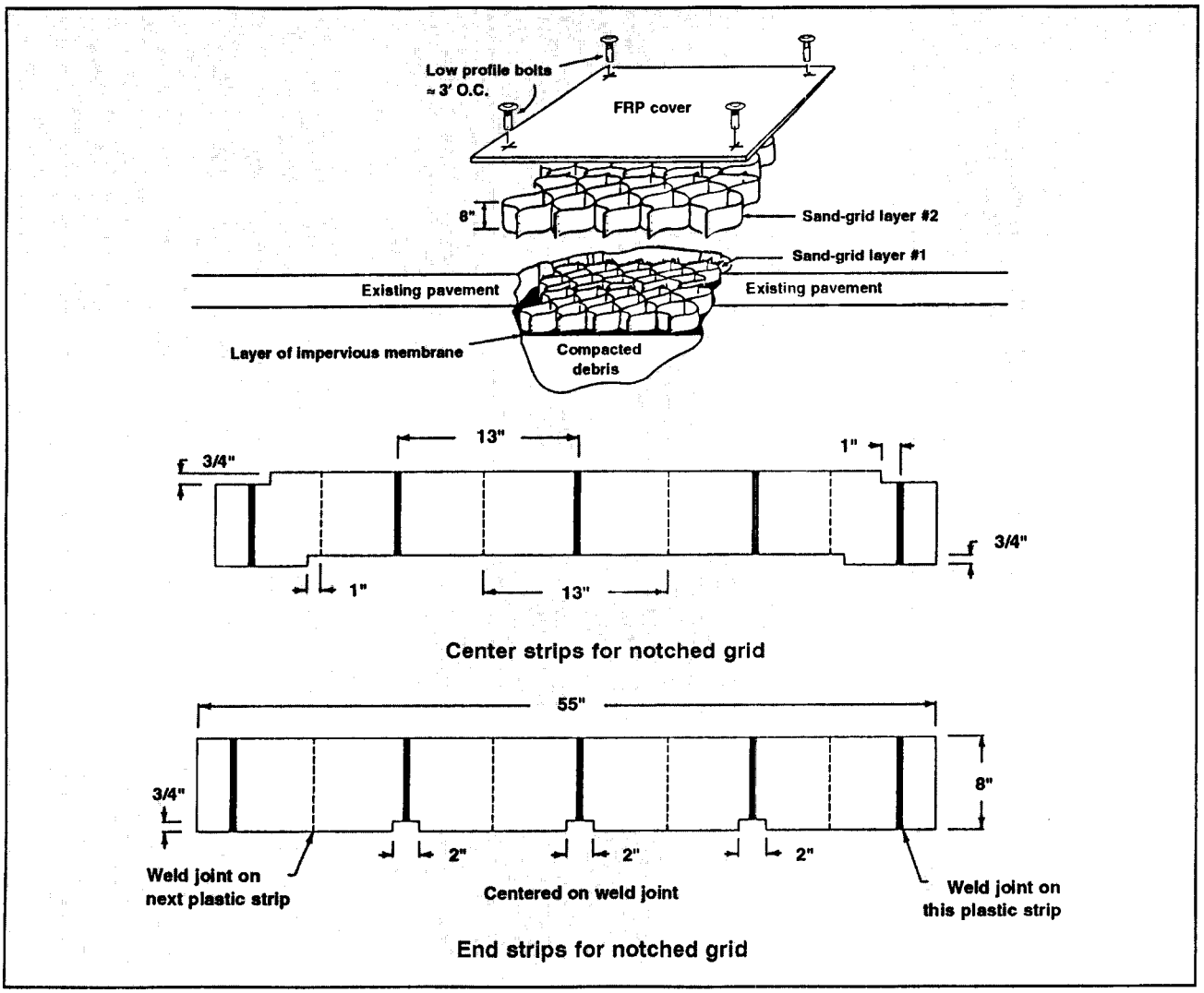
Expedient Road Construction. Theater-of-operation road construction initially provides only a trafficable surface. These roads are built to accomplish a specific mission in the most direct and efficient manner possible. Designs are simple, require minimum skilled labor and use local materials whenever possible. In many theater situations, sand grid meets these construction requirements.

Sand-grid road construction greatly improves wheeled vehicle trafficability over sand and sandy soils. A squad-sized work crew can quickly construct a sand-grid road using scoop loaders, light bulldozers and vibratory compaction rollers. The use of rough-terrain forklifts; water distributors; asphalt distributors; long-handled, round-point shovels; and 8-foot by 4-foot by 3/8-inch sheets of plywood can increase the effectiveness and speed of construction.

Sand grid does not hold up well under tracked vehicle traffic. Tracked vehicles, however, have good trafficability through loose or cohesionless soils and can use shoulders outside of the staked right-of-way. To allow for tracked vehicle traffic, mark off a lane parallel to and near the sand-grid road. If tracked vehicles must cross the sand grid, protect it by placing a layer of gravel at the crossing.

Airfield Damage Repair. Following enemy attacks, engineers must repair airfields quickly, using the most expedient methods of airfield damage repair (ADR). The sand-grid method, using the GEOWEB Cellular Confinement System with a fiberglass reinforced polyethylene (FRP) matting cover, provides a suitable runway surface. It enables engineers to repair bomb-damaged runways quickly and efficiently.

The ADR kit used to repair bombed runways measures 18 1/2 feet by 7 feet by 19 1/2 inches. It contains eight 20-foot by 8-foot by 8-inch sand-grid sections, weighs about 5,310 pounds, and contains enough materials and equipment to repair a 25-foot bomb crater. The kit is air-transportable and can be air-dropped. Repair crews can adjust sand grid to crater dimensions simply by cutting and piecing



sections together. Sand grid with an FRP matting cover can withstand 500 F-15 sorties, 200 C-141 sorties, or 300 C-130 sorties.

The resources required for ADR depend on the amount and type of damage, equipment and personnel available, materials on hand, and soldier expertise. As a general rule, one platoon-sized work crew for each bomb crater can quickly and efficiently repair a damaged airfield.

Field Fortifications. Survival on the battlefield depends on the quality of protection provided by fighting and protective battlefield positions. Field fortifications are designed to protect personnel, weapons systems, vehicles and equipment while deceiving the enemy.

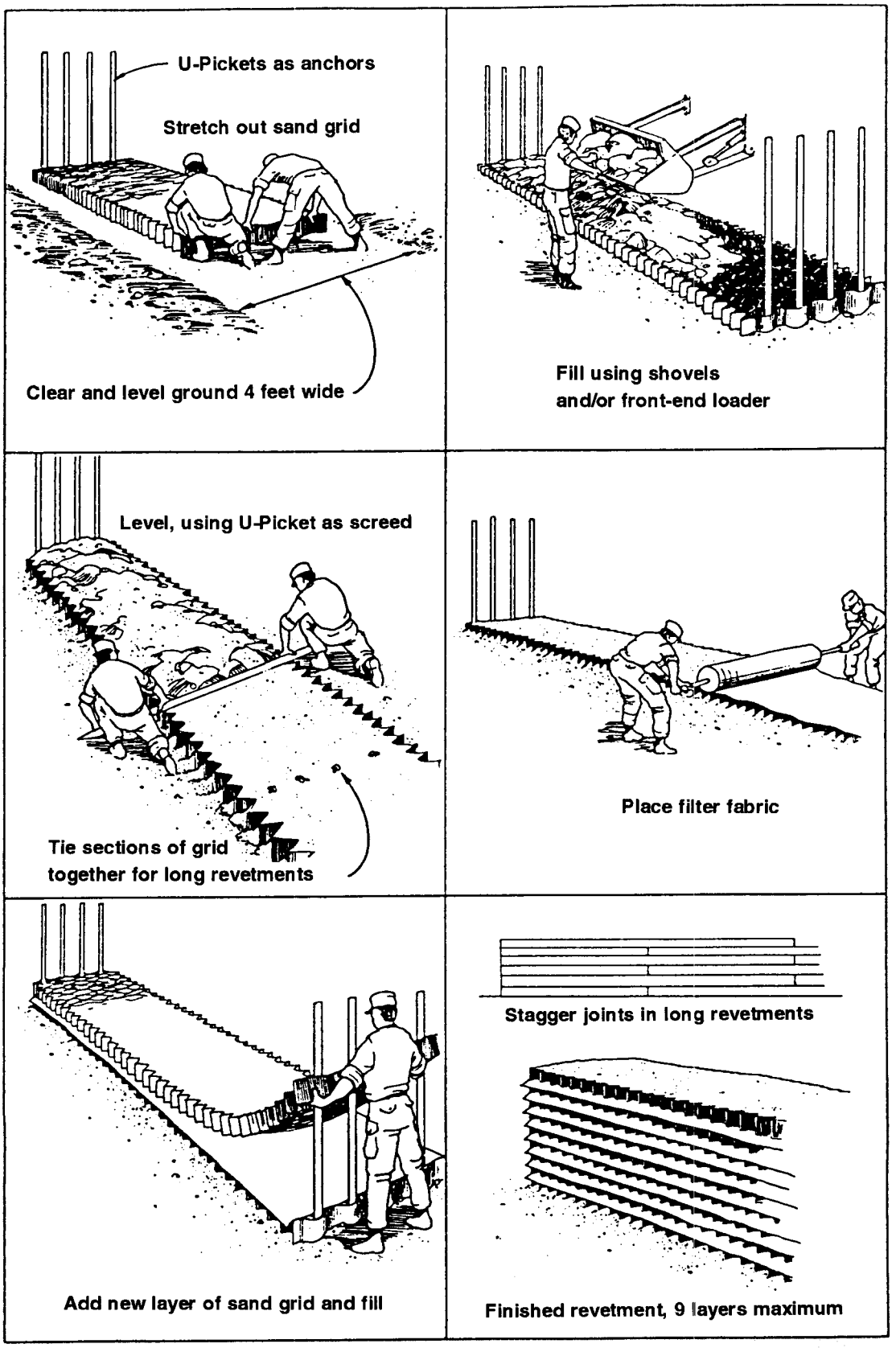
Two types of sand-grid sections are available for constructing field fortifications:

- Standard sections are essentially the same as those used in roadway construction but are narrower.
- Notched sand grid is a standard section that has been modified to allow revetment construction with complete sand and soil confinement on the sides. It eliminates the need for a filter fabric between layers of sand grid and allows multiple layers to be filled. Notched sand grid can be constructed more rapidly than standard sand grid.

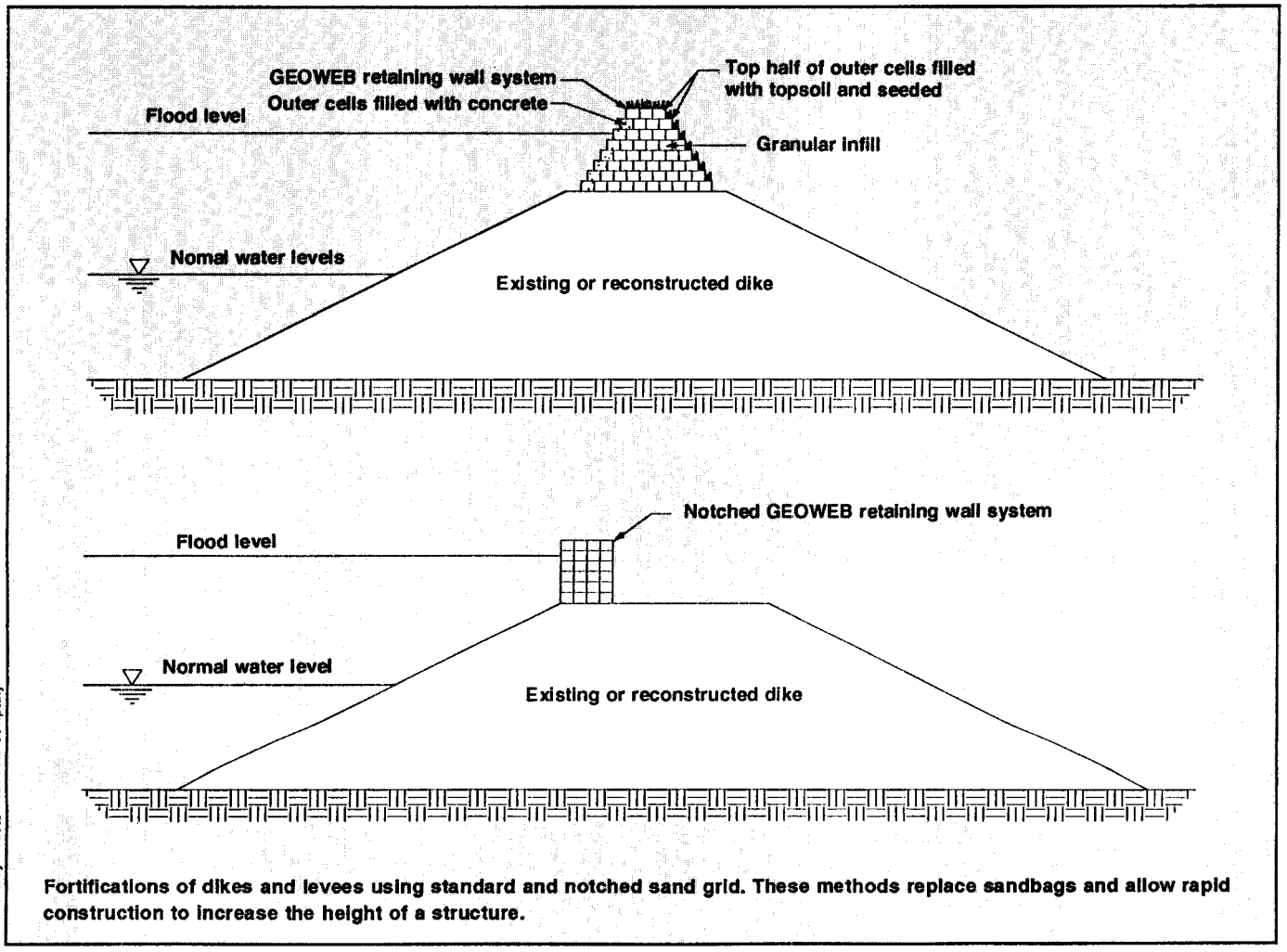
Sand-grid sections for field fortifications are manufactured in black, green and tan. Camouflage paint can be added to protect them from ultraviolet degradation and to reduce enemy detection. The sections are used to construct artillery positions, helicopter revetments, overhead protection, blast and fragmentation protection and bunkers. Sand grid is effective against small-arms fire up to .50-caliber and near-miss artillery rounds.

Many advantages can be realized by using sand grid to construct field fortifications. For example, field fortifications made with sand grid—

- Cost 28 percent less than those made with sandbag revetment materials.
- Occupy 50 percent less space than those made with sandbags, although they weigh 15 percent more.



Construction of standard sand-grid revetment



Art courtesy Presto Products Company

Fortifications of dikes and levees using standard and notched sand grid. These methods replace sandbags and allow rapid construction to increase the height of a structure.

- Are more durable than those made with cloth sandbags and have a longer life expectancy. Some revetments made with sand grid are in good condition three years after construction, while sandbag revetments may require repair after only six months.
- Require from 40 to 70 percent fewer man-hours to construct than those made with conventional sandbags.
- Take half the time to construct and yield the same amount of protection as an overhead protective cover system made with standard sandbags and loose earth.

Other Expedient Structures. In addition to the uses already described, sand grid can be used for earth-retaining walls; drainage-channel linings; slope erosion control and stabilization; and river fords, dikes, and levees. Some examples follow.

Sand grid can be used as protection for drainage channels. The St. Louis Metropolitan Sewer District (MSD) decided to use it as an alternative to reinforced concrete and concrete slab channel linings. They chose sand grid because it offered significant cost-savings benefits. By using sand grid, they eliminated the need to construct concrete formwork and the need for reinforcing steel and expansion joints. The sand grid provides a permanent, flexible form and acts as a series of expansion joints when filled with concrete. A cost-saving feature is that no overfill is required over the depth of the cells, which makes it easy to calculate the amount of concrete required. Since 1987, the St. Louis MSD has used sand grid filled with concrete for channel protection. They estimate that sand-grid construction costs about 30 to 40 percent less than traditional concrete construction.

The U.S. Forest Service used sand grid filled with coarse aggregate to construct a 16-foot-wide by 40-foot-long river ford in the Chattahoochee-Oconee National Forest to replace a log stringer bridge. Replacing this bridge before sand grid was available required the construction of an 8-inch-deep by 14-foot-wide mesh-reinforced concrete ford, which cost from $6,000 to $12,000. The ford made with sand grid costs about $3,000.

The great flood of 1993 will be remembered for many years. We all witnessed the destruction that

took place as river waters crested and overtopped protective dikes and levees. The flood caused an estimated $20 billion in damages. The U.S. Army Corps of Engineers distributed in excess of 31 million sandbags to hold back flood waters. Most of the dikes and levees were reinforced with sandbags, and filling and placing them was time-consuming and required thousands of people.

It is possible to fortify dikes and levees with sand-grid construction. Using sand grid requires less time and fewer personnel than other methods, and it allows workers to rapidly increase the height of a dike or levee to prevent overtopping. Because of its load-support capabilities, sand grid can be built with heavy construction equipment, which significantly increases the construction rate. When sand grid is used to construct temporary dikes and levees, the structures also function as a temporary dam. WES evaluated a sand-grid system under conditions of varying water levels and wave actions to prove its usefulness. They concluded, "This type of structure, either temporary or permanent, holds promise as an expedient alternative to sandbag structures."

Synopsis

Sand grid is a multipurpose construction system. It is an economical, effective and often overlooked resource that can be adapted to a wide variety of construction applications. Sand grid is available to military engineers and can be easily transported and installed. It requires less time, effort and maintenance than conventional construction materials. For more information on the uses of sand grid, call the Department of Construction Engineering, U.S. Army Engineer School, at (314) 596-0131 (Extension 3-7620/7610) or (Defense Switched Network) 676-7620/7610; or write to Commander, U.S. Army Engineer School, Attention: ATSE-T-CT-H, Fort Leonard Wood, Missouri 65473.

SFC Purinton is an instructor/writer for the Engineer School's Department of Construction Engineering. He previously served as technical engineering supervisor and platoon sergeant, 802nd Engineer Battalion (Combat) (Heavy), and as a senior instructor for the Materials Quality Specialist Course. SFC Purinton is a graduate of the Advanced Noncommissioned Officers Course (ANCOC) and holds an associate's degree in construction management from Park College.

SFC Harrison is an instructor/writer for the Engineer School's Department of Construction Engineering. He previously served as platoon sergeant, 568th Engineer Battalion (Combat) (Heavy), and as a senior instructor for the General Construction Equipment Course. SFC Harrison is a graduate of ANCOC and holds an associate's degree in construction management from Park College.

Additional Reading

Field Circular 5-104-1, *Airfield Damage Repair*, October 1985.

Field Manual (FM) 5-103, *Survivability*, June 1985.

FM 5-410, *Military Soils Engineering*, December 1992.

FM 5-430-00-1, *Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations-Road Design*, August 1994.

Training Circular 5-340, *Air Base Damage Repair (Pavement Repair)*, December 1988.

The Presto GEOWEB Cellular Confinement System, Brochure, Presto Products Company, Appleton, Wisconsin, 1992.

Grau, R. H.; Bush, A. J. III; Coleman, D. L.; Godwin, L. N.; and Webster, S. L., *Dust Control in Desert Environments*, Miscellaneous Paper GL-92-2, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, January 1992.

Green, H. L., and Williams, T. P., *Installation of Air Transportation Airfield Damage Repair Kit*, Instruction Report GL-90-1, U.S. Army Engineer Waterways Experiment Station,Vicksburg, Mississippi, February 1990.

Hayes, P. G., *Expedient Field Fortifications Using Sand-Grid Construction*, Technical Report SL-88-39, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, October 1988.

Martin, S., *Dike and Levee Fortification and Reconstruction Using Presto GEOWEB Cellular Confinement Systems*, Presto Products Company, Appleton, Wisconsin.

Pence, L. M., Jr. *A Plastic Ford, You've Got To Be Kidding*, Engineering Field Notes, U.S. Forest Service, United States Department of Agriculture, Washington, D.C., Volume 19, January-February 1987.

Webster, S. L., *Sand-Grid Demonstration Roads Constructed for JLOTS II Tests at Fort Story, Virginia*, Technical Report GL-86-19, U.S. Army Engineer Waterways Experiment Station,Vicksburg, Mississippi, November 1986.

Harvesting A Partnership: A Captain's Perspective

By Major Brian Loggins

District assignments with the Corps of Engineers can be both challenging and rewarding for military engineers. My experience at the Fort Knox Area Office in 1992, as a captain, is a case in point. During this assignment, I was introduced to "partnering," which was then a new concept in the Army's commitment to Total Quality Management.

As the lone "green suiter" and the newest guy in the Fort Knox Area Office, I was not surprised to learn that I would be the project engineer for renovation of the Fort Knox commissary. At $1.6 million, the Corps of Engineers considered the renovation a small project; and I assumed a few renovations to a grocery store would be easy. However, examination of the project drawings and specifications showed that the project would be more complex than I initially thought. In fact, it had the potential to be a nightmare. It was a major overhaul that included everything from replacing the lighting, refrigeration equipment, and heating and air-conditioning units to constructing a new manager's office and a breakroom for the grocery baggers. All of this, and more, must be done while the commissary remained open for its nearly 2,000 customers per day—with business as usual!

The district commander suggested that we partner the project. Knowing little about this concept, I did some research and learned that its goal is to bring the key players of a project together as a team, working for the good of the

The contractor coordinated his schedule with the store manager on a weekly basis to minimize inconveniences to shoppers. Here, work progresses while the store is closed.

project and for customers satisfaction, as opposed to working for individual goals. Partnering improves product quality and produces win-win solutions to problems.

This project was well suited to a partnership. It was a complex undertaking that would require difficult decisions and safety considerations. Coordination, teamwork, flexibility, and open communications with everyone involved were essential. A partnership would ensure that these requirements were met.

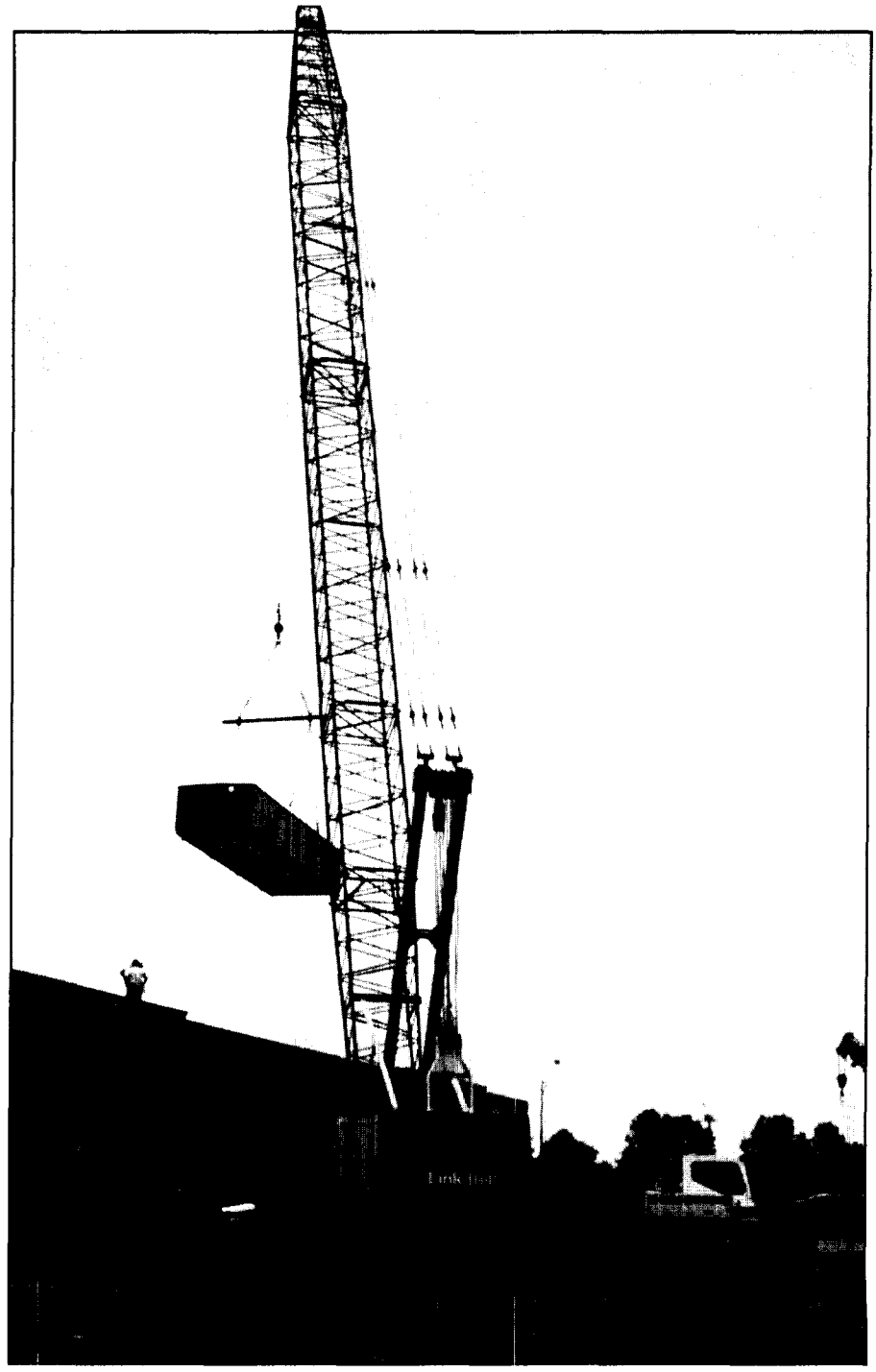
The contractor immediately said "yes" when asked if he would be interested in partnering the project. That simple agreement set the partnership in motion. The next step was to present a workshop where we would form a team and set project goals.

The Workshop

The workshop, held on 7-8 December 1992, was attended by all of the project's key players: the Corps, the contractor, the commissary manager, the Fort Knox Directorate of Public Works, and the architect-engineer. Attendees included everyone from field representatives to the senior leadership of those organizations. Their participation was critical and demonstrated a high level of commitment to the partnership.

The workshop was professionally facilitated by an "outsider" from New Mexico, whom we hired from a list maintained by the district office. He was worth every cent. Having an impartial, skilled facilitator ensured that everyone had an equal voice. The team-building exercises helped us relax, generated open communications, and kept the group focused on setting goals and having fun. At this point, everyone was totally committed to the project.

After we became a team, we developed goals and objectives. To maintain open communications, we decided to meet weekly to share progress reports and monthly to discuss and assess the partnership.



The team approach to problem solving proved successful, especially during complicated and hazardous operations such as lifting air conditioning units onto the roof.

We also chose a partnership logo and motto. The cornucopia and the motto, "Harvesting Partnership" seemed most fitting for a commissary project. To announce the partnership, the contractor added a brightly colored sign depicting the logo to a sign in front of the commissary.

The Partnership

After the workshop, the project picked up momentum.

Harvesting Partnership

PARTNERING AGREEMENT FOR THE CONSTRUCTION MANAGEMENT TEAM FOR THE FORT KNOX COMMISSARY RENOVATION FORT KNOX, KY

Mission Statement

We will work together in an open, cooperative and professional manner to provide a safe, high quality Fort Knox Commissary renovation, with minimal disruption to the customer.

Goals and Objectives

Cooperative Relationship

- Open communication
- Team approach to decision making/problem solving * monthly (Field) * 5 May 93 (All)
- Flexibility among all partners
- Focus on project - not personalities
- No formal disputes
- Minimize written correspondence
- Have lots of FUN!

Customer Satisfaction

- Minimize "store" inconvenience
- Provide accessible equipment
- Provide maintainable equipment
- Provide prompt response for critical equipment service
- Meet equipment installation schedule
- Minimize and coordinate utility interruptions
- Establish acceptable job sequence

On Schedule

- Mutually agreed master schedule
  - Address schedule weekly with two week look ahead
  - Achieve mutually established milestones
- Timely resolution
  - Two day maximum (on site)
  - One week maximum (field)
  - Thirty days for change orders requiring more funds
- Jointly established priorities
  - Team concurrence at weekly meetings
  - Flexibility to accommodate each others priorities

Quality

- Build without rework (assumes effective QA/QC)
- Meet or exceed requirements (K Specs)
- Meet or exceed customer expectations
- Identify and discuss key submittals before submitting to achieve correct submittals on a first time basis
- Develop and maintain DECA as an equal partner

Safety

- No lost-time accidents
- No public/customer accidents
- Conduct thorough Activity Hazard Analysis (AHA)
- Conduct thorough safety indoctrination and weekly toolbox meetings - Discuss AHA daily
- Comply with Accident Prevention Plan

Within Budget

- Fair profit to Contractor (including Sub-contractors)
- Contain total cost growth to within 5%
- Proactively pursue savings through V/E process

We brainstormed and solved all issues and potential change orders as a team. And, because the contractor was involved in the problem solving, his price proposals for changes were usually very reasonable.

At first everything went well. Then, within a few days, we experienced two on-the-job safety problems. The contractor agreed with us that while neither incident was very serious, a pattern seemed to be developing. He and his staff immediately took corrective action and briefed all of their employees. The next day he informed us that one individual had been fired and a foreman replaced. While this initially seemed extreme, I was impressed with the contractor's commitment to safety and to the partnership. His action was effective—no more safety problems occurred.

At the weekly progress meetings, the project manager for the prime contractor briefed the schedule for the next two weeks, and the subcontractors briefed the status of their work. This kept everyone informed and prevented unwanted surprises. All issues raised were discussed openly among team members. The commissary manager was especially pleased with the progress and the quality of work performed.

Each month we met to discuss and assess the partnership. These meetings allowed the field representatives to evaluate how the partnership was working. There were rarely any negative comments.

As the work progressed, a high level of trust and confidence developed among the partners. Of the many examples of cooperation, professionalism, and teamwork that occurred, two were especially significant:

- While the contractor was replacing the front door to the commissary, a temporary entrance was made for customers. As Memorial Day weekend approached, the commissary manager realized that the temporary entrance would be inadequate for the large crowd expected. When alerted to the problem, the contractor voluntarily modified his schedule and installed the new door in time for the weekend.
- When the contractor needed to remove an old refrigerated case ahead of schedule and on very short notice, the commissary manager came to his aid. He quickly gathered some of his employees from their scheduled tasks to empty produce from the case.

These examples illustrate the partners' commitment to the project and to customer satisfaction, and they underscore the value of the partnering concept.

Assessment

Partnering is similar to what we experience daily as soldiers. We are all members of a team, whether it's a battalion staff, a squad, or "this" project team. During the renovation project, I learned the importance of developing trust and team spirit among team members. If team spirit is not developed, team members may concentrate on their hidden agendas instead of on team goals. The power of a team, when individual skills and resources are combined, is enormous.

At Fort Knox, forming a partnership was the key to the success of this project. And now, because we harvested a partnership, the commissary and its customers are reaping the benefits.

Major Brian Loggins is director of quality for the Louisville District, Corps of Engineers. He formerly served as chief of quality assurance at the Fort Knox Area Office. Major Loggins is a graduate of Vanderbilt University.

(Personal Viewpoint, continued)

soldiers must be trained in *tool maintenance!* The plan must outline priorities and procedures for obtaining repair parts. Leaders must listen! Soldiers know what is needed to perform maintenance. Encourage suggestions, innovations, and time-saving techniques.

Doctrine

Maintenance plans must embrace every asset, every resource, every bit of expertise, and every communication channel to which the unit can gain access. Channels include logistic assistance offices (LAOs); IDEAS, TIPS, and SMART programs; contemporary maintenance publications (*PS Magazine*); standing operating procedures from other units; the exchange of ideas and policies throughout the command; project manager and item manager offices; and civilian manufacturing publications. The list is endless and is limited only by imagination and drive. Once in place, those channels must be maintained if they are to be worthwhile.

My challenge to you is this: How good is your maintenance operation? Has the commander identified the organization's values? Is your maintenance plan realistic, goal oriented, value reinforcing, well coordinated, and fully supported? Does each team member have a vital part to play in executing the plan? Is each maintenance session conducted as leader-supervised team training? Will your maintenance operation be a triumphant march or a swan song?

SFC Moeller is a Force Integrator/Force Readiness NCO with the Directorate of Combat Developments, U.S. Army Engineer School. He will retire from the Army with more than 20 years of service as an engineer equipment repairer in January 1995.

HEAVY DIVISION ENGINEER COMMANDER'S HANDBOOK

"A combat engineer company, structured to operate at the FEBA, focuses on mobility, countermobility, and survivability operations. It is the lowest engineer echelon that can plan and execute 24-hour operations in support of maneuver forces."
Field Manual 71-123

By Captain David Brinkley

Your heavy division engineer company has realigned into a new force structure, but there is no doctrine to help you, the engineer company commander, understand the employment, capabilities, and limitations of the company in its new structure. FM 5-71-100 describes the division's combat engineer brigade but is not very useful at task force level and below. FMs 71-2 and 71-123 still refer to pre-restructured engineer organizations and capabilities. Here is the good news—help is on the way! The U.S. Army Engineer School is producing doctrinal manuals for the divisional engineer battalion and company that are scheduled to be released as coordinating drafts in FY 95. The following information provides some interim guidance to alleviate misconceptions and to serve as an employment guide until the doctrine is published. The information, work rates, and capabilities highlighted are based on an 18-month study completed at the National Training Center (NTC) from March 1992 through August 1993. Restructured divisional and corps combat engineer companies that supported 18 mechanized infantry task forces were included in the study.

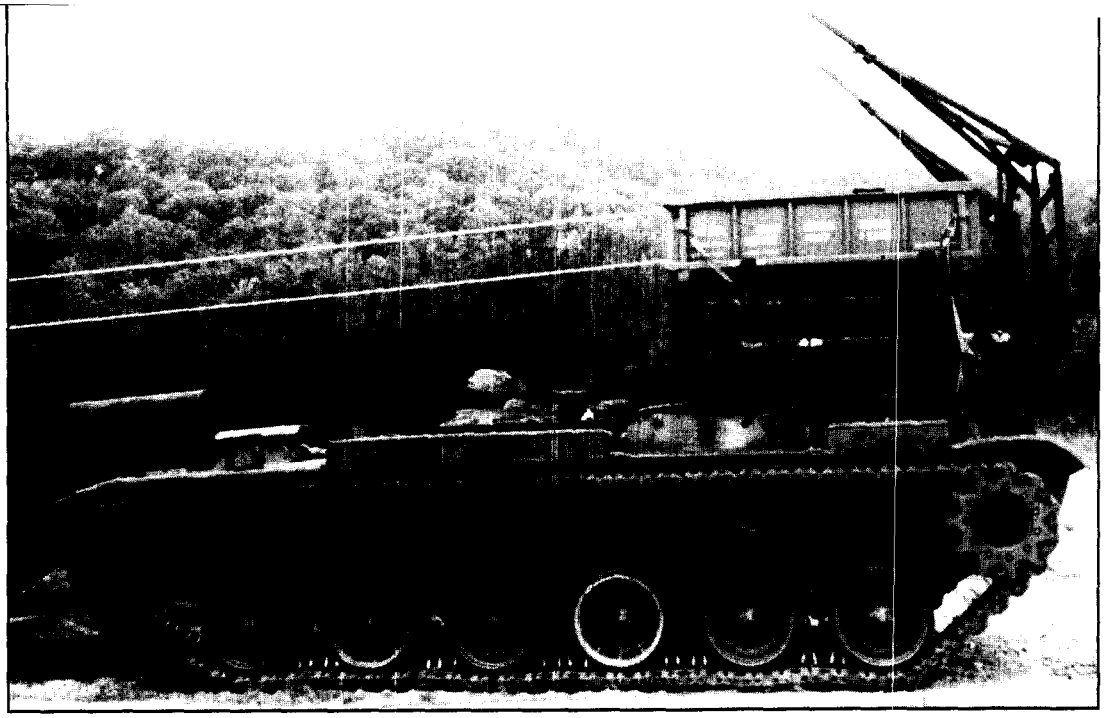
Under the new structure, the major missions for divisional engineers—mobility, countermobility, and survivability (M/CM/S)—have not changed. However, to effectively support the task force, commanders must understand their roles and responsibilities under the engineer restructure concept. (For more information about the restructure concept, see two articles in the August 1994 issue of *ENGINEER*, beginning on page 40.)

Command and Control

The engineer company normally provides the task force with a planning cell that consists of the engineer company command post and is capable of 24-hour operations. This mobile planning cell usually operates out of an armored personnel carrier (APC) or a HMMWV. It is generally led by the engineer company executive officer (XO), who acts as the task force engineer plans officer and provides the task force with an experienced engineer leader in the tactical operations center (TOC). The cell includes the company operations sergeant, the driver, and the NBC and communications sergeants as shift NCOs.

Engineer Cell Functions

- ☐ **Prepare a detailed terrain analysis of the task force area of operations. The XO works with the task force S2 section to develop this analysis.**
- ☐ **Evaluate the enemy's M/CM/S capabilities for integration into the task force situation template.**
- ☐ **Recommend M/CM/S capabilities for use during the task force tactical decision-making process.**
- ☐ **Track engineer operations within the task force area of operations and participate in the task force planning process.**



This prototype AVLM was designed by the Directorate of Combat Developments at the Engineer School. The prototype is currently undergoing testing and evaluation by the Army Materiel Command. Type classification of the design is anticipated by October 1996.

Mobility

The modern, heavy task force, with its associated engineer company, has twelve times the mobility capability of the heavy task force a decade ago. Although this represents a quantum improvement in capability, it has created an equally large challenge in planning and correct usage. The engineer planning cell must estimate how many breaches the task force can perform, based on the depth and width of each lane and the proposed breaching technique. For example, assuming that lanes are to be 4 meters by 100 meters (this constitutes a one-way, vehicular lane), a balanced task force with all organic and attached assets should be able to breach—

- Two dismounted lanes or one lane per engineer platoon.
- Six lanes with tank plows or one lane per operational tank plow combination.
- Four lanes with line charges or one lane per MICLIC.
- Four 17-meter gaps or one gap per operational AVLB.

A unit's lane-making capability is constrained by several factors. A major factor is the operational readiness of the breaching systems, which are often combinations of a vehicle and a breaching system. For example, a unit's M1A1 tank may be operational, but its attached mine plow may be inoperable. Or the MICLIC may be operational, but its conveyance system may be inoperable. In both cases, maintenance problems degrade the lane-making capability of the task force.

The density, design, and location of enemy minefields and other obstacles are also important when calculating lane-making capability. For example, the presence of a 200- by 800-meter, artillery-delivered FASCAM minefield will effectively double the breaching equipment required to create a lane. Similarly, the presence of antitank ditches, which require specialized equipment to breach, will affect the number of lanes a task force can create.

Terrain is another factor that affects breaching capability. For example, the task force can create lanes in rough terrain with dismounted engineers; in rocky terrain with explosive line charges; and in smooth, cleared soil conditions with tank plows. The engineer planning cell should recommend a breaching technique based on terrain and the types

Mobility Planning Checklist

- ☐ **Determine the breaching capacity of the task force based on standard 4- by 100-meter lanes.**
- ☐ **Constrain the breaching capacity by 4 meters through the expected enemy minefield depth.**
- ☐ **Determine which of these breaching assets are available:**
  - **Tanks and plows**
  - **MICLIC and carrier**
  - **AVLB and carrier**
  - **Engineer squad carriers and squads**
  - **CEV and M9 ACE**
- ☐ **Choose the breaching method based on terrain conditions.**
- ☐ **Determine the amount of marking material required to mark potential lanes.**
- ☐ **Constrain for 50- to 100-percent redundancy.**

Obstacle Construction Capability Per Engineer Company		
Obstacle	*Capability*	*Remarks*
Hand-emplaced minefield	200 meters per hour	100 meters per hour per platoon
Antitank ditch	50 meters per hour	A two-ACE team is required to construct one antitank ditch
Volcano	555 meters per 15 minutes	Construction time for a blocking obstacle
GEMSS minefield	500 meters per 15 minutes	
Artillery-delivered minefield	1 or 2	Engineers plan location

Table 1

of obstacles to be breached. The Engineer School recommends that a task force have 50- to 100-percent redundancy of breaching assets for any breaching operation. This limitation constrains the number of lanes a task force can effectively create.

The task force is capable of crossing gaps with its AVLBs, CEVs, or M9 ACEs (ACEs). It can bridge four 17-meter gaps. The CEV or ACE can fill small gaps such as antitank ditches and road craters. Most units in the NTC study converted one or two AVLB carriers into armored vehicle-launched MICLIC (AVLM) vehicles and used them to carry the MICLIC. This conversion should be a METT-T decision based on an analysis of the potential gaps to be crossed. (Note: Currently, DA has issued a safety-use message restricting use of AVLMs pending approval of a standardized design. A design submitted by the Engineer School is now under study by the Army Materiel Command (see photo, page 45.)

Countermobility

Unlike mobility, most of the countermobility effort available to the task force comes from the engineer company. Because it now has one less platoon, the new engineer company may appear to have less countermobility capability than it had prior to restructuring. However, the new mine and mine-dispensing systems enable the engineer company to exceed their previous countermobility capability. Table 1 shows the capabilities of the engineer company to create obstacles and planning factors for obstacle construction.

The engineer planning cell must provide the task force S3 with an estimate of the number and types of tactical obstacles that the engineer company can provide to support the direct-fire weapon systems. The initial estimate should be simple and definable

The M9 ACE was designed to be the primary earthmover for the heavy division engineer company. However, many combat engineer companies will have the D7 bulldozer in lieu of the ACE.

The dismounted combat engineer continues to bring versatility to the battlefield through his adaptability and flexibility. This is particularly important given today's complex engineer mission requirements.

and state the number of obstacles that can be constructed. It should include an NLT start time and an estimate of materials required.

Obstacles should be designed according to FM 20-32 and should be described as *turning, fixing, blocking, or disrupting* to avoid confusion in obstacle placement or design. Most engineer companies in the NTC study group used the fixing obstacle as their "base" obstacle when developing an estimate of obstacle capability. During the war-gaming session, the staff will use the obstacle estimate to develop obstacle groups and the obstacle overlay.

The number of obstacles a company creates is a function of their construction rate, constrained by obstacle design and time lost to travel, preparation, equipment maintenance, crew rest, and resupply. The training level of the engineer unit significantly impacts their ability to produce obstacles and construct fortifications. Also, the time spent constructing antitank ditches reduces the amount of time available to construct fighting positions. The average engineer company in the study group emplaced approximately 200 meters of obstacle frontage per hour and 50 meters of antitank ditch per hour. For planning purposes, the Engineer School recommends a planning factor of 10 hours for obstacle construction. This figure is constrained for the obstacles listed in Table 1. The remaining 14 hours a day are used for movement, mine-dump preparation, maintenance, and resupply and refitting.

Engagement area planning must be completed before effective countermobility work can begin. Without a plan, the task force will not realize any enhanced combat potential from the obstacle emplacement effort. Nevertheless, the length of time required for the maneuver company/teams to develop a direct-fire plan and to build the engagement area results in more engineer work delays than any other factor. Engineers can start work before the engagement area has been completed, but they cannot always do so productively until the direct-fire plan is developed and the weapon systems are sited.

Countermobility Planning Checklist

- ☐ **Determine how many obstacles are potentially available.**
- ☐ **Determine when the engineers can begin work.**
- ☐ **Determine when the task force will be ready for the engineers to begin work.**
- ☐ **Ask when the maneuver company/teams will have their respective engagement areas sufficiently developed to incorporate countermobility efforts.**
- ☐ **Determine the amount of Class IV and Class V materials available for preparation of the defense.**
- ☐ **Ask if the task force maneuver company/teams will emplace obstacles and where this additional effort will be used.**
- ☐ **Determine obstacle restrictions.**

Survivability

The engineer company is equipped to construct vehicle and crew-served positions for the task force. The planning cell normally provides the task force S3 with an estimated number of positions that can be dug, based on engineer equipment and time available. The estimated number is constrained

Equipment	Number of Two-Tiered Fighting Positions			
	24 Hours	*36 Hours*	*48 Hours*	*60 Hours*
2 Dozers	12	18	24	32
7 M9 ACEs	12	19	25	32
3 SEEs*	30	45	60	75

* Crew-served weapons positions

Table 2

by movement requirements, construction rates, equipment availability, operator proficiency, and soil or terrain conditions. The planning cell should recommend where positions can be built for maximum advantage and where positions are not feasible because of soil conditions. Ultimately, the number of positions that can be built is determined by the direct-fire plan. Unless the direct-fire systems are properly sited, position construction for these elements may be wasted or misdirected effort.

The task force generally takes several hours to plan the defensive battle, reconnoiter the engagement area, and develop direct-fire plans at the maneuver company/team level. The NTC study showed that engineer equipment is usually stationary and unemployed during that time. However, commanders must maximize engineer equipment time without wasting the unit's effort. Air defense artillery, mortars, TOC, and combat train areas often receive no survivability effort because work priority is allocated to direct-fire systems.

One alternative is for engineer units to fortify the indirect, air defense, and combat support systems during that time. These positions require less precise ground positioning and are less time-consuming to construct than direct-fire positions. This engineer effort will increase the overall survivability of the force without degrading the direct-fire system fortifications.

Doctrinally, an engineer company can prepare 12 two-tiered fighting positions and 30 crew-served weapons positions in a 24-hour period. For planning, the Engineer School recommends a factor of 15 hours per blade team per day for fighting position construction. The remining 9 hours are used for maintenance, repair, refueling and travel. Table 2 shows work rates and planning factors for the engineer company to construct two-tiered fighting positions.

Survivability Planning Checklist

- ☐ **Determine how many positions can be built.**
- ☐ **Determine which type of position is recommended.**
- ☐ **Determine if there are any digging restrictions.**
- ☐ **Ask when the equipment will be available.**
- ☐ **Ask when the maneuver company/teams will be ready to start position construction.**

Limitations

The NTC study compiled data for 18 force-on-force operations and identified several limitations. The following limitations have since been mirrored in operations at other combat training centers:

Logistics. The most significant limitation facing the engineer company is its austere logistical organization. The company has no organic maintenance, Class IX material, recovery, or medical evacuation capabilities. These assets are consolidated with the engineer battalion. This is a significant change from the previous engineer organization.

Communications. The engineer company may experience extended lines of communication with the engineer battalion. Engineer battalion trains are normally found in the brigade support area. Generally, when the engineer company is working well forward, the task force combat trains are between the engineer company and the engineer battalion trains. All engineer companies in the NTC study ultimately became attached to their respective task forces because of extended distances to the engineer battalion trains.

Maintenance. The engineer battalion is authorized three maintenance support teams (MSTs) in the headquarters maintenance section. An attached engineer company should come with an MST from the engineer battalion, but there are only three MSTs to support three engineer companies and the HHC. This places a burden on the task force because most engineer-specific equipment is low-density, high-maintenance, and specialized. The task force does not normally maintain the PLL required for equipment in the engineer company, nor does it have the expertise or the experience to properly repair this equipment. Also, engineer battalions generally have a consolidated

PLL, which makes it difficult to prepare Class IX packages for each attached engineer company. The engineer battalion should receive an MST from the forward support battalion to facilitate speedy battlefield repair. Future battalion organizations will have modular CSS functions that will better support separate company operations.

Recovery Assets. The engineer battalion maintenance section does not provide for recovery assets within each company. The two recovery vehicles (M88s) allocated to the engineer battalion must support the entire engineer battalion across the maneuver brigade sector. The engineer commander must plan for self-recovery during combat. Frequently, companies in the study group used AVLBs for ad-hoc recovery.

Special Tools. The engineer company has several specialized pieces of equipment. The M9 ACE, SEE, M728 CEV, and M48A5/60 AVLB all require special maintenance skills and special tools. The engineer battalion MTOE authorizes only a single special tool for some equipment, such as SEE and ACE special tool sets. Because these sets must be shared by three companies, the engineers are severely limited in their ability to fix forward or quickly repair the specialized equipment. This issue may be alleviated when the battalion support platoon is redesigned (currently under way) to support modular, separate operations.

Medics. The engineer company generally receives two medics from the HHC. Because no ambulances are authorized for the engineer battalion, the company must use organic, soft-skinned, or combat vehicles to evacuate the wounded. This additional burden on the task force medical platoon limits their ability to support the engineer company on an area basis. The commander must understand the medical support plan in order to evacuate engineers quickly and efficiently.

Operational Readiness. Data compiled during the NTC study showed that, when in direct or general support (DS or GS), engineer companies waited extended periods of time to receive repair parts, supplies, and Classes IV, V, and IX material during their NTC rotations. Many of the DS companies in the study group suffered operational readiness rates ranging between 20 and 50 percent after five days of combat operations, without any combat losses. Combat Maneuver Training Center Hohenfels reports similar trends. In the NTC study, readiness rates were directly related to operator training and leader involvement in operator supervision, especially for low-density engineer equipment like the ACE.

Equipment Recovery. Companies that are DS or GS must recover damaged or repairable equipment past the task force UMCP and field trains to the engineer battalion UMCP in the brigade rear. These distances may be extensive and overburden an already austere organization. Until changes to the organization are approved, the engineer company must plan for self-recovery to a maintenance collection point.

Command and Control. Command and control (C2) are also potential shortcomings for the engineer company. Most engineer companies lack a dedicated C2 vehicle for the company command post. The company XO and commander share an M998 and an M113A2, and the mission dictates which vehicle supports the engineer planning cell. Because neither is adequately configured to be a command post vehicle, the engineers are limited in their ability to effectively integrate into the task force TOC. The M577 is the preferred vehicle for the engineer command post and should be included in future force structure changes. Until then, integrated engineer command post and task force TOC operations will be limited.

Looking Forward

The new divisional engineer organization provides a modernized task force with superior breaching capability, better engineer C2, and increased survivability and countermobility potential. These improvements greatly enhance the mobility of the force and its ability to defend and survive on the modern battlefield. The increased capability has been accomplished with a smaller, better-equipped force structure that has some limitations, mostly in the logistical arena. Even better force mobility and protection will be provided as the Volcano and wide-area mine (WAM) systems, M1-based breacher and bridger, and improved engineer squad carriers are fielded. As the engineer company structure changes, doctrine will evolve to support that change. In the meantime, the guidance in this article should fill the void in doctrine and assist you and your company as it supports the maneuver force. The engineers now have a force structure that can fully and adequately support the heavy task force any place and any time.

Captain Brinkley is the primary author of FM 5-71-2, Task Force Engineer and Engineer Company (Armored). Previous assignments include observer/controller at the NTC; company commander and battalion S3 with the 78th Engineer Battalion (Germany); and Brigade Engineer, S4, and platoon leader with the 1st Engineer Battalion, Fort Riley. He is a graduate of the Command and General Staff Officer's Course and CAS3. CPT Brinkley has a bachelor of engineering degree from Virginia Tech.

Auftragstaktik:

Mission-Based Leadership

Brigadier General Karl Hoffman, German Army Corps of Engineers, spoke to U.S. Army Engineer School staff in October 1994, concerning his views on independent mission analysis and military leadership.

Today I will speak about *auftragstaktik*, which means mission-type orders. I will try to explain what the word implies and whether this important leadership concept can be revitalized.

Command and control of mobile formations on the modern battlefield is a challenge. For decades, all forces have been looking for command and control procedures that are appropriate for this challenge. In the 1970s, Colonel T. N. Dupuy, a leading American military historian, made a survey of Prussian-German command and control procedures used during the 19th and the 20th centuries. Dupuy found that from 1807 to 1945, Prussian-German armies had been consistently superior to their opponents in terms of quality, command and control procedures. The results of Dupuy's research were supported by a follow-up study conducted by Martin van Creveld, a Hebrew military historian. Accordingly, experts, first from the U.S.A., soon demanded that German procedures (called auftragstaktik) be adopted.

One point is evident: If it is true to say that the German combat effectiveness was superior, we must examine the reason why. It was certainly not a higher degree of braveness that led to this superiority. Many nations have put forces of admirable braveness on the battlefield. And there is nothing like an innate German superiority in combat effectiveness. Numerous wars have shown how quickly the quality of a nation's military forces can change. For example, in the middle of the 18th century, Prussians and Hanoveranians defeated French forces without much effort, even when the latter were clearly superior. In 1806/07 the French defeated the Prussians whenever they met. In 1813/15 it was again the Prussians who defeated the French, except when Napoleon held the French command.

Apparently, units from all nations fight bravely if some basic requirements are met: a convincing reason to wage war; an internal bond, keeping the soldiers together; the presence of officers and NCOs the soldiers trust; and a sufficient supply of arms.

Roots of Combat Effectiveness

Those are reasons why soldiers fight. But it is not enough to have soldiers fight effectively. In many cases, a high degree of combat effectiveness may be the result of superior tactics. But tactics are not the only root of a high degree of combat effectiveness. This is shown by the battle for Crete, in 1941.

In that battle, the Germans had air superiority. But the British-Greek defenders had more and much better trumps to play. They ruled the ocean. They were overwhelmingly superior by numbers. They held prepared positions. At that time, paratroopers and airborne troops could carry little more than their handguns; their first assault echelons had only a few light mortars and a few radio sets, at best. Only after an airfield had been seized was it possible to send in light cannons. It was impossible for the Germans to supply tanks, armored infantry fighting vehicles or trucks, although those vehicles were available to the defending units. Even worse, the defending units knew the German radio code. So they were familiar with every detail of the German plan of attack, including the time of attack and landing zones.

Using parachutes and gliders, the attacking German units landed literally within the positions of vastly superior defending forces, who knew exactly when and where the Germans would attack. Nevertheless, the attacking forces were successful. They seized an island of strategic

East end of Remagen railroad bridge which collapsed 17 March 1945, spilling several hundred engineers into the Rhine River at Remagen, Germany. By waiting for orders to seize the bridge, the U.S. lost the initiative. German forces were able to reinforce their troops and finally destroy the bridge. While the U.S. ultimately succeeded, immediate action according to the Auftragstaktik principle might at least have saved many lives.

importance and caused casualties in the enemy lines that exceeded the number of their casualties many times over.

It was not superior tactics that brought about the victory. Under the described conditions, German tactics were soon reduced to a desperate struggle for survival, performed by small, isolated units. The attacking forces never had a chance to perform a planned combined arms battle or tactically employ their units and formations.

So, there existed another significant factor besides tactics. This factor was so strong that it offset the terrible disadvantages with which the German paratroopers and mountain troopers had to struggle. In searching for this factor, we turn to Field Marshal Lord Carver, the former British Inspector General. During the Second World War, he participated in many German-British combats as a front-line soldier in Africa, Italy, northern France and Germany. In his book *Dilemmas of the Desert*, Lord Carver wrote that time and again British units were defeated because they failed to move; instead, their unit leaders waited for orders or for approval of their intentions. This implies that forces will fight effectively if the soldiers' braveness is supplemented by two factors: good tactics and initiative (enterprise)—or the willingness of officers, NCOs and enlisted men to act independently and, if need be, even contrary to their obsolete mission.

The importance of acting independently results immediately from the characteristics of war. War is the domain of uncertainty, friction and, often, sheer

chaos. It will remain so because war is not waged by machinery but by soldiers operating machinery. So, war is a fight between opposing forces of will and mind. Soldiers' reactions in the face of danger and death, however, are unpredictable. Managerial planning and careful realization of detailed plans may not show soldiers the way through uncertain situations, frictions and chaos.

When the unexpected occurs, those waiting for new orders will lose. But those who react faster than their opponents will win. They will act like a chess player who moves two pieces at a time while his opponent moves only one. If history is not misleading, auftragstaktik is one way to call forth this quick and independent action.

History

Unfortunately, few books or articles provide information on the history and origin of auftragstaktik. Yet this concept is an important and sententious phenomenon. Those who have developed auftragstaktik and have applied this system for the first time appear to have considered it something ordinary, which did not require any special explanation, theory or terminology. Even the term is quite new: It was used commonly only after the Second World War, when what it defined no longer existed.

Anglo-Americans use the term "mission-type orders" for auftragstaktik. This implies that the essence of auftragstaktik is to give the subordinate commander a general mission, while leaving him much liberty in terms of executing the mission. If you adhere to this interpretation and then compare Allied and German combat orders written during the war, you will find surprisingly few differences and not find anything to explain differences in the forces' combat effectiveness. Commanders who commanded their troops from the front lines did this not to have a better view, but to have the ability to intervene quickly and immediately with subordinate formations in executing the mission. Changing only the wording of operation orders will, therefore, not make it possible to revitalize or adopt auftragstaktik.

Contemporaries Evaluate Auftragstaktik

In the mid-19th century, Prussia already looked back on a long tradition of unusual devotion to the profession and duty. The tradition of respect for the subordinate's dignity, which was uncommon at that time, was just as long. That tradition was the basis for the natural development of auftragstaktik. The command and control procedures were not created at that time, nor were they conscientiously developed from a philosophy or by necessity. Instead, they evolved by themselves and were considered normal and natural. This conclusion is evident in documents written by authors from four nations:

- Prince Friedrich Karl, field marshal not only by rank, but soldier and military leader, wrote: "All in all, the Prussian officer corps, unlike any other forces, seem...to have developed an unusual longing for independence from superiors and a willingness to assume responsibility...This attitude also had an undisputable impact on our battle tactics. Prussian officers do not tolerate any restrictions by regulations and schemes, as is the case in Russia, Austria, the United Kingdom ... We give ... free rein to the ingenuity of the individual soldier, perform our arts more easily and support any successful action independently, even when this may be contrary to the intentions of a military leader."
- Thirty years later, an Englishman made the following judgement in what he explicitly called a "critical study" of imperial Germany: "Nowhere in the world, independent thinking and liberty of action is fostered and promoted as much as in the German forces, from the commanding general down to the last NCO."
- A Russian general, who had acted as an observer during the entire German-French war in 1870/1871, concludes his two-volume report as follows: "Actually, the eventual success of the Germans was obtained due to an incredible extent of independent enterprise by the lower-ranking leaders on all levels down to the lowest one, which was displayed on the battlefield and outside of it."
- Shortly after the German-French war, an officer presented a speech at the Ecole Superieur de Guerre—without exception, all course participants had fought in this war. He said: "A common characteristic of all German officers was the firm determination to keep the initiative by all means ... while the soldiers were incited to devote themselves completely and to act autonomously, and while all soldiers were obliged to think, to check and to create their own conceptions ... The NCOs were the backbone of the Prussian forces ... a precious support of the officers. Their special responsibilities, backed by a respect which was unknown in other armies, guaranteed them to hold an honorable and envied position. The Prussian forces were proud of them."

"When the unexpected occurs, those waiting for new orders will lose. But those who react faster . . . will win."

These writings indicate that the command and control procedures of auftragstaktik had not been grafted on an optional basis. Rather, auftragstaktik was founded on many decades of national education, respect of the person, and the dignity of lower-ranking officers, NCOs and enlisted. Last but not least, auftragstaktik was the result of constant observation and promotion of professional skills over decades, which resulted in self-assuredness and self-confidence.

One facet was very important, even crucial: Foreign observers recognized that the high degree of independence was not restricted to the battlefield. They noted that it existed "on the battlefield and outside of it." They perceived independence and self-confidence not only among officers but also among NCOs and enlisted.

These observations show to what extent liberty of action (i.e., execution of a mission by its *sense* not by its *wording*) was part of a general style of living. That style of living is not promoted or revitalized by merely changing the wording in item 3b and following the Operational Command STANAG 2024, describing the execution of the mission (or any order).

Prussian Command and Control Procedures

At first glance, the Prussian command and control procedures may appear to be the same as the procedures of other forces: The officer assessed the situation, made a decision, developed an operation plan and, based on that plan, set up the missions for subordinate units. The subordinate was given his commander's intent and orders, assessed the situation, made a decision, and so on—down to the level of the squad leader. These procedures were the same in all armies; but in the Prussian-German forces, the emphasis seems to have been shifted: The mission embraced in the statement of the commander's intent had higher priority than any detail of the execution process.

This fact may seem to be insignificant but it is not. For, if an unexpected situation developed, it was easier for German commanders to question the validity of the then-obsolete mission and act independently instead—as long as they followed the intention of their next superior.

Thus, if there is a characteristic feature, essence or substance of auftragstaktik, it is not a definite extent (listing) of details or how to execute the mission. The characteristic feature is the clear emphasis on the *intention* of the next superior—and a corresponding reduction in the importance of the mission received. When Field Marshal Prince Friedrich Karl reproved a major, in about 1860, the latter justified his action by replying that he had executed a strict order. Then the Prince rebuked him: "The King has turned you into a major because he thought you knew when not to obey an order." Such anecdotes (this one seems to be true, by the way) belong to the standard repertoire of some forces.

Remarkably, this story was referred to many times, even in semi-official publications of the Prussian forces. So it is no surprise that a military leadership regulation in 1906 included a passage which obliged officers to verify that the mission received was still appropriate in view of the situation and the intention of the next superior.

Revitalization of Auftragstaktik

Whatever was left of auftragstaktik vanished after the breakdown of Germany in 1945. Many years later, interest in auftragstaktik rose again. Perhaps it arose because NATO member nations were looking for a way to balance the high Warsaw Pact superiority in terms of quantity by establishing higher quality in terms of command, control and leadership. Or perhaps there was another reason: A future conflict between high-technology forces may be dominated as much by electronic warfare as forces in the Second World War were dominated by armored vehicles. In the future, military

commanders will face quickly changing situations (i.e., obsolete missions). They will be unable to turn to superiors because radio connections will be jammed. Initiative and independent action will, therefore, be even more important in a future war than they were in former conflicts.

This brings about much more than just the question of how operational orders are worded. Wording is important. Yet, another issue needs to be addressed: Are the officers, NCOs and enlisted soldiers in the armed forces capable of implementing auftragstaktik?

What does that mean? It means that the military needs soldiers from all ranks who, upon facing an unexpected situation, start to think automatically: "When my superior gave me this mission he (or she) could not foresee this situation; so I will not follow the obsolete mission but will follow the intention of my superior." If the situation has changed completely and not even the superior's intention and operation plan are appropriate for the new situation, our soldiers must think: "When my superior developed this intention and operation plan, he could not foresee this situation. Therefore, I must consider the mission and my superior's operation plan obsolete. Instead, I must do what my superior would have ordered if he had faced this situation."

Such command and control procedures will result in chaos if those involved are not excellently trained or are not experts in their fields. Independent action can be the rule only if it is based on excellent professional skills. That is the first requirement of auftragstaktik.

The second requirement is a high degree of self-confidence. Independent action, (i.e., auftragstaktik), will develop only if—

- Soldiers consider themselves experts in their fields.
- Commanders are proud to be part of the military.
- NCOs and officers prefer their military leader assignment to anything else (and do not secretly long for an assignment in the headquarters—next to the almighties with the red general's collar patches, if possible).

The third requirement of auftragstaktik is especially difficult to meet. It concerns the superiors—up to those who personify the primacy of politics. For them, it will be possible to support (or revitalize) auftragstaktik only if they accept having subordinates who act differently from what they may have expected. If superiors intervene too often, too early or too forcefully, they may prevent a few mistakes from happening. But they will blunder because they will prevent independence from growing. Independence is the root of high combat effectiveness in a force.

Superiors must understand that, apart from lack of discipline, there is only one reason for reprimanding subordinates: inactivity or waiting for orders to come from the top. That is easier said than done. But support for or revitalization of auftragstaktik means, first, to educate superiors not to act on subordinates. It is easier to herd sheep than lions—but lions act stronger against the enemy.

The last requirement of auftragstaktik is the prevailing leadership style within the forces. For many military units, everyday business is ruled by SOPs, statistics, inspections and tests; activities are predetermined by regulations, rules and instructions. Allegedly, many military leaders are fully occupied with evaluating statements and statistics provided by subordinates, and with compiling new statistics, statements and reports. They have little time left for their most important job—to visit their troops. These visits should not be to monitor and check their troops once again but to watch and listen and learn. Officers who live in a permanently monitored environment will not develop the braveness and willingness to take the risks associated with independent action, nor will they rely on their own judgement first if this is suddenly required.

Military leaders who want their soldiers to take risks and act independently, those who want, in effect, to introduce auftragstaktik, must support its development during peacetime. They must select, promote and educate appropriate personnel and maintain an adequate level of professionalism. Military leaders who do that will obtain the desired results. They will achieve auftragstaktik, which is the willingness of soldiers to act independently and the ability to do this in a reasonable way.

Those who think auftragstaktik is nothing but a way of wording operation orders have missed the point. Those who think they can introduce auftragstaktik from above or order it to be fostered within units are like the farmer who sows wheat in the desert. There is only one way to achieve auftragstaktik: You must ignore it. Instead, you must concentrate on building forces that are intrinsically characterized by independence, maximum professional skills and confidence. In such forces, independent action will be a matter of course.

Thank you.

For more information about the concept of auftragstaktik, readers are invited to call LTC Reinhold Hocke, German liaison officer at the Engineer School, at (314) 563-4029.

Light Engineers in Urban Cordon and Search Operations

By Major Martin N. Stanton

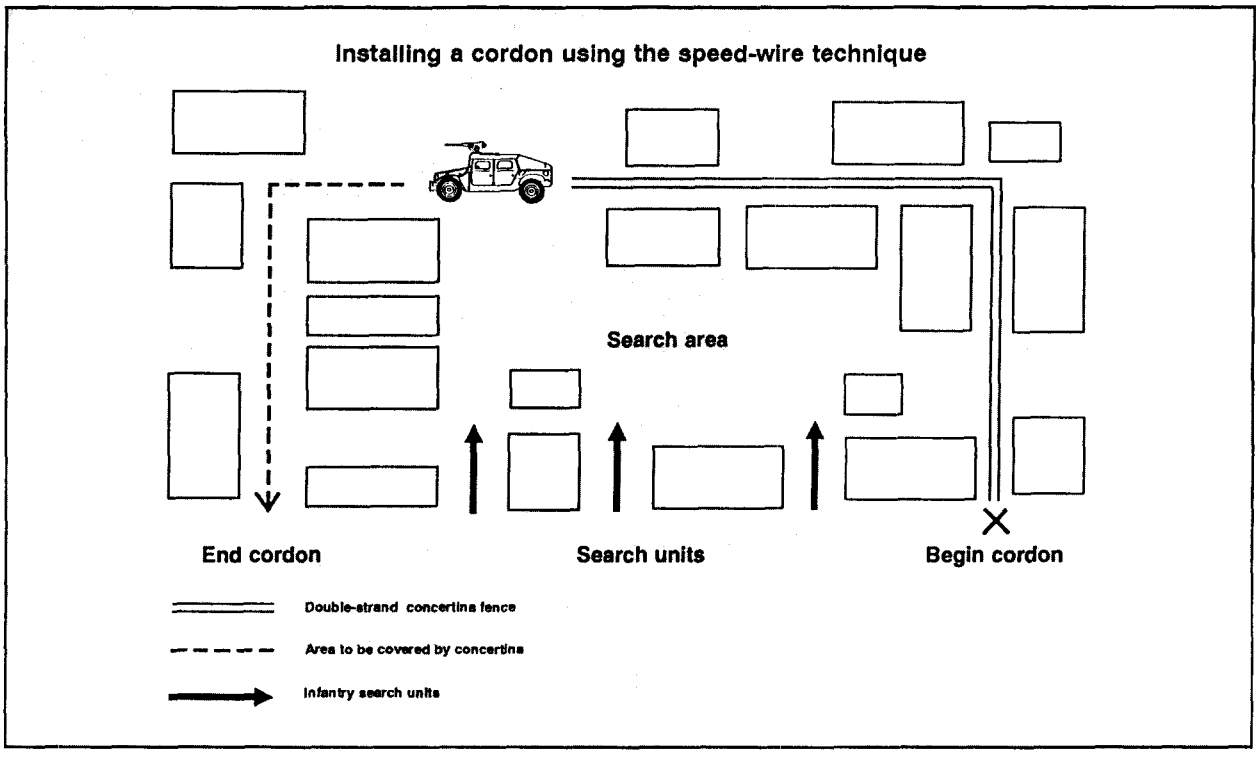
Low intensity conflict and operations other than war (LIC/OOTW) offer many opportunities for employing engineer units in innovative and unusual ways. An effective action in Somalia was the employment of a platoon from the 41st Engineer Battalion (Light) in a cordon and search operation in the town of Kismayu in February and March 1993. The platoon was attached to Task Force (TF) 2-87 Infantry.

The Situation

In a cordon and search operation, a perimeter (cordon) is emplaced around an area to prevent the escape of individuals or groups, who are the target of a search. TF 2-87 found it difficult to restrict pedestrian movement between parts of the city that had been searched for weapons and those that had not. To search the city "one bite at a time," the engineers first had to control pedestrian traffic. The rules of engagement (ROE) allowed them to fire without warning on people with visible weapons; all others had to be challenged and apprehended. Because of the large population of Kismayu (over 60,000), it was difficult to do this with the limited number of troops available (less than one battalion of Belgian paratroops and TF 2-87 Infantry). For example, while soldiers stopped one person crossing a street, a hundred others could walk by—it was not possible to stop them all. The many narrow, twisting streets in Kismayu also made it a challenge to keep people from slipping through the cordon with weapons hidden in their clothing.

The Operation

TF 2-87's solution was a technique called "speed wiring." The intent was to rapidly establish a concertina fence around the area to be searched. By creating a substantial but nonlethal obstacle, the engineers could delay the Somalis long enough to conduct a weapons search. When



constructing the obstacle, the engineers relied on the following tenets:

- Stealth (to allow unobtrusive emplacement).
- Speed (to prevent the Somalis from reacting to it).
- Reinforcement (to improve its obstacle value).
- Security (to prevent intentional or unintentional breaches).

The battalion operations order provided the engineer platoon leader with the boundaries for the search area and the type of obstacle to be installed. Engineers loaded trucks with enough concertina wire to create an obstacle several kilometers long. Infantry soldiers established a cordon around the search area just before daylight, and the engineers began to emplace the speed-wire obstacle.

Speed wiring required that trucks move down the road at a walking pace, while soldiers threw concertina strands out at intervals of 25 to 50 meters. Engineers walking behind the trucks spread the concertina and linked the strands together. Working quietly, they established the initial half-mile-long, side-by-side, double-strand fence in less than 15 minutes. Then, they pounded pickets in the dirt road and placed one strand of the wire on top of the other. They established exits through the fence at 250- to 300-meter intervals and posted soldiers by them to check people who tried to leave. Much like a fisherman's net, the wire obstacles allowed soldiers time to search people and to apprehend and disarm those with weapons. The engineers and an infantry platoon patrolled the fence to provide security and prevent a breach.

The wire fence was a complete success the first day it was used. Since it had been constructed quietly during the night, the Somalis within the cordon awoke to find a battalion of Belgian and a battalion of American soldiers preparing to conduct a detailed search of their neighborhood. Many of them tried to flee but were stopped by the wire. Rather than try to go through the fence, many armed young men returned to the cordoned off area to hide their weapons. The few who attempted to breach the fence were halted by engineer and infantry guards. Occasionally, donkeys or other animals became entangled in the wire and had to be cut free. The engineers watched closely to ensure that unattended children were not caught in the wire.

Associated Tasks

Search for Weapons. When searching for hidden weapons, the engineers used tools in their pioneer kits to smash locked doors and search under floorboards and above rafters. To breach doors and walls, they used the winch on their HMMWV, or they attached one end of a chain to the HMMWV's towing pintle and the other end to the door. Chain saws would have been useful to cut through doors and walls, but they were not available. A lesson learned is that units should take chain saws when they deploy on a cordon and search operation.

The engineers also used mine detectors to locate weapons hidden under piles of refuse, in dung heaps, or in fresh graves. Somalis rarely buried people with metal objects, so if the mine detectors indicated that there was metal in a fresh grave, it was almost always a weapon. The Somalis often hid weapons in such unsavory sites, hoping that the searching troops would be too squeamish to look for them. By

Task Force 2-87 captured more than 300 weapons in the cordon and search operation. The weapons reflected 50 years' of small arms development and ranged from M16s and AK47s to Bren guns and Lee Enfield rifles. They included 50-caliber machine guns, bolt-action rifles, hand and rocket-propelled grenades, mines, and mortar rounds. Some of the weapons were in good condition; others posed a greater danger to their owners than to us.

the end of the first day, the combined US/Belgian force had found almost 100 small arms and several crew-served weapons, as well as various types of grenades, mortar bombs, and antitank rounds.

Destroy Captured Weapons. The engineers used demolitions to safely destroy the weapons, explosives, and ammunition that they captured. Because the explosive ordnance disposal (EOD) personnel were occupied with more complicated demolitions or bomb disposal, the engineers were called upon to destroy captured weapons. They used demolitions to safely destroy the weapons, explosives, and ammunition that had been captured.

Construct Detainee Compounds. As armed civilians were detained, TF 2-87 planned to construct a detainee compound at the airfield base camp, thinking they would have to guard and provide for prisoners. Fortunately, the Belgians relieved the task force of this responsibility. Although the engineers did not build a compound in Kismayu, the ability to quickly erect a detainee facility is essential in this type of operation. Detainee compounds need a more secure fence than those erected for a cordon and search operation, usually one made of triple concertina or, as a minimum, double concertina intertwined with tanglefoot.

Assessing the Results

By establishing a cordon along the streets in Kismayu, TF 2-87 effectively sealed off the area to be searched. Local conditions made it easier to establish a cordon in that city than in many other urban areas: The buildings were too far apart to allow civilians to escape across rooftops, and there were no sewer systems or other subterranean avenues of escape. In urban environments with these escape routes, accurate maps are critical if the cordon is to be effective. Guarding each possible exit requires many soldiers, but if a military intelligence sensor team is available, sensors may be used in the sewers or on the out-of-the-way overhead avenues. Then the commander can maintain part of his reserve forces as a "sewer reaction force" to move to and intercept escape attempts detected by the sensors. In most urban areas, soldiers need to build nonlethal obstacles and provide security for them. These obstacles can be built with a mix of concertina, CS powder, broken glass or metal caltrops, trip flares, or even welded bars, grates, or doors. Use of lethal obstacles such as land mines is normally governed by ROE.

Making the Difference

Engineers were a key combat multiplier to TF 2-87 during the demanding cordon and search mission in Kismayu. Using limited resources, they were able to assess situations and devise plans to successfully use traditional obstacles in innovative ways. The Kismayu experience shows that leaders at all levels must be aware of engineer capabilities and constantly search for ways to use them as a combat multiplier. In Kismayu, effective employment of engineers made a significant difference in the success of the cordon and search mission.

Major Stanton, an Infantry officer, is an Assistant J5 (Policy) at the United States Army Central Command, McDill Air Force Base, Florida. Previous assignments include senior brigade advisor, Saudi Arabia National Guard; and battalion S3, 2-87 Infantry, 10th Mountain Division. He holds a master's degree in national defense and strategic studies from the Naval War College, Newport, Rhode Island.

Managing Risks Associated with Engineer Equipment

By Mark Totzke

The M9 Armored Combat Earthmover (ACE), like any new system, is being fielded with design characteristics that may pose risks to operators and equipment maintainers. Due to resource constraints, no system can be designed for perfectly safe operation under all conditions or operate in all environments and against all threats. The following information describes possible safety risks associated with the ACE and how to reduce them.

M9 ACE Accidents

As with other engineer equipment, the overall number of reported accidents involving the ACE has been low. This is because the Engineer School and most engineer units adhere to high training standards and have implemented effective risk-management programs.

Since the ACE was first fielded in 1988, several equipment operators and maintainers who failed to follow the established procedures have been involved in accidents. For example, a soldier recently had a foot amputated after it was crushed while he performed maintenance in the bowl of an ACE. He and the operator had apparently confused some prearranged hand signals, and the blade was lowered on his leg.

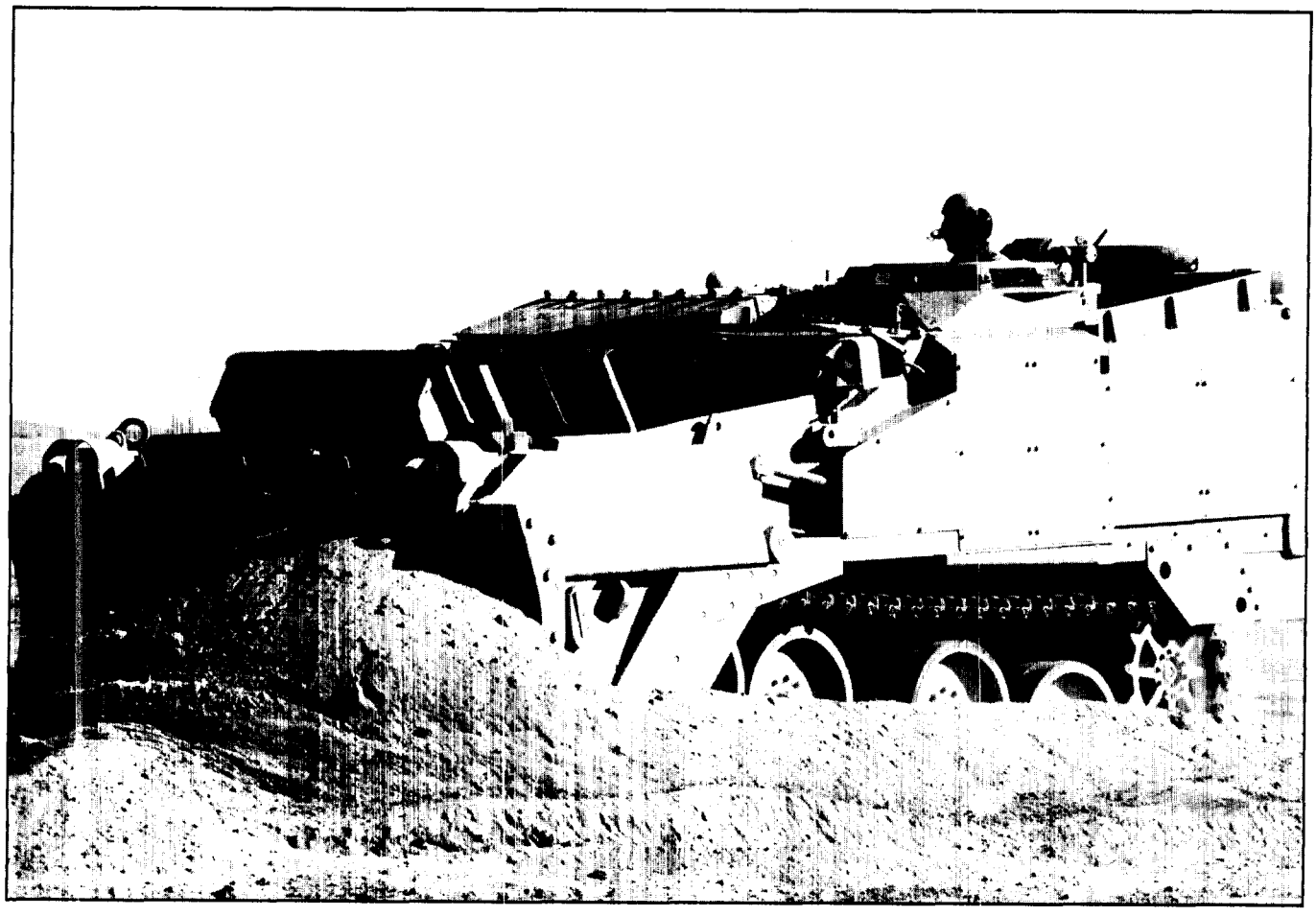
The possible occurrence of this scenario was identified during the development process for the ACE. Rather than redesign the system, however, decision makers determined that risks to soldiers would be minimized by requiring that the blade be locked in the "up" position before anyone worked in the bowl.

There are other similar, although less serious, incidents where soldiers found established procedures inconvenient and developed their own methods. For instance, soldiers often travel with the blade of the ACE down and ignore the caution to raise the blade in rough or uneven terrain. Training documents highlight this requirement, and it is reinforced in ACE training. As the post-fielding training effectiveness analysis (PFTEA) survey reveals, however, the time required to lock the blade in the up position takes from 20 to 30 minutes. This delay creates an inconvenience to mission accomplishment and the urge to take unacceptable risks. Traveling with the blade down may cause the operator to lose control of the vehicle and has raised the overall fleet costs for the ACE because of equipment damage. ACE operators and maintainers must use risk management before they deviate from the established procedures and standards, especially in this period of shrinking resources.

Risk Management Process

The key to successful risk management is to identify and implement suitable countermeasures for hazards and, for high-level risks, to allow the decision to be made by a higher authority. In the accident described earlier, the soldiers should have contacted their chain of command; then they probably would have been required to perform the operation according to established procedures.

Fort Leonard Wood's risk-management program has served as a model for use at other TRADOC schools. It combines the common sense of engineer soldiers with a systematic method to identify hazards and prevent accidents. The program enables personnel to recognize hazards in a fast-changing environment, develop appropriate countermeasures, and carry out risky operations safely.



When operated according to standard, the M9 ACE is a safe and effective piece of equipment. Here, an operator is not using the M9 ACE according to standard; he did not fill the bowl with dirt for ballast.

When developing equipment such as the ACE, the Engineer School actively participates in a system safety design effort to identify and eliminate the most serious deficiencies that may create hazards for operators and maintainers. It is a continual give-and-take process between contractors, system safety engineers, and decision makers. For nondevelopmental (off-the-shelf) materiel acquisitions, engineers conduct a market investigation to carefully compare the safety characteristics of all candidate systems. The result of the acquisition process is equipment that can complete the mission but still has inherent design flaws. Engineers compensate for these flaws through a risk-management training program that aggressively addresses all aspects of the flaws and how to overcome them.

Long before the ACE was fielded, hazards that could not be designed out of the system were translated into "Caution" and "Warning" statements in the training literature. Programs of instruction and lesson plans were developed to ensure that trainees become familiar with the equipment and have the knowledge to do their job safely. Training programs at Fort Leonard Wood are designed to ensure that soldiers are well-versed in the techniques of risk management.

Accidents involving Army personnel (military and civilian), now drain the budget of nearly $1 billion per year. In an era of shrinking resources, it is imperative that everyone learn and use risk-management procedures during their daily activities.

Readers are encouraged to call the Engineer Branch Safety Office and relate their experiences with the ACE and other engineer equipment. We want to learn about incidents that could help improve training or identify a previously unknown system deficiency. To obtain a copy of Fort Leonard Wood's risk-management regulation, write to: Commander, USAES, Attn: ATSE-CDC-S, Fort Leonard Wood, MO 65473; or call (314) 563-0131, extension 3-7346. Use the risk management process to increase the realism of training in your unit while minimizing risks to personnel!

Mr. Totzke is a systems safety engineer with the Directorate of Combat Developments and the Engineer Branch Safety Office, U.S. Army Engineer School. Mr. Totzke holds bachelor's degrees in mining and general engineering from Sourthern Illinois University and the University of Illinois.

Engineer Support to Theater Aviation

By First Lieutenant Amy Klopotoski and Sergeant First Class Timothy J. Funk

Topographic surveyors deploying to the battlefield provide precise-positioning data (latitude, longitude and elevation) to many users. Army users of topographic information include Command and Control, Field Artillery, Air Defense Artillery, Signal, Military Intelligence and Army Aviation.

The survey platoon from the 29th Engineer Battalion in Hawaii is the only Active Component topographic survey unit in the Pacific theater. The platoon focuses on wartime missions and technical readiness through varied training exercises. Once each quarter it deploys with division artillery units to practice quick-response, precise-positioning skills.

The platoon's most recent challenge was a two-month deployment to Alaska. It's mission was to complete safety and navigational aid (NAVAID) surveys for three U.S. Army airfields: Allen Army Airfield at Fort Greely, Wainwright Army Airfield at Fort Wainwright, and Bryant Army Heliport at Fort Richardson. On the surveys, the platoon positioned the airfield's NAVAIDs, identified

SPC Gatling observes an angle while PFC Gambos records the angle from high atop a hanger at Bryant Army Heliport, Fort Richardson, Alaska.

nearby obstructions and established the airfield elevation. This was done to comply with a Federal Aviation Administration (FAA) requirement that safety and NAVAID surveys be conducted on all U.S. airfields every five years.

Although the deployment was projected to last three months, the survey platoon completed the job in two months, at a considerable cost savings. Support received from organizations throughout Alaska contributed to the mission's success.

Using military personnel to do the three surveys cost about $90,000. In comparison, hiring an outside contractor would have cost about $200,000 for each airfield. Compared with the cost of hiring contractors, deploying Army topographic surveyors for the mission was a minimal expense, and the experience provided outstanding training for soldiers.

The Alaska project offered the survey platoon an opportunity to simulate a real-war mission combined with real-deployment considerations. One month before the platoon deployed, a reconnaissance (recon) team was sent to the three airfields. It determined the scope of required support, including billeting and transportation. The recon team also located existing survey control points on and around the airfields. These were points where the horizontal and vertical positions were determined to a high degree of accuracy. Data for these points exist in files called *trig* lists; they include station description cards and survey control schematic diagrams.

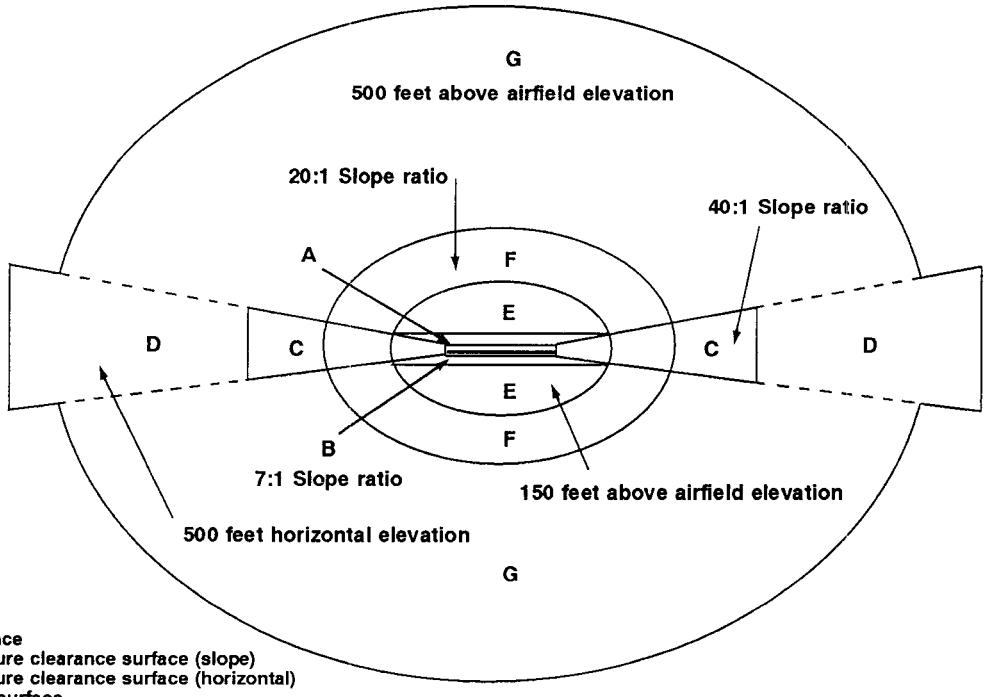
During the recon, the team requested trig lists from many sources, including the Army Corps of Engineers, Alaska District; the State Bureau of Land Management; and the University of Alaska-Fairbanks. The trig lists described where to locate the points using local reference marks such as roads or buildings, many of which were established in the early 1940s. At Fort Greely, a rural undeveloped area, the surveyors found the points relatively easily. However, at the other two airfields, located near the growing cities of Fairbanks and Anchorage, some points were difficult to find.

Upon arrival at Allen Army Airfield, the surveyors task organized into two crews: the level crew and the Global Positioning System (GPS)/observation crew. Crew members rotated to different jobs on each airfield to gain experience in different surveying skills.

The level crew recovered and verified vertical control points (benchmarks). Before using a control point in a survey, the surveyors checked the trig data to ensure that the point had not shifted since it was emplaced. Then, they used differential leveling methods to determine the elevation of various points on the runway. Starting at one benchmark, the level crew ran a continuous level line through the airfield and closed on a second benchmark. They established the elevation on each end of the runways and every 100 feet down the centerline of the runways. They ran spurs off the main level line to establish elevations on the three airfields' barometers.

The GPS/observation crew recovered and verified horizontal

Imaginary Surfaces



A Primary surface
B Transitional surface
C Approach-departure clearance surface (slope)
D Approach-departure clearance surface (horizontal)
E Inner horizontal surface
F Conical surface
G Outer horizontal surface

Figure 1

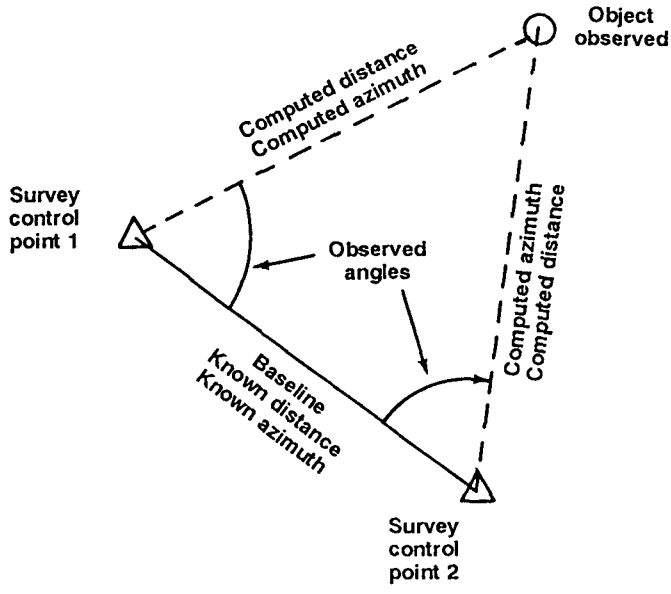


Figure 2. Intersection

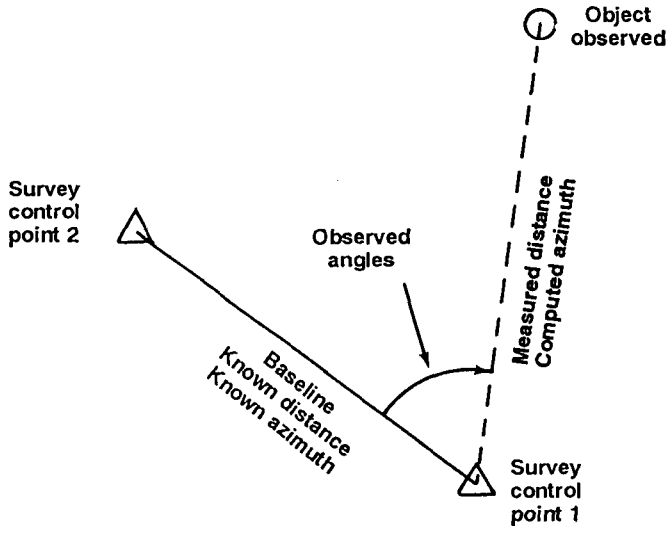


Figure 3. Sideshots

survey control points. Verification of the points was accomplished using the static GPS surveying method (see insert) to determine the position; then the points were compared to data in the trig list. After verifying three horizontal points, they used the points to establish more control points on the airfield. The crew observed all of the airfield obstructions and NAVAIDs at those control points. They determined airfield obstructions by drawing imaginary surfaces on a topographic map at various heights above the airfield elevation, as shown in Figure 1. The surfaces extended approximately 10 nautical miles in all directions from the airfield runways.

After establishing control points with geodetic-quality GPS receivers, the GPS/observation crew used conventional surveying methods to provide precise horizontal positioning for the obstructions and NAVAIDs. The two methods used to determine positioning were intersection and sideshots (Figures 2 and 3).

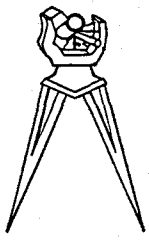
On two of the airfields, the surveyors employed a third method of positioning, using a GPS surveying method called *pseudo-kinematic surveying and processing.* The GPS receivers employed the method in a rapid surveying mode. Keeping two receivers on known positions and the third receiver roving from point to point, the surveyors quickly positioned many NAVAIDs on the airfields. Then they positioned the roving receiver directly over the NAVAID and collected data for 8 to 10 minutes at each position. They repeated the process one hour later.

The airfield surveys were time consuming and occupied several sites on each airfield, including the runways. The airfields could not shut down during the survey, so the survey team chief maintained constant coordination with the survey teams, airfield operations and the control towers. When a control tower was closed, the surveyors kept one eye looking through their instruments and the other eye on the sky because they usually shared the runways with C-12 aircraft or helicopters.

After the field data were collected, the surveyors converted their field notes to abstract sheets, which they used for position computations. The surveyors used a computer program that calculated positions faster than they could have calculated them manually. These programs were written by Sergeant Terry Klock, a topographic surveyor formerly assigned to the 29th Engineers.

Back at Fort Shafter, the surveyors compiled the data and created an airfield Obstruction Chart (OC), the final product. It was sent to Army Aviation at Cameron Station, Virginia, for approval. While drafting the OC according to specifications can take as long as the field work, a computer-aided design system (CADS) speeded up the drafting process by allowing them to store the drawing digitally. The automated database they created for each airfield now can be updated easily every 5 years.

The Alaskan project was cost effective and it allowed soldiers to receive intense training in both satellite and conventional surveying methods. The soldiers' enthusiasm and up-to-date techniques helped them achieve accurate results and complete the surveys ahead of schedule. In light of budget reductions and downsizing, providing soldiers opportunities to work in their trained areas benefits both the soldiers and the Army.

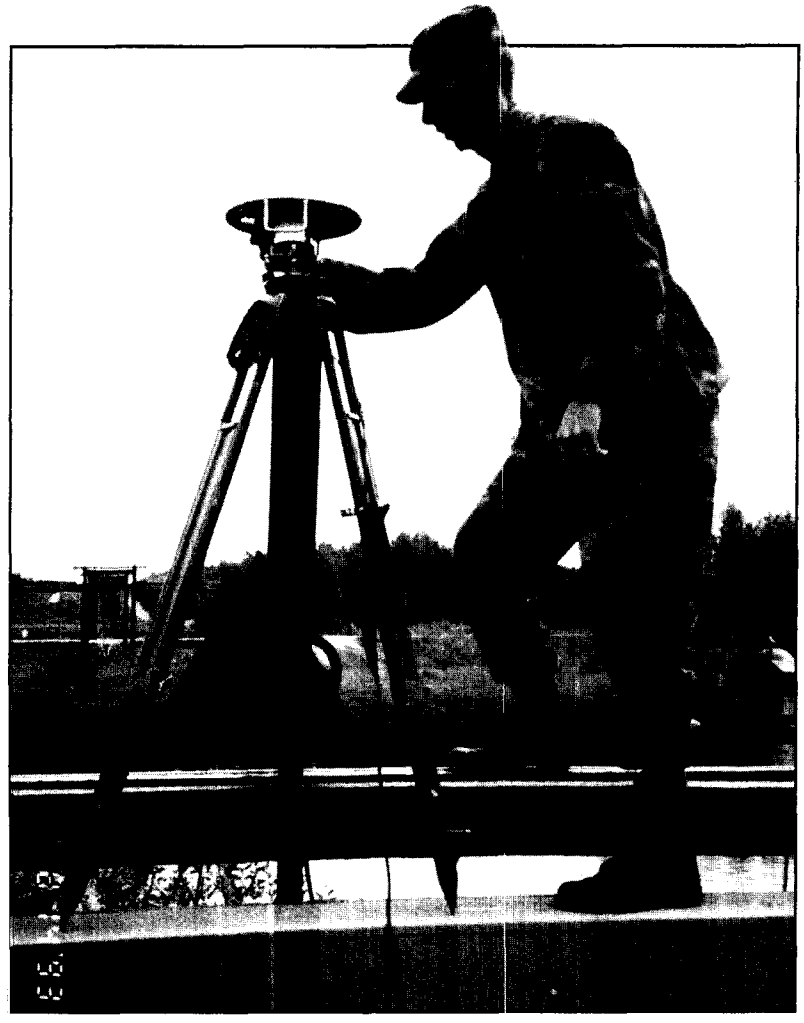


Surveying with the Global Positioning System

Most soldiers in the Army use GPS receivers to assist them in navigating from one point to another. Only a few soldiers know they also can use geodetic-type GPS receivers to determine the position of any point on the earth's surface within millimeters.

To use the method, called static GPS surveying, the antenna of a geodetic-type receiver is plumbed over a known control point, and two or more other receivers are plumbed over the points to be established. All of the receivers then simultaneously collect data for one to two hours from at least four satellites. The collected data from all of the receivers are downloaded into a computer; and the azimuth, the distance and the difference in elevation (baseline vectors) are computed between the stations using GPS data processing software. These vectors are applied to the known position and then adjusted using "least square" adjustment software. This software produces an adjusted position relative to the known position that is based on the user's requested datum. (Datum is the point-of-origin and orientation on an ellipsoid for a specific set of survey control.)

By using the GPS method, topographic surveyors can locate positions more accurately and in a fraction of the time it would take using conventional surveying methods.



SGT Long checks the placement of a Global Positioning System antenna positioned on an approach light at Wainwright Army Airfield. The surveyors used pseudokinematic surveying procedures to determine the precise position of the lights.

References

Field Manual 5-232, *Topographic Surveying*, 1989.

Technical Manual 5-232, *Elements of Surveying*, 1971.

Department of Defense Publication *Glossary of Mapping, Charting and Geodetic Terms*, 1981.

U.S. Army Corps of Engineers Publication, *NAVSTAR Global Positioning System Surveying*, Engineer Manual 1110-1-1003, 14 June 1993.

Federal Aviation Administration Publication 405, *Specifications Airport Obstruction Chart and Related Products*, February 1986.

First Lieutenant Amy Klopotoski is the executive officer for Headquarters Company, 29th Engineer Battalion. She previously served as survey platoon leader, 29th Engineer Battalion. 1LT Klopotoski is a graduate of the Engineer Officer Basic Course and the Mapping, Charting and Geodesy Officer's Course. She holds a bachelor's degree in journalism from Syracuse University.

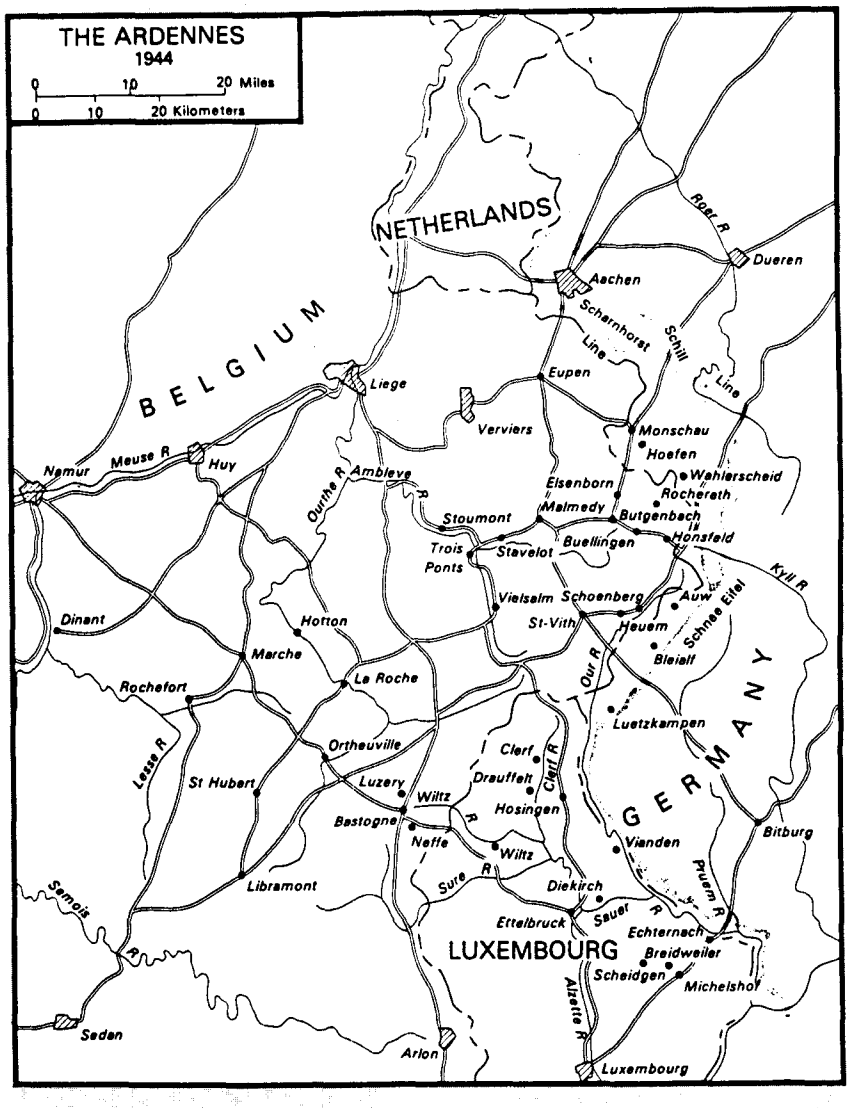
Sergeant First Class Timothy J. Funk is a training developer at the U.S. Army Engineer School, Fort Leonard Wood. He served as the platoon sergeant of the survey platoon, 29th Engineer Battalion, and led his squad in the first use of GPS surveying in combat during Operation Desert Storm. SFC Funk is a graduate of the Advanced Noncommissioned Officer Course and holds an associate's degree from Hawaii Pacific University.

Engineers and the Battle of the Bulge

By William C. Baldwin

December 1994 is the 50th anniversary of the Battle of the Bulge. During that battle, American and Allied forces turned back Hitler's last great offensive in western Europe. Often fighting as infantry in desperate circumstances, engineers played a critical role in the early days of the offensive. One of their major contributions was to delay German armored columns long enough for Allied units to set up defensive positions. The engineers' experience in the Bulge demonstrated that engineers must always be prepared for any unexpected missions a combat situation may thrust upon them.

Although D-Day landings on June 6, 1944, gave the western Allies a beachhead in northern France, it took almost two months of bitter fighting to break out of Normandy's hedgerows. After the breakout, Allied armies raced across France, liberated Paris and headed toward the German frontier. The severe strain that the rapid advance placed on Allied logistics, along with bad weather and stiffening German resistance, eventually slowed the offensive. By mid-December 1944, American armies had reached the Roer River inside Germany and the West Wall along the Saar River in eastern France. Between these two fronts lay the Ardennes, a hilly, densely forested area in eastern Belgium through which the Germans had attacked France in 1940.



Five American divisions and a cavalry group held the 85-mile-long Ardennes front. The difficult terrain and the belief that the German army was near exhaustion convinced the Allied commanders that the Ardennes sector was relatively safe. Thus, three of the divisions were new, and the other two were recuperating from heavy losses suffered in the Huertgen forest.

After months of retreat, Hitler decided on a bold gamble to regain

Engineers sweep for mines in the snow during the Ardennes campaign.

the initiative in the west. Under the cover of winter weather, the Germans massed large forces opposite the Ardennes. They planned to crash through the thinly held American front, cross the Meuse River and drive to Antwerp. Before daybreak on December 16, the German army launched its last desperate offensive and completely surprised the Allies.

As the American front in the Ardennes collapsed, the Allies redeployed their forces to fill the gap. While these troops were moving into position, the Army had to rely on rear area troops already in the Ardennes. Many of those units were corps and Army engineer battalions that were scattered throughout the area in company-, platoon- and even squad-sized groups. Engineers who had been engaged in road maintenance and sawmilling operations suddenly found themselves manning roadblocks and preparing defensive positions in the face of powerful German armored columns. Many engineer units played important roles in the Battle of the Bulge, but the following vignettes show how those engineers imposed critical delays on the offensive forces, whose only hope for success lay in crossing the Meuse River quickly.

Lieutenant Colonel Joachin Peiper, a Nazi SS officer, led one of the armored columns. His route went near the town of Malmedy and toward the villages of Stavelot and Trois Ponts. The headquarters of the 1111th Engineer Combat Group was in Trois Ponts, and one of its units, the 291st Engineer Combat Battalion, had detachments working throughout the area. When he learned on December 17 of the German breakthrough, the commander of the 1111th Group sent Lieutenant Colonel David E. Pergrin, the 27-year-old commander of the 291st, to Malmedy to organize its defense.

Although most of the American troops in the area were fleeing, Colonel Pergrin decided to hold his position in spite of the panic and confusion. He ordered his engineers to set up defensive positions around the town. During the afternoon of the 17th, engineers manning a roadblock on the outskirts of Malmedy heard small arms fire coming from a nearby crossroads. Then terrified American soldiers staggered up to the roadblock. They brought word of the Malmedy massacre, in which Peiper's troops murdered at least 86 captured American soldiers.

Bypassing Malmedy, Peiper headed toward Stavelot, where Colonel Pergrin had sent another detachment of the 291st. Equipped with some mines and a bazooka, the engineers and some armored infantry soldiers delayed the German column for a few hours, but the small American

A soldier from the 51st Engineer Combat Battalion checks a TNT charge on a tree during the Battle of the Bulge.

force was no match for the panzers. Peiper's column pushed through the village, and its lead tanks turned west toward Trois Ponts.

Shortly before the Germans broke through the roadblock at Stavelot, Company C of Lieutenant Colonel Harvey Fraser's 51st Engineer Combat Battalion, also part of the 1111th Group, received orders to defend Trois Ponts. Reinforced by an antitank gun and a squad of armored infantry, the company prepared bridges for demolition. When Peiper's tanks came into view, the engineers blew up the main bridge leading into the village.

By the evening of December 18, the small American force at Trois Ponts had come under the command of Major Robert B. Yates, executive officer of the 51st, who had come to the village expecting to attend a daily staff meeting. Fearing that the Germans would discover the weakness of his force, Major Yates tried to deceive the enemy. During the night, the engineers repeatedly drove the company's six trucks into Trois Ponts with their lights on and drove out with their lights off to simulate the arrival of reinforcements. They put chains on their only four-ton truck and drove it back and forth through the village to create the impression that they had tanks. An American tank destroyer, which had slipped into the river a few days earlier, provided the artillery. It caught fire and its shells exploded at irregular intervals throughout the night. The ruse apparently worked, because the Germans never launched a determined attack on the village.

On December 20, the 82nd Airborne Division, which was trying to block the German penetrations, learned of the small force holding Trois Ponts. When the paratroopers moved into the village, Major Yates greeted their commander with, "Say, I'll bet you fellows are glad we're here!" American troops eventually destroyed Peiper's armored column.

Farther south, engineers were also caught in the massive German attack. On December 17, the VIII Corps commander ordered his 44th Engineer Combat Battalion, under Lieutenant Colonel Clarion J. Kjeldseth, to drop its road maintenance, sawmilling and quarrying operations and help defend the town of Wiltz, in Luxembourg. The 600 men of the 44th joined a ragtag force consisting of some crippled tanks, assault guns, artillery and divisional headquarters troops. Attacked by tanks and infantry on December 18, the engineers held their fire as the tanks roared by and blasted the German infantry following behind. Forced to retreat by the weight of the German attack, the defenders moved back into the town and blew up the bridge over the Wiltz River. By the

next evening, the small American force was surrounded and running low on ammunition. The soldiers attempted to escape but few made it back safely. Among the heavy American casualties was the equivalent of three engineer companies dead or missing. The defenders of Wiltz, however, had slowed the German advance and given other American troops time to rush to the defense of a critically important crossroads some 10 miles to the west—the town of Bastogne.

With the American defenses west of Bastogne collapsing, the corps commander ordered the last of his reserves to defend Bastogne until reinforcements could arrive. The reserves included the 35th Engineer Combat Battalion, a corps unit, and the 158th Engineer Combat Battalion, an Army unit which happened to be working in the area. On the morning of the 19th, German tanks attacked an engineer roadblock in the darkness. Unsure of his target in the gloom, Private Bernard Michin waited until the German tank was only 10 yards away before firing his bazooka. The explosion knocked out the tank and blinded him. As he rolled into a ditch, Private Michin heard machine gun fire close by. He threw a grenade at the sound, which ceased, and struggled back to his platoon. Private Michin, who regained his sight several hours later, received the Distinguished Service Cross for his bravery under fire. During the evening of the 19th and the morning of the 20th, the 101st Airborne Division, which had rushed to the defense of Bastogne, relieved the 158th and the 35th Engineer Combat Battalions. German panzers and troops continued to push west and north of Bastogne, and eventually surrounded the American defenders in the town.

Throughout the Ardennes, divisional, corps and Army engineer units participated valiantly in a sometimes desperate attempt to stem the tide of the unexpected German counteroffensive. Relying on their initiative and training in defensive operations, Army engineers established roadblocks with whatever troops and weapons were at hand. They blew up bridges, planted minefields and succeeded, often at the cost of heavy casualties, in delaying the powerful German armored columns. The delays that the engineers helped to impose gave the Allies time to bring in reinforcements and seal off the German penetrations. The Battle of the Bulge demonstrated that engineers could make a major contribution to the outcome of an important campaign.

William Baldwin is a historian in the Office of History, Headquarters, U.S. Army Corps of Engineers, Alexandria, Virginia.

ENGINEER UPDATE

Commercial numbers are (314) 563-xxxx and Defense System Network (DSN) numbers are 676-xxxx unless otherwise noted.

Directorate of Training (DOT)

Environmental Handbook and Video. Two new tools have been developed to assist company-level leaders with environmental responsibilities. Training Circular (TC) 5-400, *Unit Leaders' Handbook for Environmental Stewardship*, was distributed in September 1994. The handbook contains recommendations to ensure compliance with Army environmental goals and policies, as well as federal, state, and local laws and regulations. Called the "Dash 10" manual, it delineates before, during and after checks for units conducting a field training exercise (FTX).

A case-study video and lesson plan will promote environmental ethics, unit environmental operations, and use of TC 5-400. The video's four segments highlight compliance programs and how to conduct before, during and after-action environmental checks during an FTX. The video is scheduled for distribution to TASC offices in April 1995. POC is CPT Richard Heitkamp, -4122.

ENGINEER Mail-List Update. Thanks are extended to those who have responded to the ENGINEER mail-list update letter we distributed in October. Responses are used to correct addresses and to adjust the number of magazines distributed. Units that have not yet responded are encouraged to return the entire letter, even if there are no changes to report. To request an update letter, call (314) 563-4104. POC is Catherine Eubanks,-4104.

Directorate of Evaluation and Standardization (DOES)

M9 ACE Post Fielding Training Effectiveness Analysis (PFTEA) Report. Copies of the PFTEA report were sent to all Army and Marine Corps units owning the M9 ACE in November. The report contains survey results and comments from ACE operators, mechanics, supervisors and unit commanders. Additional copies may be obtained by calling Ms. McAvenia, at (314) 563-4009. POC is Vern Lowrey, -4007.

Engineer Personnel Proponency Office (EPPO)

Warrant Officer Basic Course Extended. Starting with Class 05-95, 6 January 1995, the 919A Warrant Officer Basic Course at Fort Leonard Wood will be extended from 11 weeks to 17 weeks. The extended class will provide additional training in diagnostics, troubleshooting, battlefield damage assessment and repair, and case studies. POC is Mr. Mello, (314) 596-0837.

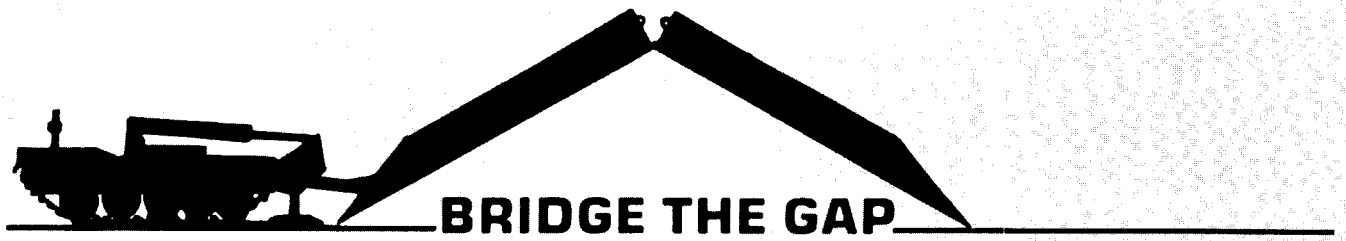
Reserve Components (RC)

Reserve Component Combined Arms and Services Staff School (R-CAS3). Reserve, National Guard, and Title 32 AGR officers in the Fort Leonard Wood area may now attend CAS3 in a centralized location. CAS3, now required for promotion to major, is available through the 5038th USARF School satellite unit. Class 94-03 began 5 November. Eligible officers completed the Phase I correspondence course before the schoolhouse phase. After eight weekend drills and two weeks at Fort Leavenworth, they will be CAS3 graduates and will have fulfilled their required professional education for promotion to major.

Other changes to academic requirements for enrollment in the Command and General Staff College include grade of major and completion of CAS3. This makes CAS3 the hingepin for future successful careers and an important professional milestone. POCs are LTC Jim Smith, -4085 and LTC Herb Hiatt, (314) 774-5645 or (314) 596-0302.

News and Notes

Department of Defense Fire Protection School. The new Department of Defense Fire Protection School, at Goodfellow Air Force Base, Texas, will officially open on 19 January 1995. The school currently trains military and civilian Air Force, Army and allied forces personnel. Marine Corps personnel are scheduled to participate beginning in October 1995. Course graduates receive DOD ceritfications ranging from entry-level fire fighter through the supervisory level of fire chief. In addition to classrooms and equipment storage facilities, the school has a state-of-the-art live fire training area, a training tower/residential burn building, and a fire truck maintenance facility. POC is SFC Robin Compton, (915) 654-4827 or DSN 477-4827.



By Command Sergeant Major Roy L. Burns, Jr.
U.S. Army Engineer School

Reflections

As I look back on my last two years as command sergeant major of the Engineer Center and reminisce about my initial excitement, enthusiasm, anxiety and anticipation for this position, two early goals come to mind: Improve two-way communication between the Engineer Center and field units, and ensure that the quality of training taught at Fort Leonard Wood is realistic, tough, and above all, safe.

To improve communication with field personnel, I have visited about 80 percent of our engineer units, both CONUS and OCONUS. After meeting with unit leaders and soldiers, I brought their concerns back to the Engineer Center for resolution. The Senior Engineer Leaders Training Conference (SELTC), held each April at Fort Leonard Wood, has helped improve communication. There, senior leaders from all units meet to discuss personnel, equipment, training, and doctrinal issues. Afterwards, Engineer Center personnel work diligently to fix problems bought to our attention at the conference. The improved communication is achieving benefits for the entire engineer community.

The quality of training at Fort Leonard Wood continues to be tough, realistic, and safe. To improve training effectiveness, the Engineer School's Directorate of Training (DOT) has recently reorganized. The DOT has three departments that are responsible for the development and execution of training. The Department of Tactics and Leadership is responsible for the Engineer Officer Basic and Advanced Courses and warfighting training. The Department of Combat Engineering is responsible for career management field (CMF) 12 training; and the Department of Construction Engineering is responsible for CMFs 51 and 62 training. They are working hard to ensure that high quality, tough, realistic and safe training is conducted in all programs of instruction.

Of the many other initiatives put forward during my tenure here, I will review three:

Unit Training and Equipment Improvements. Engineer School personnel are working to resolve the low operational readiness rates of the Combat Engineer Vehicle (CEV), the Armored Vehicle-Launched Bridge (AVLB), and the Armored Combat Earthmover (ACE) vehicle fleets. We are working closely with equipment managers at the Tank Automotive Command and training developers and trainers here to resolve problems through improved parts availability, equipment upgrades and better training strategies. I'm confident that our efforts will have a positive effect on equipment readiness.

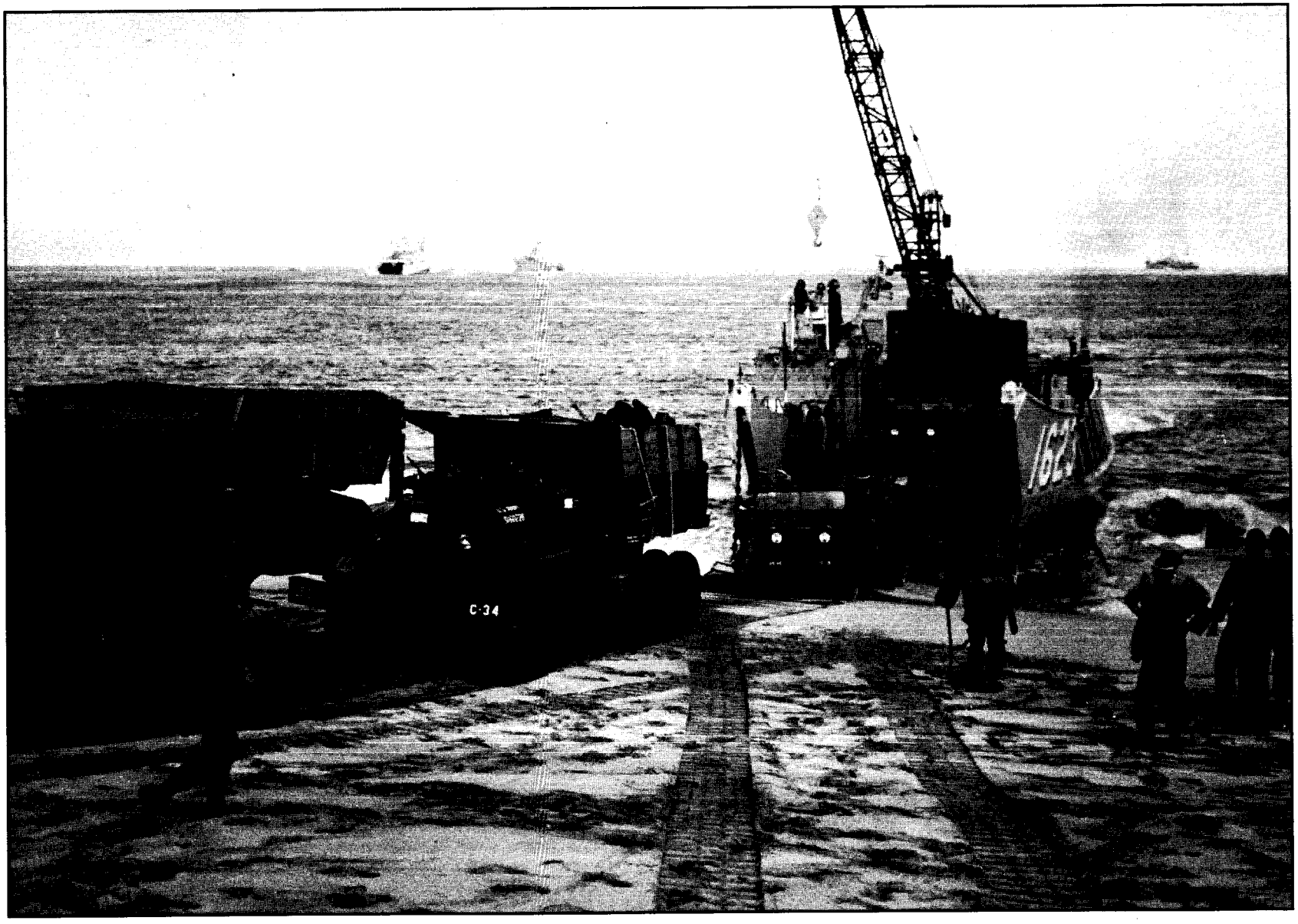
New Equipment. The Engineer Center is working to procure several new engineer systems, including:

- The Grizzly (formerly called the Breacher). It is an M1 chassis-based breaching system that will replace the CEV fleet on a two-for-one basis. The first unit equipped is scheduled for fiscal year (FY) 99.
- The Wolverine (formerly the Heavy Assault Bridge (HAB). Another M1 chassis-based system, it will launch a 24-meter, military load class 90, Leguan-type bridge. The first unit equipped is scheduled for 2000.
- The Improved Common Bridge Transporter. This modified M977 HEMTT chassis will be used to transport the ribbon bridge. The system will be a one-for-one replacement of current bridge transporters. Fielding will begin in FY 96.

These are a few of many systems being procured to ensure that engineer soldiers have the best equipment possible to accomplish their missions.

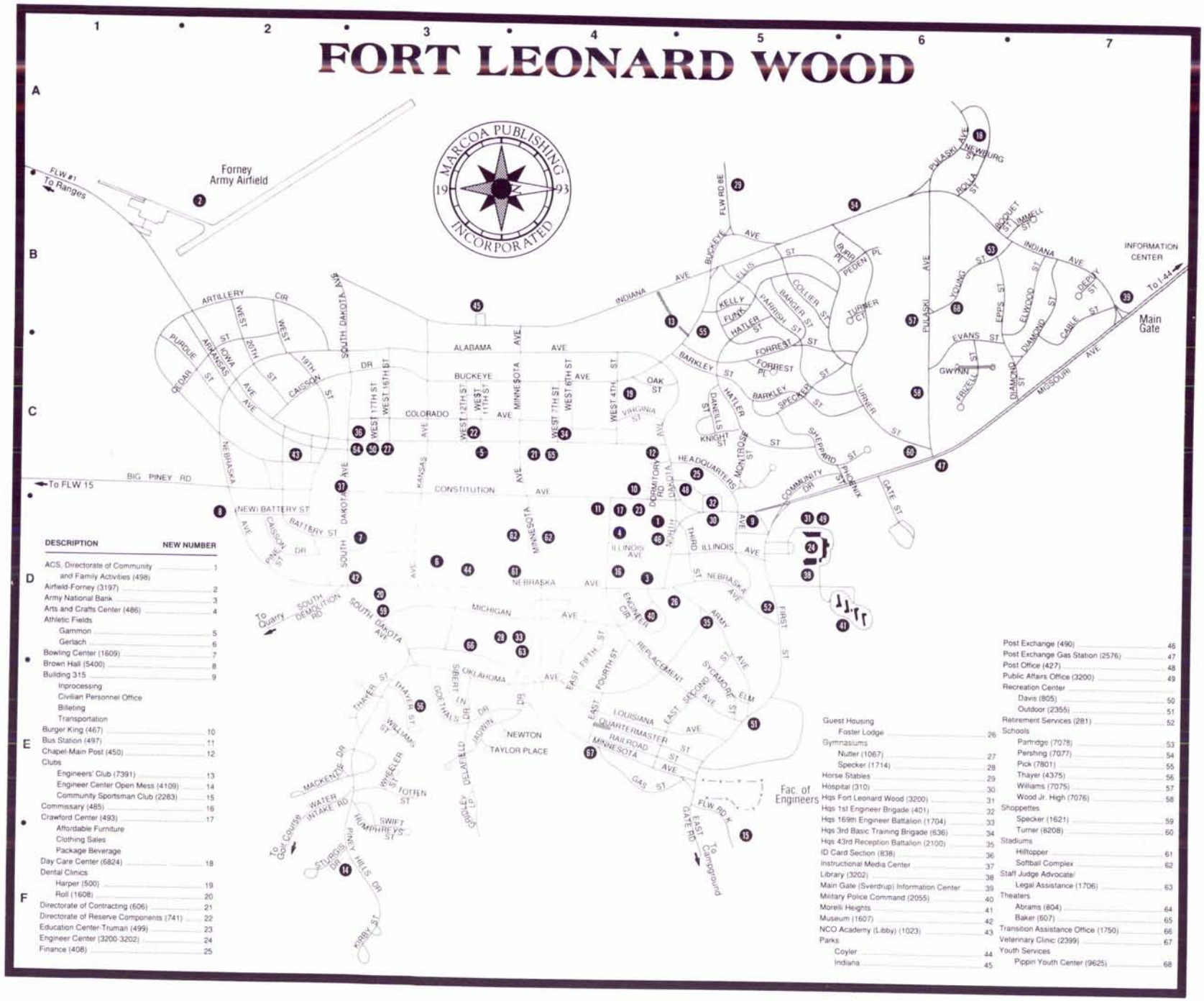
Personnel Issues. The drawdown has affected engineers as it has everyone in the Department of Defense, but we are working diligently to lessen impacts on the engineer force. One initiative is to consolidate military occupational specialties (MOS) wherever possible. We have consolidated MOS 51G (materials quality specialist), 81B (construction draftsman) and 82B (construction surveyor) into MOS 51T (engineer technician). We are now working to roll MOS 12F into MOS 12B. The aim is to eliminate the low density 12F MOS and improve opportunities for advancement. We have also opened the enlisted and noncommissioned officer specialties of MOS 12C (engineer bridge crewman) and 12Z (combat engineer senior sergeant) to women. This was done to provide continued promotion and assignment availability to women, while meeting the needs of the engineer force.

I have learned much in the last two years, but one thing stands out. The Engineer Center is here to help engineer units resolve their equipment, training, doctrine and personnel issues, and to establish the regimental azimuth for the future. Let us hear from you!



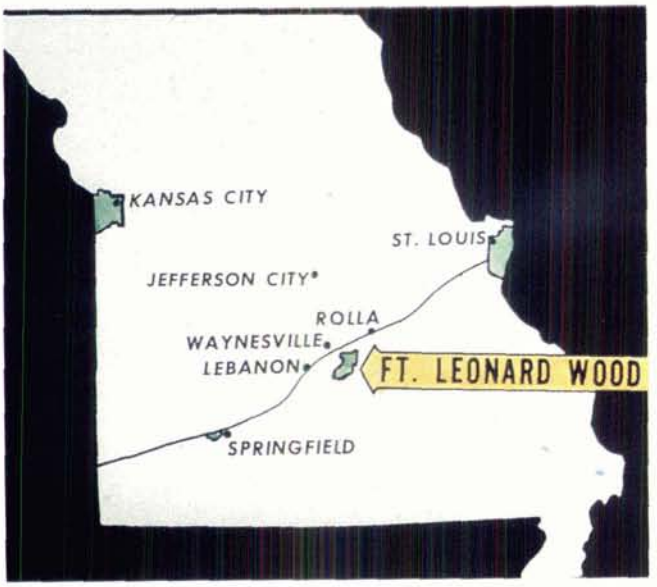
The 65th Engineer Battalion, 25th Infantry Division; 299th Infantry, Hawaii National Guard; and the 1st Marine Brigade train together in West Wind, a brigade-size, joint services, amphibious landing exercise. This counterinsurgency anti-guerilla operation on the island of Molokai took place in April 1964.

FORT LEONARD WOOD



DESCRIPTION	NEW NUMBER
ACS, Directorate of Community and Family Activities (498)	1
Airfield-Forney (3197)	2
Army National Bank	3
Arts and Crafts Center (486)	4
Athletic Fields	
Gammon	5
Gerlach	6
Bowling Center (1609)	7
Brown Hall (5400)	8
Building 315	9
Inprocessing	
Civilian Personnel Office	
Billeting	
Transportation	
Burger King (467)	10
Bus Station (497)	11
Chapel-Main Post (450)	12
Clubs	
Engineers' Club (7391)	13
Engineer Center Open Mess (4109)	14
Community Sportsman Club (2283)	15
Commissary (485)	16
Crawford Center (493)	17
Affordable Furniture	
Clothing Sales	
Package Beverage	
Day Care Center (6824)	18
Dental Clinics	
Harper (500)	19
Roll (1608)	20
Directorate of Contracting (606)	21
Directorate of Reserve Components (741)	22
Education Center-Truman (499)	23
Engineer Center (3200-3202)	24
Finance (408)	25
Guest Housing	
Foster Lodge	26
Gymnasiums	
Nutter (1067)	27
Specker (1714)	28
Horse Stables	29
Hospital (310)	30
Hqs Fort Leonard Wood (3200)	31
Hqs 1st Engineer Brigade (401)	32
Hqs 169th Engineer Battalion (1704)	33
Hqs 3rd Basic Training Brigade (636)	34
Hqs 43rd Reception Battalion (2100)	35
ID Card Section (838)	36
Instructional Media Center	37
Library (3202)	38
Main Gate (Sverdrup) Information Center	39
Military Police Command (2055)	40
Morelli Heights	41
Museum (1607)	42
NCO Academy (Libby) (1023)	43
Parks	
Coyler	44
Indiana	45
Post Exchange (490)	46
Post Exchange Gas Station (2576)	47
Post Office (427)	48
Public Affairs Office (3200)	49
Recreation Center	
Davis (805)	50
Outdoor (2355)	51
Retirement Services (281)	52
Schools	
Partridge (7078)	53
Pershing (7077)	54
Pick (7801)	55
Thayer (4375)	56
Williams (7075)	57
Wood Jr. High (7076)	58
Shoppettes	
Specker (1621)	59
Turner (8208)	60
Stadiums	
Hilltopper	61
Softball Complex	62
Staff Judge Advocate/	
Legal Assistance (1706)	63
Theaters	
Abrams (804)	64
Baker (607)	65
Transition Assistance Office (1750)	66
Veterinary Clinic (2399)	67
Youth Services	
Pippin Youth Center (9625)	68

TABLE OF CONTENTS



This guide was produced by the Fort Leonard Wood Public Affairs Office, with the talents of the following:

Compilation and editing: Mo Woodward & Kay Smith

Photography: The Fort Leonard Wood Public Affairs, TASC, and the Missouri Department of Tourism

Special thanks to Kim Combs for the "History" portion of this guide.

MARCOA

©1993 MARCOA Publishing Incorporated
P.O. Box 85999
San Diego, CA 92186-5999
(619) 552-9300

Published by MARCOA Publishing Incorporated, a private firm in no way connected with the Department of the Army. Opinions expressed by the Publisher and writers herein are their own and not to be considered an official expression by the Department of the Army. The appearance of advertisements in this publication does not constitute endorsement by the Department of the Army of the products or services advertised.

ARRIVAL

Welcome to Fort Leonard Wood! We're glad you've been assigned to one of the finest communities in the Army.

Fort Leonard Wood is located in south-central Missouri, about two hours southwest of St. Louis and about a ninety-minute drive northeast of Springfield, on Interstate 44. The Fort Leonard Wood exit is clearly marked.

Transworld Express provides daily passenger air service from Lambert International Airport in St. Louis, and Greyhound Bus Lines offer direct daily commercial bus service.

REPORTING FOR DUTY

Active Army. During duty hours (7:30 a.m.- 4:30 p.m.) report to the Central In/Out-Processing Office in building 315, room 217. During non-duty hours, report to the charge of quarters in building 1765 of the Specker Barracks complex.

Single soldiers are assigned temporary billeting in building 1762; soldiers arriving with family members are referred to the post Billeting Office in building 315 (see "Housing").

Marine Corps personnel. Marines reporting for duty during normal duty hours should report to the Marine Corps Administration Detachment Office in building 1006, at the intersection of 21st Street and Big Piney Road. Personnel reporting after working hours report to the Duty NCO at the Marine barracks, building 1338 on Battery Street.

For information on assignment to Fort Leonard Wood, write the Marine Corps Detachment, Fort Leonard Wood, MO 65473.

HOUSING

The Billeting Branch, building 315, room 126, is open 24 hours a day. The office provides bachelor quarters for permanently assigned soldiers in the rank of sergeant first class and above and temporary guest house accommodations.

In addition to assigning government family quarters, the Family Housing Branch, located in building 315, room 227, includes a referral office through which all new military arrivals must process. This office maintains an up-to-date list of apartments, trailer courts and private homes for rent or lease in the local community and can help in finding off-post housing.

Fort Leonard Wood has two large housing areas. Lieber Heights consists of 2,249 family units for NCO and junior enlisted families. Piney Hills, with 613 units, provides housing primarily for officers. The units are two-three-or four-bedroom and have central air conditioning.

There are more than 24 different floor plans for the one- and two-story quarters. These range from single-family dwellings to duplexes and quadplexes.

While exact dates for assignment of quarters cannot be determined in advance, information about on-post housing may be obtained by submitting a DD Form 1746 to the Housing Office, Fort Leonard Wood, MO 65473-5000.

Unmarried junior-grade soldiers are assigned rooms in unit barracks, the largest of which is Specker Barracks. The complex includes unit orderly and supply rooms, dining facilities, a snack bar, shoppette, chapel and gymnasium.

SCHOOLS

School-aged children of soldiers assigned to Fort Leonard Wood, whether living on post or in the immediate area, attend schools administered by the Waynesville R-VI School District or one of the several parochial schools in the area.

Families who arrive during the summer months receive pre-enrollment information during in-processing. After Labor Day, children may be enrolled during duty hours, Monday through Friday, at their local school.

Birth certificates and shot records are required for children entering school for the first time. New students entering school must have a physical examination form completed prior to beginning school. Elementary and secondary students transferring to the Waynesville schools for the first time need to provide academic and immunization records from their previous schools.

All schools in the district have earned AAA ratings, the highest quality rating awarded by the state of Missouri. Waynesville Senior High School has been accredited by the North Central Association of Colleges and Secondary Schools.

The district operates seven elementary schools, two junior high schools, a senior high school and an area vocational school. Most of these schools are located on post, since more than 60 percent of the total student population are military family members. The on-post schools, five elementary and one junior high, accommodate students from kindergarten through eighth grade. High school students attend Waynesville Senior High.

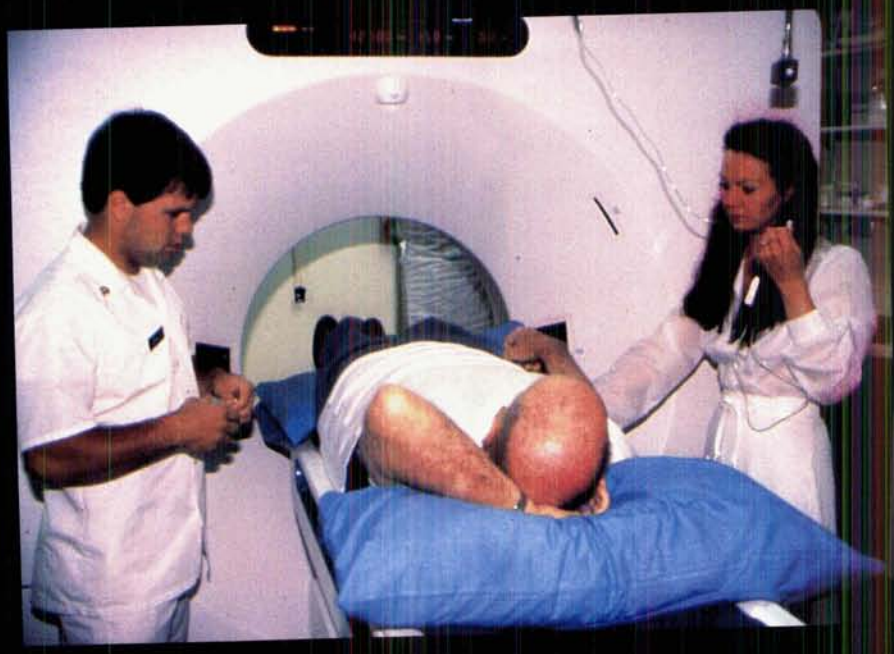
Kindergarten attendance is not mandatory in Missouri. However, the district does provide kindergarten classes in the elementary schools on a half-day schedule.

The district works to maintain a pupil-to-teacher ratio of 23 to one. At present, more than 40 percent of the teachers in the district have master degrees.

For more information on schools in the Waynesville district, write the School Liaison Officer, Directorate of Community and Family Activities, Fort Leonard Wood, MO 65473.

For information on the two parochial schools in the area, St. Patrick's Catholic School (grades 1-8) and Rolla Lutheran School (grades K-6), write the Post Chaplain's Office, Fort Leonard Wood, MO 65473.

SERVICES



AMERICAN RED CROSS

Fort Leonard Wood's office of the **American Red Cross,** located in building 430, is open during normal duty hours with emergency services provided 24 hours a day.

Red Cross programs available on post include health and safety courses; hospital, school and library volunteers; bloodmobiles, providing emergency communications, financial assistance and verifications for emergency leave; disaster relief assistance and help with personal and family problems.

ANIMAL CARE

The post **Animal Disease Prevention and Control Facility,** located in building 2399, is responsible for the prevention and control of diseases spread from animal to humans.

Privately-owned pets kept on post must be registered at the facility within five working days of arrival. For dogs and cats over three months old, a rabies vaccination is required. Previous vaccination records are needed at the time of registration. In addition, dogs kept on post must have an annual heartworm check. Both dogs and cats are required to undergo an annual fecal exam.

Animal immunization clinics and sick call are conducted by appointment during duty hours. Emergency care for sick or injured animals after duty hours must be provided by a civilian veterinarian.

The post stray animal impound facility is also located at the clinic. Animals are available for adoption there as well.

ARMY COMMUNITY SERVICE

Army Community Service (ACS) assists soldiers and their families in making life in the military easier. Located in building 498, ACS provides information, assistance and guidance. Services available include the following:

Army Emergency Relief. Financial assistance and counseling to soldiers and their families when funds are required for emergencies. AER also operates a furniture donation program where families in need are linked with people who have furniture items they desire to donate.

Relocation Services. A variety of household items are available for 30-day loan to families just arriving or departing post. Individual counseling services, cultural adaptation "Welcome to the Ozarks" workshops, next post information, including videotapes and briefings, are readily available.

Information and Referral. Services include information on a wide variety of subjects, personalized individual assistance, telephone numbers, locations and helping services available through other post and public agencies.

Financial Planning and Assistance. This is a complete assistance program aimed at helping families manage their financial affairs. Services include budgeting, checkbook management, debt liquidation and consumer affairs advice.

Referrals are also made for food pantry assistance where a three-day supply of food is available to families who are experiencing temporary financial problems.

Family Advocacy Program. This program deals with the prevention and treatment aspects of child and spouse abuse. ACS monitors and coordinates specific services and activities, including unit briefings, classes and other community education.

Family Health Resource Program. Support is available to help young mothers who are having their first child or their first child in the military system. Trained volunteers try to ease the stress by assisting with transportation to OB appointments and attending them if necessary, answering questions and even assisting through labor and delivery as needed. A variety of support groups and other activities are also available.

Volunteer Program. ACS is always in need of volunteers to support all program areas and services. Volunteers gain valuable work experience while developing professional and marketable skills. A limited amount of free child care is provided for children of ACS volunteers while they train and work.

BANKING

Fort Leonard Wood Banking Office. Army National Bank located on Nebraska Avenue is open six days a week and offers Automatic Teller machines at both Shoppettes, the Engineer Center and the main bank. The bank is a full service bank and includes a four-lane drive-thru.

Fort Wood Credit Union. The **Credit Union** is located adjacent to the main exchange complex. The Credit Union is owned by more than 15,000 members and has capital assets of more than $41 million. The Credit Union has Automatic Teller Machines at the Credit Union Building, Engineer Center and Gen. Leonard Wood Army Community Hospital.

CABLE TELEVISION

Cable television service is provided by Cable America Corp., with an office just off the installation in the Mini Mall, St. Robert, MO. This office is open Monday through Friday.

Normally, cable hookup can be accomplished within 2 days.

CHAPEL SERVICES

The post **Chaplain Activities** office, located in building 403, provides Protestant, Catholic, Jewish and some denominational services and programs.

Protestant. A full range of Protestant chapel services and programs are available. Protestant activities include: choirs, religious education, parish council, Protestant Women of the Chapel, Bethel Bible Series classes and home-study courses, Systematic Training for Effective Parenting and Family Enrichment Programs. The Family Life Center also provides various family-supported services.

Catholic. There is a complete schedule of Masses and times for communion services, as well as the Sacrament of Reconciliation and other devotions pertinent to Catholic worship and liturgy. There is an active parish council.

Programs for lay eucharistic ministers, lectors, pre-marriage classes, Marriage Encounter and Ladies' Guild are just a few of the religious activities offered and continually updated.

Jewish. Services are held the third Friday of each month. Other activities include special holiday celebrations, guest speakers and social activities.

CHILD DEVELOPMENT SERVICES

Pence Child Development Center (building 6824) offers full-day care for children eight weeks old (who have received their first set of shots) through five years old.

The **Hourly Care Program,** located at building 802, offers intermittent care on a space available basis (reservations required) for children eight weeks old through five years. (Children must have received their first set of immunizations).

The **Discovery Time Preschool Program** is a part-day program for children ages three through five years old and offers morning or afternoon class sessions.

The **School Age Latch Key** (SALK) **Program** is available for before and after school care for children ages

five through 12 years old.

Family Child Care, in-home care in small group environments, is also available on the installation. Referrals are provided to families who need care for children ages four weeks to 12 years.

COMMISSARY

The post **Commissary,** located near the main exchange complex, stocks more than 11,000 lines of nationally-advertised products as well as maintaining meat and produce departments. The commissary also has a Deli, Bakery and Fresh Fish Market. Special meat orders are available, but require at least 24-hour lead time.

Customers may write personal checks for up to $25 over the amount of purchase.

The store is open Tuesday through Sunday.

DENTAL CARE

The **U.S. Army Dental Activity (DENTAC),** a subordinate agency of the Army's Health Services Command, provides professional dental care and services to authorized persons at Fort Leonard Wood.

There are three dental clinics on post which provide patients with diagnostic, preventive and therapeutic outpatient dental care services, including: preventive dentistry, general dentistry, oral surgery, periodontics, endodontics, pedodontics, prosthodontics and orthodontics.

DRIVER'S TESTING

Missouri state driver's license testing is provided on Tuesday afternoons in building 5267. Appointments must be made by calling the testing office, starting at 7:30 on the day of the test. There is a limit to the number of tests given.

The testing facility is open to active duty personnel and their family members.

Driver's license regulations vary from state to state. Individuals may check with Driver's Testing to verify if expired out-of-state licenses are still valid. For information, call 596-5315.

EDUCATION CENTER

The **Truman Education Center,** located in building 499, offers a number of educational opportunities for the community, including college classes, testing services, on-duty classes, computer-based instruction, educational counseling and professional learning center services.

Eight accredited colleges and universities offer more than 60 different undergraduate and graduate degree programs.

Classes are offered by Central Texas College, Killeen, Texas; and seven educational institutions from Missouri: Columbia College, Columbia; Drury College, Springfield; Lincoln University, Jefferson City; Park College, Parkville; University of Missouri College, Springfield; University of Missouri-Rolla, Rolla; and Webster University, Webster Groves.

INFORMATION, TICKET, AND TOUR

The Information, Ticket, and Tour staff, located in building 2355, can provide you with tickets and information for many area amusement parks and attractions such as Six Flags, Silver Dollar City, Disney World and Worlds of Fun at substantial discounts. ITT also has a 47 passenger tour bus available for local and area one day or longer charters for groups and organizations.

LAUNDRY AND DRY CLEANING

The **installation laundry** located in building 2352 provides service to all active component military and their dependents, retired military and their dependents and reserve components on active duty. Reserve Components are authorized outer military clothing only during all other periods. Individual piece-rate services include laundry and dry cleaning. Turn-around times are 48 and 72 hours. A two-hour service is also available and is limited to four pieces of dry cleaning.

AAFES also has retail laundry/dry cleaning stores located at the Post Exchange and in Lincoln Hall.

LIBRARY

The **Gen. Bruce C. Clarke Library** consists of the **Community Library** and the **Academic Engineer School Library** and is located in building 3202 of the Engineer School complex.

The **Community Library** has a collection of over 50,000 volumes, hundreds of popular movies on videotape, a collection of more than 800 paintings which can be checked out and extensive audio cassette and vertical file collections. The community library also contains a children's library with fiction and non-fiction for young readers. Story hour is held on a regular basis.

The **Academic Engineer School Library** has more than 20,000 books, 60,000 government documents, a large map and photograph collection, a specialized video collection on Military History and many rare books.

Microfilm reader-printers and photocopiers are available for reproduction purpose. Books not available locally can be obtained through a computerized inter-library loan service.

MAIL

The **U.S. Post Office,** located in building 427, is open Monday through Saturday. In addition, a mail area for single soldiers is located in the Specker Barracks complex.

Post office boxes are available for rent. Mail is delivered to the main post office daily except Sundays and holidays. Mail is not delivered to Specker Barracks on Saturdays.

Mail should be addressed to either the quarters address or the Specker Barracks box number. Mail is dispatched and received twice daily.

MEDICAL CARE

The **General Leonard Wood Army Community Hospital (GLWACH),** a modern 570-bed facility, is ranked among the largest Army community hospitals and serves more that 1,500 patients daily.

Professional medical care is available in many inpatient and outpatient specialties. GLWACH is accredited by the Joint Commission on Accreditation of Hospitals, the College of American Pathologists, the American College of Radiology, the American Association of Blood Banking and the Food and /Drug Administration. In addition, GLWACH is a member of the American Hospital Association and the Missouri Hospital Association.

Cases requiring care beyond that available at GLWACH are referred to specialized medical treatment facilities at other installations or to local civilian specialized facilities.

Hospital facilities are extensive and include a chapel, post exchange, snack bar, barber shop, library and mail room.

OUTPATIENT CARE. The **General Outpatient Clinic (GOC)** is a walk-in clinic for active-duty sick call patients who are not assigned to a troop medical clinic. The GOC also operates a clinic for sameday and follow-up appointments, Monday through Friday, for active duty family members and retirees and their families. **Pediatric, obstetric and family practice** patients are not treated in the GOC. Appointments for these and **other specialty clinics** can be made by calling the clinic during duty hours.

Emergency cases should be taken directly to the emergency room, which is staffed 24 hours a day.

CHAMPUS ADVISOR. The **Civilian Health and Medical Program of the Uniformed Services (CHAMPUS)** advisor is located in the hospital on the first floor. Contact this office for information and assistance regarding eligibility for medical care under CHAMPUS.

RETIREE ASSISTANCE. The hospital's **health care finder/retiree assistance office** is staffed by volunteers and maintains a current list of local health care providers plus their medical specialties and CHAMPUS participation.

NEWSPAPER

ESSAYONS, the post newspaper, is published every Friday by the staff of the post Public Affairs Office and is delivered free to each family housing unit. Copies are also available at locations around post, such as the commissary, post exchange facilities and unit areas.

Deadline for submission of information to be included in ESSAYONS is Thursday, a week prior to publication.

POST EXCHANGE FACILITIES

The Army and Air Force Exchange Service (AAFES) offers a wide range of services here.

MAIN EXCHANGE COMPLEX. The complex houses the main post exchange (PX); barber and beauty shops; florist; laundry and dry cleaners; video arcade; appliance store; optometry shop and two gift shops.

A large catalogue section for special orders and layaways is also available in the main store.

The food court offers a variety of foods like frozen yogurt and pastries; sandwiches from Robin Hood; pizza from Anthony's; Chicken Loft specialties and Frank's Franks hot dogs.

The facility is open daily and accepts Visa, Mastercard and Discover credit cards.

BURGER KING. Burger King, located across the street from Truman Education Center, is open daily. It has both drive-through window service and an inside seating area.

BRANCH EXCHANGES. Five branch exchanges are operated in the troop training areas, offering snack and convenience items. Each of the exchanges also has a barber shop.

SERVICE STATION. The PX service station offers self-service gasoline. Limited automotive repair servicing is also available, along with automobile accessories, oil, tires and batteries. The service station also accepts Visa, Mastercard and Discover credit cards.

MILITARY CLOTHING SALES. Located near the commissary, the MCSS (Military Clothing Sales Store) is open daily. The store stocks both official issue items as well as PX-procured items. A special order clothing service is available at no extra charge. A deferred payment plan is also available.

CLASS SIX. Located in the same building as the MCSS is the Class Six Store, which stocks a large assortment of wine, beer and other alcoholic beverages, as well as party items.

AFFORDABLE FURNITURE. Also found in the same building as MCSS and Class Six, Affordable Furniture is a specialty store which offers a wide range of household furniture.

SHOPPETTES. There are two neighborhood convenience stores on post: The Turner Street Shoppette serves the residents of Lieber Heights, while the Michigan Avenue Shoppette (Specker) serves the residents of Piney Hills and Specker Barracks. Both shoppettes are 24-hour operations.

TELEPHONE SERVICES

Private telephone service in family quarters is provided by the United Telephone Co. Their office in building 435 is open weekdays.

In addition to basic phone service, United also offers call waiting, call forwarding, speed calling and three-way calling.

A security deposit may be required for new customers. In addition, payments may be made in person, by mail, or in the night depository at building 435.

THRIFT SHOP

The post **Thrift Shop** is located in building 204 by the main exchange. It is operated by volunteers and provides military personnel and their family members a means for buying and selling used clothing, furniture and miscellaneous items.

TRANSPORTATION

Travel Services. Carlson Travel Network/Alexander Travel LTD offers complete travel services for air, sea or rail; hotel arrangements and car rental. Located in building 460, these services are available for official and unofficial travel.

Taxi. Twenty-four hour commercial taxi service is available throughout the garrison and housing areas.

Shuttle bus. Available to persons traveling on official/unofficial business on a space-available basis, buses operate on a circular on-post route every 40 minutes on duty days.

Commercial bus. Located near the PX complex, Greyhound Bus Lines provides direct service and connections to Kansas City, Springfield, St. Louis, St. Louis International Airport and intermediate points.

Air. Forney Army Airfield located on the installation offers three Transworld Express flights daily.

Car rental. Budget Rent-A-Car located just off-post on the spur, offers government and private rentals seven days a week, including one-way service to Lambert International Airport in St. Louis.

VISITORS CENTER

The installation **Visitors Center,** located in the U.S. Army Engineer Museum, building 1607, provides visitors with maps and information on graduation ceremonies, area accommodations, dining, special events and activities. The Visitors Center is located in the museum containing a video lounge, galleries, information desk and gift shop.

YOUTH SERVICES

Army Youth Services is located in the Dru L. Pippin Youth Center, building 9625, Young St.

Army Youth Services offers a wide range of activities for military family members, from ages 6-19, including team sports, craft activities, dances, all-night lock-in's, trips and sports card shows. In addition, hikes, day camps, camping trips, picnics, family activities, trail rides and hayrides are offered. Numerous

councils are available, including: adult, teen and pre-teen. Youth Services also offers basic marksmanship safety - shooting, basic archery safety - shooting, and supports Scouting activities.

The facility features a game room (i.e., pool, table hockey, ping-pong, fussball and video games), TV viewing area, snack bar, gymnasium - seating capacity 250, dance instruction area, gymnastics instruction area and numerous meeting rooms.

Membership is available for military families; DOD, NAF and FLW contract personnel family members are also eligible. Youth Services members pay reduced program fees for the numerous activities.

Youth Services is also the proponent for the **School Age Latch Key Program** which offers three (3) different programs to military families on Fort Leonard Wood:

(l) The **Before and After School Program** while school is in sessions.

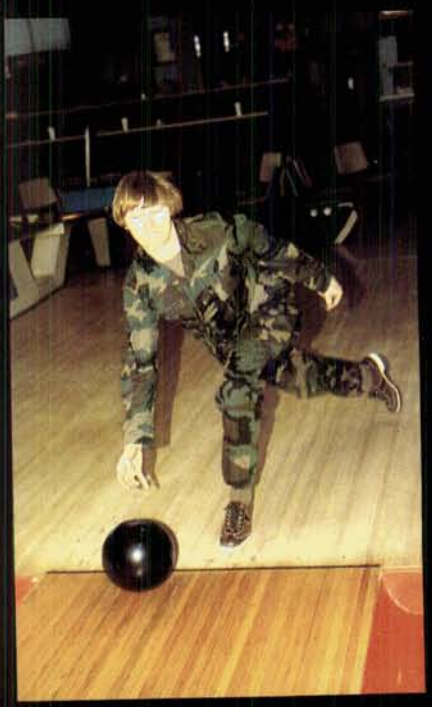
(2) **Part-Day Kindergarten Program.**

(3) **Full-Day Summer Program** during the summer months.

The School Age Latch Key Program is designed for children ages kindergarten through 12 years old. The center is open from 5:30 a.m. to 5:30 p.m. The children are offered a nutritious breakfast, lunch and a snack.

SALKP provides structured activities to enhance the development of children as well as fun field trips during the summer. One objective of the program is to help guide children in their social, emotional and physical growth. For information about the School Age Latch Key Programs call 596-5540.

RECREATION



ARTS AND CRAFTS CENTER

Located adjacent to the main exchange complex, the post **Arts and Crafts Center** offers 16 major crafts, including stained glass, woodworking and ceramics. The shop has space and equipment available for all major crafts, as well as tools and instructors for assistance. Basic supplies are also available at the center's in-house store.

ATHLETIC FIELDS

Sixteen new athletic fields (8 softball and 8 soccer) highlights the excellent outdoor sports fields for community members. Numerous tennis courts, additional multi-use softball, flag football fields, youth athletic fields and a 400-meter all-weather track and stadium are also available.

AUTO CRAFTS SHOP

The **Auto Crafts Shop,** located in building 383, has 18 bays, as well as tools, instructors and equipment for automotive repair. It is also a certified state Inspection Station, where cars can be inspected for state licensing. Adjacent to the shop is a four-bay, high-pressure car wash, with wand-type sprayers, foam brushes and vacuums. The car wash is open 24 hours a day.

BOWLING CENTER

Daugherty Bowling Center is located in building 1609 near the intersection of South Dakota and Illinois Avenues. The center has 40 lanes with automatic scorers. It is open seven days a week and offers open bowling daily. The facility also has a pro shop offering a complete line of bowling equipment, as well as custom drilling.

CLUBS

ENGINEER CENTER OPEN MESS. Located in building 4109 in the Sturgis Heights housing area, the Open Mess offers dining and beverage service. Other programs include special family buffets, brunches, entertainment and catering. A swimming pool with children's pool is operated during the summer months. Many of the club's programs are open to the Fort Leonard Wood Community as well.

ENGINEERS' CLUB. The Engineers' Club, located in building 7391 near Pick Elementary School, offers food, beverage and recreational opportunities for club members. The club is also available for catering and special parties.

Both the Engineer Center Open Mess and the Engineers' Club are open to all permanent party personnel, retired personnel and civilian employees.

DAVIS CLUB. The Davis Club, adjacent to Nutter Field House, offers weekly entertainment, a full-service bar and evening dining. The club is also often the focal point for large scale community activities. The club is open for lunch on weekdays. It is open to AIT/IET soldiers.

SAPPER LOUNGE. The Sapper Lounge, building 3210, is located in Morelli Heights, Engineer Center student housing area. The annex offers fast food, evening dining, a lounge and recreational activities, especially for the Engineer School student.

ENLISTED MILITARY WIVES CLUB

The Enlisted Military Wives Club hosts regular meetings, coffees, family activities and trips. The club is also involved in scholarship programs and other activities which aid the community. Free babysitting service is available for most of its functions. The EMWC can be reached by writing to P.O. Box 2144, Fort Leonard Wood, MO 65473.

GOLF COURSE

Piney Valley Golf Course, located off of Water Intake Road on FLW 20, is an 18-hole championship course. It offers a driving range, pro shop, club and golf cart rentals. While hours vary according to season, the course's resale store is open year-round, weather permitting.

LAKE OF THE OZARRS RECREATION AREA

The **Lake of the Ozarks Recreation Area** (LORA) is a seasonal Army travel camp located about 50 miles form Fort Leonard Wood in Lake of the Ozarks State Park. Mobile homes, boats of various descriptions, tent and trailer campsites and a picnic pavilion are available. A small country store located in the main part of the recreation area, has fishing equipment, groceries and sundry items. More information on LORA is available through the Outdoor Recreation Center.

MUSEUM

The **U. S. Army Engineer Museum** is located in building 1607 and tells the history of the U.S. Army Engineer from 1775 to the present. Exhibits highlight: airborne engineering, amphibious engineering, combat engineering, topographic engineering, bridging, demolitions, land mine warfare and weapons. Across the street from the Engineer Museum are 13 additional Museum buildings. These buildings constitute a restored WWII area. Barracks, mess halls, orderly rooms, day rooms and more are restored to appear as they were in 1943.

NUTTER FIELD HOUSE

Nutter Field House, building 1067 adjacent to the Davis Club, offers a complete weight room, separate men's and women's saunas, basketball courts, racquetball courts and dressing rooms with lockers. It is also an excellent location for indoor jogging.

OFFICER AND CIVILIAN WIVES CLUB

Activities of the **Officer and Civilian Wives Club** include monthly programs, bus trips and various craft classes, holiday bazaars, art and service auctions. Bowling and gourmet cooking groups meet regularly. The club also sponsors several fund-raising events, with a percentage of the proceeds used for educational scholarships and community needs. OCWC can be reached by writing to P.O. Box 238, Fort Leonard Wood, MO 65473.

OUTDOOR RECREATION CENTER

The **Outdoor Recreation Center,** located in building 2355, has information on outdoor activities on and around Fort Leonard Wood. State and post hunting and fishing licenses and permits may be purchased at the center, which also has boats, canoes and other outdoor camping and recreational gear available for rental.

PARK RESERVATIONS

There are number of parks on Fort Leonard Wood. To reserve one of them, contact the **Outdoor Recreation Center** in building 2355. Colyer Park is reserved on a first-come, first-served basis.

RIDING STABLES

The **Fort Leonard Wood Stables,** located on Buckeye Ave., provides stabling facilities for privately-owned horses as well as indoor and outdoor riding arena. Several riding trails are located adjacent to the stabling facility.

SPECKER GYMNASIUM

Located in building 1714 in the Specker Barracks complex, the **Specker Gym** includes basketball and racquetball courts, saunas, a complete weight room with free weights and Nautilus equipment, dressing rooms with lockers and equipment issue.

SPORTS AND ATHLETICS

Located in Nutter Field House, the post **Sports Office** coordinates a variety of sports activities and publishes a yearly calendar with

information on post, TRADOC and Department of the Army-level sports competitions. Staff members can also assist individuals in developing personalized exercise programs. Aerobics and other fitness programs are offered on a continuing basis.

SPORTSMEN'S CENTER

Located on Thompson Cemetery Road, the **Community Sportsmen's Center** provides skeet, trap and archery activities as well as weapons sales, reloading, shooting, supplies and other resale activities. The facility is also available for groups and organizations to rent for special parties or functions.

SWIMMING POOLS

The post Morale Support Activities branch operates one Olympic-sized pool: Wallace Pool, south of the Greyhound bus depot and family-sized pools in the Lieber Heights and Sturgis Heights housing areas. Swimming lessons are provided during the summer months.

TENNIS COURTS

There are 13 courts located in six different locations on post. Some are lighted for evening play.

THEATERS

Baker and Abrams Theaters are located on Iowa Avenue and feature current, first-run movies. Movie schedules are published in the weekly post newspaper, ESSAYONS, and are also available at most post exchange facilities on the fort.

COMMUNITY

Bordering Fort Leonard Wood to the north are the towns of **Waynesville** and **St. Robert**, with an estimated combined population of 5,400. The population of Pulaski County is just under 41,000.

Traveling east and west from the fort, Interstate 44 draws an easily navigable line between larger Missouri communities such as Rolla (25 miles east) and **Lebanon** (30 miles west), and metropolitan areas such as **St. Louis** (125 miles east) and **Springfield** (90 miles west).

The post and local communities—civic, governmental, educational, business, religious, and professional leaders, groups, clubs, and associations—work closely together on matters of mutual concern. An example of this cooperative relationship is the Civilian-Military Council, comprised of 16 regional community mayors and the installation commander.

A strong bond exists between the installation and local officials and civic groups. Participation in Chamber of Commerce activities, local parades and festivals, and in speaking engagements at cultural events, civic meetings, and social gatherings are important ways of letting Missouri know Fort Leonard wood considers itself part of the regional community and wants to be a good neighbor. Many installation activities, such as band concerts and post-wide ceremonies, are open to residents of the local communities.

One of the most enduring and gratifying relationships Fort Leonard Wood has had with the state and region is the fort's hosting of the Missouri Special Olympics. The annual event is attended by more than 2,500 handicapped children and their sponsors, as well as many state and local officials, Each spring, the installation community provides administrative and logistical support for the participants and sponsors of the games. The installation has hosted the three-day event for more than 14 years.

Nearly 30,000 people visited Fort Leonard Wood's museum in 1989, and museum officials expect that more names will be added to its guest books as the facility's collection of historical artifacts continues to grow. One of the museum's more unique projects is the restoration of a World War II company area, including a mess hall, barracks, company headquarters, and officers's quarters.

DISCOVERING MISSOURI

Fort Leonard Wood's location makes it a prime jumping-off point to many of the Midwest's recreational and tourist attractions.

The post is at the gateway to the Ozarks—a sportsman's paradise offering more than any camper, hiker, float trip or four-wheel-drive enthusiast, canoeist, dirt biker or horseback rider could find the leisure time to do.

As for hunters and fishermen, the rivers and streams flowing through and near the fort are crystal-clear, providing an ample home for goggle eye, crappie, catfish, stocked trout and more; the woods are thick with deer, rabbit, squirrel, quail and wild turkey.

Cave lovers will be happy to hear that Missouri is often called the Cave State. More than 500 new caves are discovered statewide each year. Some of the larger caves are commercially operated and provide guided tours, while many more are open for all levels of spelunking.

If outdoor sports aren't what you're looking for, museums, Civil War battlefields, historic homes and buildings, shopping and antiquing, concerts, plays and ballets are all within easy distance of Fort Leonard Wood.

THE BIG EIGHT

Missouri is divided into eight separate vacation regions, each offering something different and unique.

Fort Leonard Wood is located in the Lake of the Ozarks Region; the other seven regions are: the Pony Express Region, the Mark Twain Region, St. Louis, Kansas City, the Ozark Mountain Region, the Big Springs Region and the River Heritage Region.

The **Lake of the Ozarks Region** is bounded by Hermann on the east, Lebanon and Buffalo on the south, Warrensburg and Clinton to the west, and Boonville to the north.

Jefferson City, the state capital, is a highlight of this area. There visitors can explore the Governor's Residence, museums, the capital building and Jefferson Landing State Historic Site.

This region also boasts **Hermann**, where German Old World traditions have been preserved; **Fulton's** Winston Churchill Memorial; the historic homes of **Boonville**, where the first Civil War battle in Missouri took place; and **Arrow Rock**, a museum town that has preserved more than 40 sites.

The **Ozark Mountain Region** is located in the lower southwest portion of Missouri.

The highlights in this area include **Joplin**, a booming mining town in the 1800's; **Springfield**, the third-largest city in the state; **Wilson's Creek** battlefield, where the Union commander became the first general officer killed in the Civil War, and **Branson**, with dozens of top-name country music shows and **Silver Dollar City**, a theme park combining Ozark crafts and history with modern amusements.

Former President Harry Truman was born in **Lamar**, and Laura Ingalls Wilder wrote the "Little House on the Prairie" series in **Mansfield**; both locations have homes rich in memorabilia.

Towns are few in the **Big Springs Region**, bounded by Leasburg to the north, Patterson to the east, Thayer to the south, and Cabool to the west.

The area is best seen by canoe or boat, and is rich in natural wonders, including more than 60 major springs, caves and the 132-foot

Mina Sauk Falls.

In **Rolla**, visitors can see a scaled-down version of Britain's famed Stonehenge on the University of Missouri campus, or the world's largest lead mining district near **Potosi** and **Virburnum**, or one of the state's largest wine-producing areas in **St. James**.

The **River Heritage Region** contains a little of everything that's Missouri, from cotton fields and swamps to forests and hills, and the oldest city in the state.

The region takes in Missouri's "bootheel" in the south, Ste. Genevieve to the north, Poplar Bluff to the west and the Mississippi river to the east.

An infamous spot in the region is **New Madrid**, hit in the early 1800's by one of history's most violent earthquakes. A museum and antebellum home are just two of its highlights.

Ste. Genevieve is Missouri's oldest town. Established in 1735 by the French, it still maintains the color and flavor of yesteryear.

Other highlights of the region include **Cape Girardeau** with its historic homes, museums and Civil War fortifications; an old mill and covered bridge; **Poplar Bluff**, with dioramas of trophy animals; and St. Mary's of the Barrens Church, which dates back to 1827, in **Perryville**.

The **Pony Express Region** is located in the northwest corner of the state and is reminiscent of the Old West.

The area gets its title from **St. Joseph**, the region's largest city and starting point for the Pony Express in 1860. Also located in the city are art and history museums, the first row houses built west of the Mississippi, a doll museum and the frame house where Jesse James was killed.

The **Jamesport** area is the largest Amish settlement in Missouri today and features antique shops, country stores and crafts. Just west of Jamesport, the Mormons settled briefly in the early 1800's.

The area also includes religious manuscripts from the ninth century at the Conception Abbey near **Maryville**.

Located in the northeast corner of Missouri is the **Mark Twain Region**, which includes Hannibal.

The area has been home to several well-known individuals, including (of course) Mark Twain—Samuel Clemens—born in Florida, Missouri and raised in **Hannibal**. Many attractions there today are centered on the life and works of the famous humorist. Walt Disney grew up in **Marceline**, and two of the Army's finest—Gen. John J. (Black-jack) Pershing (from **LaClede**) and Gen. Omer N. Bradley (from **Clark**) also called the region home.

The first school of osteopathic medicine in the world was founded in **Kirksville**. The town of **Bethel** was founded as a German communal colony in 1850s. Several other historical museums are located in the region, as well as a railroad museum in **Moberly**.

The **Kansas City Region** includes the city itself, which is well-known for its shopping, sports, museums, old homes and other cultural attractions.

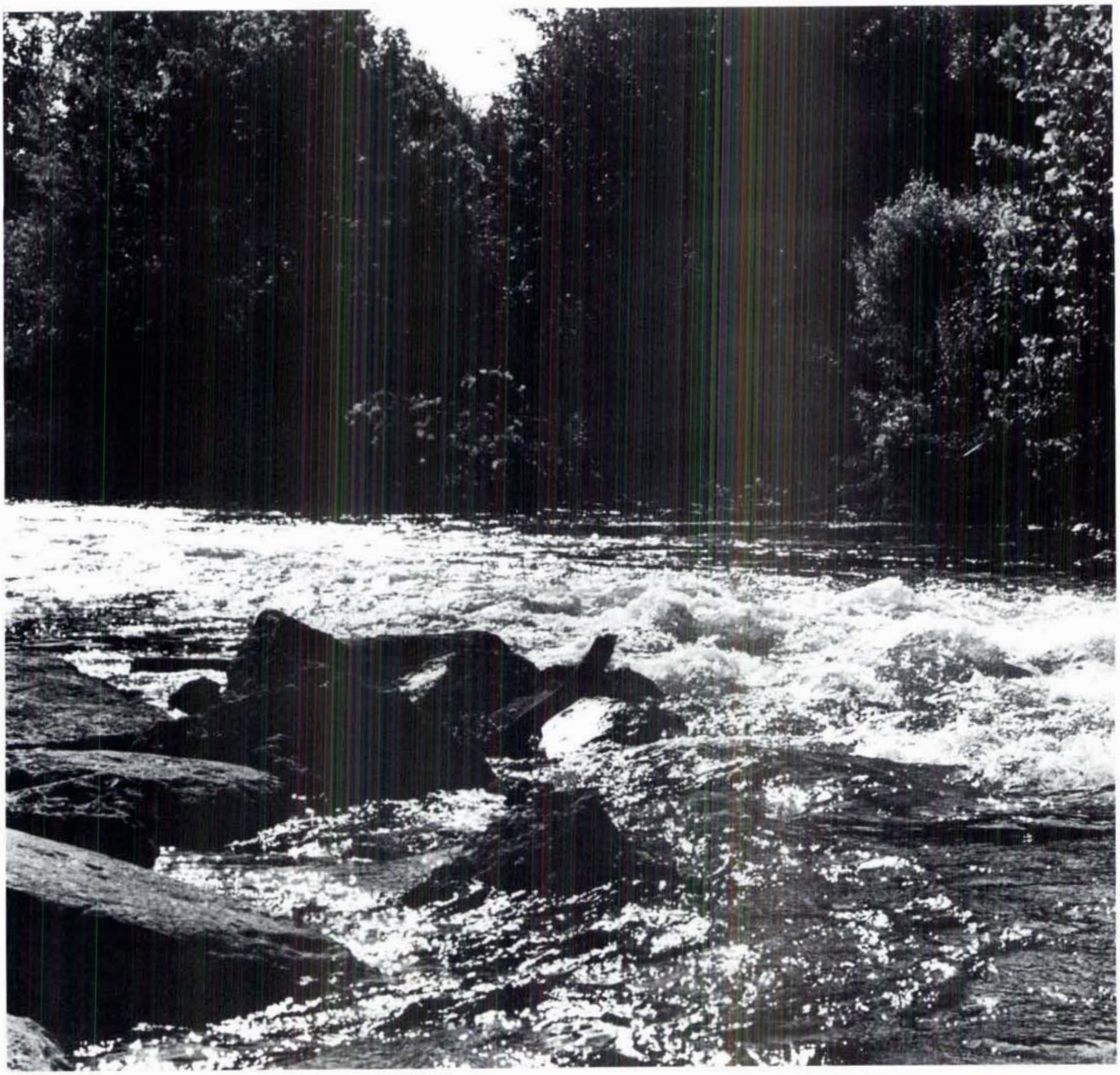
But the area also boasts **Independence**, site of the Harry Truman

Library and Museum, his home and office, and a Mormon Visitors' Center; **Weston**, with more than 100 buildings that predate the Civil War and the largest tobacco market west of the Mississippi; **Fort Osage**, a reconstruction of the first outpost built by William Clark in the Louisiana territory, and **Lexington**, a major Civil War battle site.

The **St. Louis Region** is well-known for its attractions, which range from the world's largest brewery and Japanese gardens to the Gateway Arch, sports teams, and Laclede's Landing, a historic district now home to some of the city's finest upscale entertainment and dining. The city, founded more than 200 years age by French fur traders, is also home to a symphony, ballet company, a world renowned 83-acre zoo, numerous museums, and the Cathedral of St. Louis, which dates from 1907 and features a mosaic art collection.

Several other places to visit on the St. Louis Region are **Washington**, the world's corn cob pipe capital; **St. Charles**, Missouri's first capital, and **Defiance**, where Daniel Boone died in 1820.

Information on regions and attractions is available through the post's Information, Ticket, and Tour Office and local Chambers of Commerce.



HISTORY

In 1940, it seemed inevitable that the United States would become involved in the war already raging in Europe. As the conflict deepened toward World War II, America needed to prepare for battle.

In response to that urgent battle cry the U.S. Army looked to the Ozark foothills of south-central Missouri. There a major Army training center would be built to toughen young men for the battlefields of France, Belgium, Holland, Italy, Africa and later, the islands of the Pacific.

And so the stage was set for a solemn ritual that took place on December 3, 1940. It was a Tuesday morning, cold and dreary, when the first shovelfuls of hard earth were ceremoniously lifted from the site dubbed the Seventh Corps Area Training Center.

The name didn't stick for long. Just a month later the post was officially activated with a new name, chosen in honor of a prominent Army surgeon—Maj. Gen. Leonard Wood.

Wood was a colorful figure. He fought gallantly in the campaign to subdue renegade Apaches led by the infamous Geronimo, earning a Medal of Honor. He preceded Theodore Roosevelt as the first commander of the "Rough Riders" in Cuba. He was military governor of Cuba from 1898 until 1902. From 1910-1914 he was Army chief of staff. Later, during World War I, he organized and trained two divisions (the 10th and 89th) at Camp Funston, Kan. In 1920 he made a bid for the Republican presidential nomination, losing on the 10th ballot to Warren G. Harding. When Harding became president he appointed Wood as governor-general of the Philippines, a post he held until his death in August 1927.

In March, the fort's name changed yet again. The acronym ERTC was added, indicating that the installation was now an Engineer Replacement Training Center, commanded by Brig. Gen. Ulysses S. Grant III. Its initial mission was to train engineer replacement troops, Army Ground forces and Army Service Forces units. The first engineer trainees arrived in April.

As the fort spread across the hills, a half-dozen Ozark communities were swallowed up. Towns with colorful names such as Bloodland, Palace, Evening Shade, Cookville, Wharton and Tribune ceased to exist in a clamor of furious building.

By May the local population (about 300) was engulfed by more than 32,000 construction workers, lured by jobs that paid as much as 75 cents per hour. The locals must have been thunderstruck watching more than 1,600 temporary mobilization buildings—barracks, day rooms and mess halls—go up at the astounding rate of one every 45 minutes.

That same month, the first of a number of major units which trained here during World War II—the 6th Infantry Division from Fort Snelling, Minnesota—rolled onto post. It was a start of a distinguished battle career: by war's end, the "Sight-Seeing Sixth" would set a record for consecutive days of combat against the Japanese from New Guinea to the Philippines and bring home a Philippine Presidential Unit Citation.

Other units soon followed. The 72d Field Artillery Battalion. The 8th Infantry Division. The 70th Infantry Division. The 97th Infantry Division. In April 1943, the 75th Infantry Division was activated here—the first division ever activated in Missouri.

By the time the 75th came to life, the fort was filled with the sounds of training. A daily average of 40,000 soldiers were being trained in engineer, ordnance, quartermaster, medical, chemical, military police, armor, artillery and postal skills.

Later that year, some 5,000 more soldiers arrived. There were no ceremonious greetings, no fanfare, for these men, through. They were German and Italian prisoners of war. The camp that held them remained in operation until 1946.

By then, World War II was already consigned to history. On March 23, 1946, training halted. The hills and ridges which had stood witness for five years, as 320,000 officers and enlisted soldiers processed and trained here for every theater of a global war, were silent once again. A week later the fort was inactivated and left in the hands of a few caretakers.

While Army Reserve and National Guard units still trained here during the summer months, the land they trained on was not called a fort at all. The entire post—all 100 square miles—had been leased by an Oklahoma rancher who named it the Bar-O-Bar Ranch. Thousands of head of cattle grazed where formations of troops trampled not long before.

For the next four years, the installation was relatively quiet, until a war in Korea drafted it into service once again.

The post was reactivated August 1, 1950. When the first troops arrived for training one month later, they started a tour of duty that has continued uninterrupted to this day.

In the hands of the 6th Armored Division (Training), which operated the post, Fort Leonard Wood performed a replacement training role, providing basic infantry, advanced engineer and engineer specialist training.

The fort's role as a U.S. Army reception station began in 1953. The following year, other reception stations closed, leaving the post as the only such facility in the Fifth U.S. Army area.

With the passage of the Reserve Forces Act in 1955, the fort's role as a training center grew once more. In

October the first group of volunteers arrived on post for a new six-month active duty program for the Army Reserve.

The installation took on yet another new title on March 16, 1956. The 6th Armored was inactivated and the fort was redesigned the U.S. Army Training Center, Engineer.

Five days later, Secretary of the Army William M. Bruckner finally declared the post a permanent installation. The post, in operation for 15 years, had been called a "fort" since its inception, a title usually reserved for permanent military facilities. Now the title rightfully belonged.

The change in status didn't change the fort's training mission, but it did allow permanent structures to finally be built here. No time was wasted. In the fall of 1956, a building boom began with the construction of 33 desperately-needed family quarters. This was quickly followed by another quarters project the following spring, the post's first permanent troop housing facility in the summer of 1958 and Gen. Leonard Wood Army Community Hospital in 1965.

Vietnam was the focus of the 60's as war in Southeast Asia pressed the fort into service once again as a basic combat and engineer training center. Activity here peaked in 1967, when about 123,000 soldiers were trained here.

Construction didn't stop entirely during the war. By 1972, most training on post was operating from permanent facilities. But many of the fort's staff agencies were still housed in aging World War II-era temporary buildings. Efforts to expand were redoubled after the war. They reached a high point in 1975, when the planned transfer of additional engineer courses from Fort Belvoir, VA, helped the fort acquire $60 million in construction and expansion contracts.

The fort also significantly expanded its training role that year. A construction equipment operator training course for U.S. Air Force and Marine Corps personnel, as well as Canadian engineers, was added to the growing curriculum. Combat engineer One-Station-Unit Training started the following year.

Single soldiers assigned to the installation got a tremendous boost in 1979 with the construction of the 932-room Specker Barracks complex.

While engineers had been trained here for many years, it wasn't until February 1985 that the Secretary of the Army decided to move the U.S. Army Engineer Center to Missouri from Fort Belvoir.

On June 1, 1988, the center's colors were lowered in the Virginia sky for the last time and raised for the first time in the Ozarks. The following winter the center's staff members began moving into the current state-of-the-art, $60 million-plus school complex.

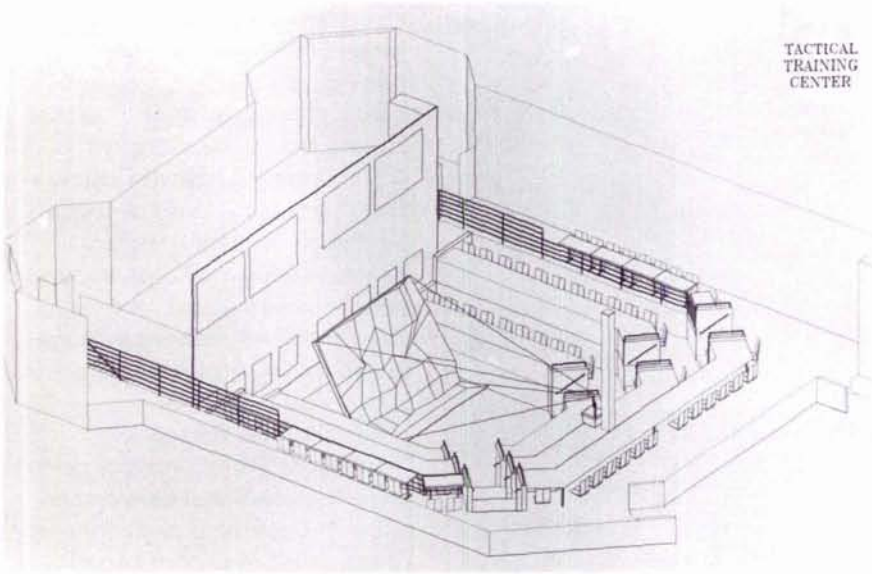
The Engineer Center has brought tremendous change with it to Fort Leonard Wood. Within months after the new complex was occupied, the first engineer officer students began graduating from its courses. The fort also inherited the responsibility of developing new engineer doctrine and equipment for tomorrow's battlefields.

There are still a few of the old wooden World War II structures standing. The post museum maintains an entire restored World War II company area, to show visitors the fort is proud of where it came from.

But there are new boundaries to explore, from battlefield tactics and combat engineering to computer simulation and space technology. Today, after 50 years of service, Fort Leonard Wood stands, more than ever, poised for the future.

ENGINEER SCHOOL

Headquarters, Engineer Center
William M. Hoge Hall



Fort Leonard Wood has a number of varied missions as evidenced by the types of units that make up the post. Working side-by-side to get the job done are the Training and Doctrine Command units that provide post support and training, the Forces Command deployable units, and tenant units, including medical and dental activities.

While the installation has provided training for enlisted engineers since its founding in 1941, since 1990 it has also provided instruction for Army engineer officers. Now Army engineers of all ranks are training together and have the same opportunities for professional development and concurrent training as do the other combat arms.

The Engineer Center complex was officially dedicated on April 26, 1990.

Architecture. The horseshoe arrangement of the main complex was conceived by the Campus Architectural Review Team in 1986. The double road entry/exit was patterned after the original layout of Fort Leonard Wood in 1941. Brick and glass were used so the complex would have a look that would compliment the rest of the post.

The building is divided into three separate halls:

Hoge Hall. This is the headquarters for the United States Army Engineer Center and Fort Leonard Wood and the Engineer School. It is named in honor of Gen. William Hoge, who commanded the Army's Engineer School at Fort Belvoir, VA, from 1946-48.

Lincoln Hall. The academic building was named for Gen. George Lincoln. A Rhodes scholar, Lincoln was promoted to brigadier general at age 38, making him America's youngest World War II general staff officer.

Bruce C. Clarke Memorial Library. This state-of-the-art facility, located in the east wing of the school, is divided into two areas: the community library and the academic library. It is named for Gen. Bruce C. Clarke, an engineer officer who served with distinction in World War II and Korea. (For more specific information on the library, see the "Services" section of this guide.)

Morelli Heights Housing Area. Unaccompanied students attending the Engineer School are housed in this four-building, 348-unit complex just a short walk from the school. The overall area is named for Maj. Gen. Donald Morelli, a former commander of the 2nd Brigade at Fort Leonard Wood and the chief architect of the Army's AirLand Battle doctrine. In addition, each of the buildings is named for an

engineer officer of a rank commensurate with the occupants. Each unit contains a kitchenette and private bath; 24 units are two-room suites for field-grade officers.

Convenience facilities. Located within the school complex are several facilities: a prayer room; a bookstore, specializing in military titles; a fast-food cafeteria; a barber shop; and a laundry/dry cleaning service. There is also a small service club, the Sapper Lounge, located in the Morelli Heights Housing Area.

Mission and Instruction. The Engineer School, with its motto "Essayons" ("let us try"), provides a progressive program of resident and non-resident training in its quest to provide qualified individuals in an ever-expanding technological society.

The Engineer School mission includes instructing engineer officers in the tactics and techniques of engineer troops, principles of military engineering, river, harbor and flood-control work, development of engineer equipment and preparation and revision of engineer training publications.

The school consists of a number of departments and directorates.

The **Deputy Assistant Commandant** oversees the daily operations of the school; maintains resident student academic records; supervises the school library and historian; issues texts and provides management overview for the school's budget and manpower.

The **Engineer Personnel Proponency Office** provides personnel and professional development recommendations and guidance for Corps of Engineer officers and enlisted soldiers to the Personnel Command.

The **Directorate of Combat Development** plans, develops and assesses battlefield techniques, organizations and tactics required by engineers; develops training literature, films and other training material; manages test programs and evaluates operational effectiveness of engineer material and systems; provides data for international standardization activities and conducts studies on long and mid-range combat development requirements.

The **Directorate of Training and Doctrine** is responsible for all engineer doctrine, training programs and materials; schedules officer and enlisted courses of instruction for resident training and is responsible for training the school's staff and faculty; validates and maintains training material in support of Army cartographers and surveyors and teaches an expanded program of terrain analysis and topography.

The **Department of Instruction** conducts resident and nonresident training in military operations and engineering for professional development courses; assists National Guard, Reserve and ROTC units; conducts the nuclear surety program; conducts resident instruction for

nuclear, biological, chemical communications and military operations courses.

The **Directorate of Evaluation and Standardization** conducts internal and external evaluations of engineer training, doctrine, systems and organizations and formulates management policies and provides advice to the Personnel Command on engineer specialties.

The Engineer School is responsible for the pre-command course, engineer officer basic and advanced courses and warrant officer advance course. Courses for the enlisted soldier include soils analyst, construction surveyor, technical drafting, bridge crewman basic noncommissioned officer course and the combat engineer advanced noncommissioned officer course.

ALLIED LIAISON OFFICE

The Allied Liaison Office consists of officers and NCOs from Canada, France, Germany and the United Kingdom, with Australia retaining an office at Fort Belvoir, VA. These officers and NCOs provide a link between the engineers of their respective countries and the U.S. Army engineers. They facilitate any bilateral work on equipment, doctrine and visits, primarily exchanging between the U.S. Army and their armies. They can provide advice and information during the formulation of concepts due to their unique perspective and experience with their own armies as well as U.S. forces.

UNITS & STAFF

1ST ENGINEER BRIGADE

The 1st Engineer Brigade (Center) provides command, supervision and operational control over both Training and Doctrine Command (TRADOC) elements and Forces Command (FORSCOM) units at Fort Leonard Wood.

Two of the brigade's four TRADOC battalions provide Advanced Individual Training (AIT) for 12 engineer specialties including construction equipment operations, interior electrician, carpentry/masonry, plumbing, technical drafting, construction surveying and material quality specialist. Prior to the engineer soldiers beginning these courses, each soldier receives one week of combat engineer training.

The Brigade is responsible for several engineer warrant officer courses as well as providing technical training and/or equipment support to several basic non-commissioned officer courses. In addition, the Brigade teaches one transportation and one petroleum vehicle operator additional skill identifier course.

One of the TRADOC battalions, the **554th Engineer Battalion,** supports the Engineer Officer Basic Course (EOBC), Engineer Officer Advanced Course (EOAC) and International Student Detachment. The Detachment aids international students training at Fort Leonard Wood.

The **169th Engineer Battalion** includes Garrison Company and the Engineer School's Staff and Faculty Company. Garrison Company is one of the largest units on the installation. Garrison Company soldiers work in the post's directorates, the U.S. Army Trial Defense Service and U.S. Army Personnel Security

Screening Program. The musicians of the 399th Army Band, which supports all ceremonies on Fort Leonard Wood and performs goodwill concerts within a five-state area, and the U.S. Army Criminal Investigation Division are also assigned to the 169th Engineer Battalion.

FORSCOM units under the 1st Engineer Brigade control include the **5th Engineer Battalion (Mechanized),** two firefighting detachments, the **93d Evacuation Hospital,** the **12th Transportation Company (Light-Medium Truck),** the **515th Engineer Company (Pipeline),** the **902d Engineer Company (Combat Bridge)** and the **285th Engineer Detachment (Quarry).**

FORSCOM units of the 1st Engineer Brigade (Center) must remain prepared to deploy anywhere in the world, as part of the Army's Rapid Deployment Force, in a NATO contingency or exercise REFORGER in Germany.

The **5th Engineer Battalion (M)** provides combat engineer support, general engineer work and infantry combat missions when needed in support of a committed corps or field army. The 5th also provides engineer support for the post when not committed to FORSCOM missions.

The **515th Engineer Company (PL)(CS)** is the only unit of its type in the Army. The company provides general engineer support for the post when not committed to its wartime mission of constructing and maintaining pipeline systems and is attached to the 169th Engineer Battalion (S) for command and control.

The **12th Transportation Company (Light-Medium Truck)** provides transportation support for the installation and is attached to the 169th Engineer Battalion for command and control.

The **93d Evacuation Hospital** is a Deployable Medical Assistance (DEPMED) unit. The 93d can provide hospital beds for up to 504 patients in a combat zone. The unit which is deployable, also has a contingency mission to provide medical support during disasters if required.

3D TRAINING BRIGADE

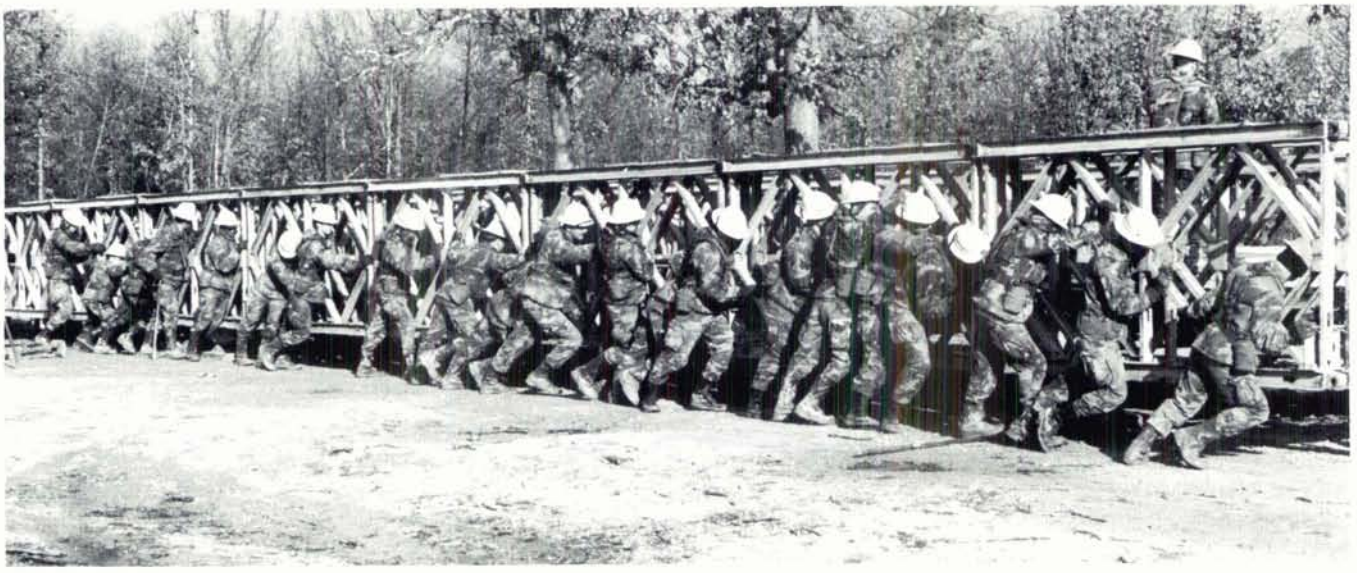
The **3d Training Brigade** is composed of eight battalions: five Basic Training; two Combat Engineer One-Station-Unit-Training (OSUT); and one Training Support. It is also the home of the 10th Infantry Regiment. The brigade trains 24,000 Initial Entry Training soldiers and 4,500 Combat Engineer Soldiers annually.

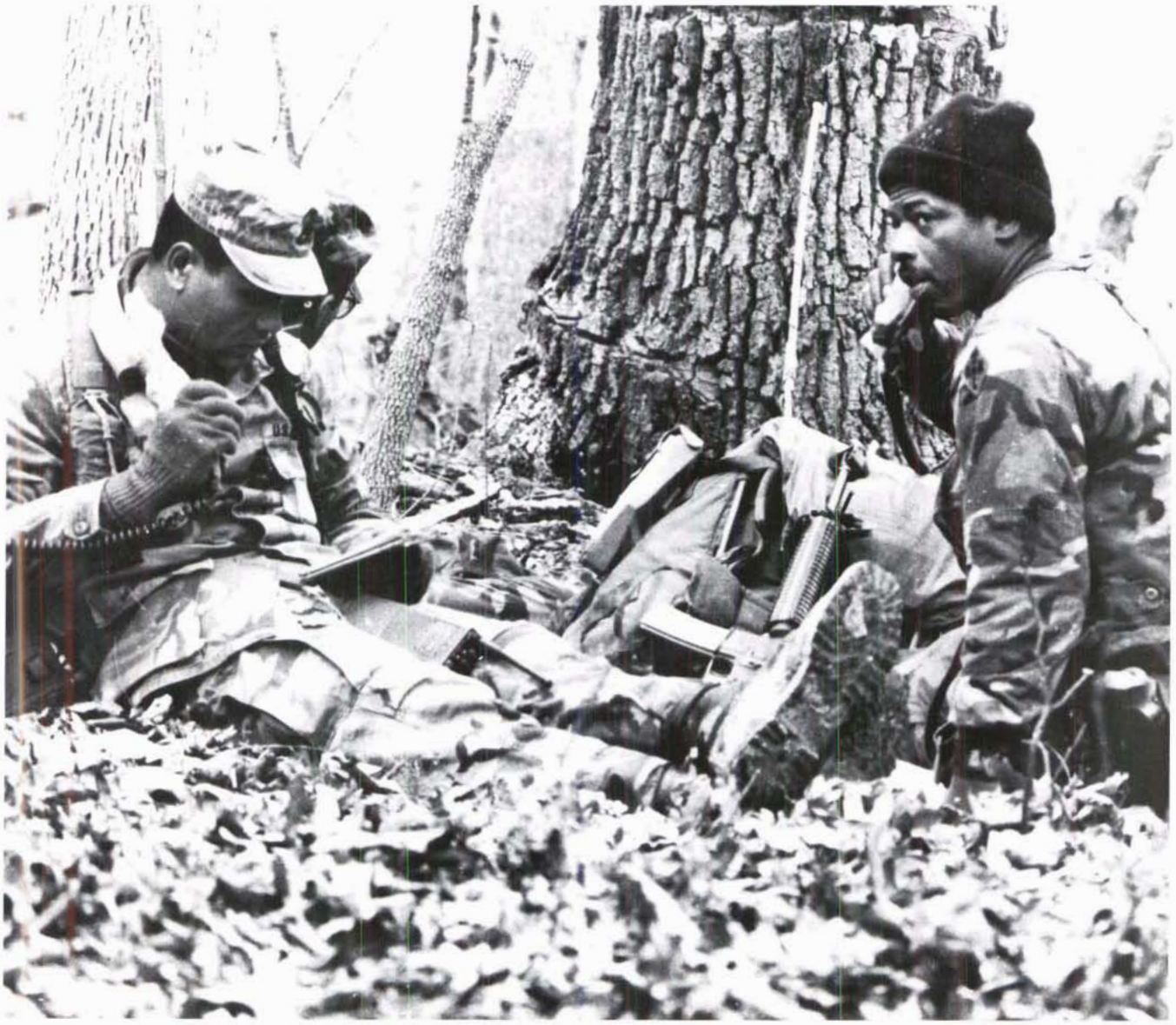
The brigade turns newly recruited soldiers into well disciplined; highly motivated; mentally, physically and morally fit professional soldiers who are proficient with the M16A1/A2 rifle and competent in basic combat skills and tasks. Combat engineer soldiers are additionally trained to perform as members of an engineer squad, or crew.

Basic Training is conducted in three phases, spanning eight weeks: ***Patriot,*** which stresses orientation and soldierization; **Gunfighter,** which concentrates on weapons training; and **Warrior,** which teaches individual tactical training.

The **Combat Engineer OSUT** includes five additional weeks of engineer specific training, which begins at completion of the Basic phases.

The brigade also contains a **Training Support Battalion.** This battalion is composed of units that provide the core instructor cadre for the Basic Training and Combat Engineer OSUT phases and an equipment support section that provides tactical vehicle and equipment support to both the brigade and the Engineer School. The





Sapper Training Detachment, which trains individuals and units in Engineer tactics and operations at the small unit level, is also a part of this battalion.

3d Training Brigade has a reserve training and evaluation mission. Throughout the year the brigade works extensively with members of Army Reserve units, such as the 84th, 85th, 95th, 98th and 104th Training Divisions. During these units' annual training periods, the brigade assists them in preparing to conduct their wartime mobilization mission.

43D ADJUTANT GENERAL BATTALION (RECEPTION)

The **43d AG Battalion** is the second-largest of six active Army reception battalions. Each year the battalion processes about 30,000 new soldiers into the Army and within three days prepares them to begin initial entry or advanced individual training.

The battalion is comprised of both military and civilian members and is organized with a headquarters element, headquarters company and two processing companies. In-processing for new soldiers includes preparation of initial records, shots, dental x-rays, dental and eye exams, haircuts and uniform and ID card issue.

In early 1989, the battalion moved into Grant Hall, a new facility named in honor of Brig. Gen. Ulysses S. Grant III, the first commander of Fort Leonard Wood. This modern building allows new soldiers to complete all their in-processing under one roof and gives them a positive first impression of the U.S. Army.

LIBBY NON-COMMISSIONED OFFICER ACADENY

The staff of the **Libby Non-Commissioned Officer Academy** administers and instructs a **Primary Leadership Development Course (PLDC);** eight **Basic Non-Commissioned Officer Courses;** the **Advanced Non-Commissioned Officer Courses** and operate the installation's **Drill Sergeant School.**

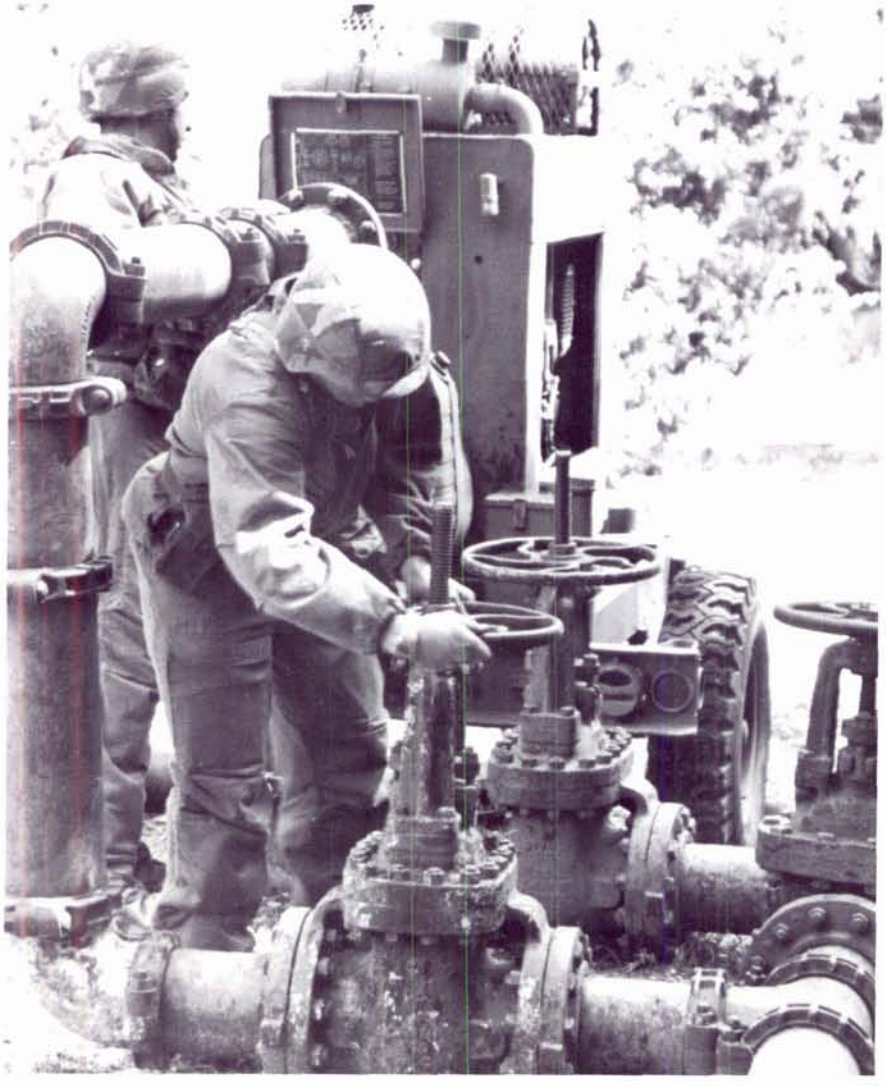
The Primary Leadership Course is a soldier's first instruction in being a non-commissioned officer. It is designed to provide prospective and newly appointed sergeants with an understanding of the basic skills and responsibilities of leading a small group of soldiers.

The **Basic Non-Commissioned Officer Courses** (12B Combat Engineer, 12C Bridge Crewmember, 12F Engineer Tracked Vehicle Crewman, 51H Construction Engineer Supervisor, 51T Technical Engineer Supervisor, 62B Construction Equipment Repairer Supervisor, 62N Construction Equipment Supervisor and the Topographic Field 81 series) are designed to teach NCO's the leadership, warfighting and technical skills to take charge and train elements up to squad size.

The **Advanced Non-Commissioned Officer Courses** (Combat Engineer 12 and 51 series and Topographic 81 series) are designed to provide the knowledge and skills required to take charge of the platoon-size element and to mentor junior leaders.

The **Drill Sergeant School** teaches the skills and knowledge required for NCOs to perform duties as drill sergeants in an initial entry training unit.

The **Initial Entry Training Cadre Training Course** is a two-week course which trains unit cadre in effective ways to create a positive environment for both drill sergeants and trainees.



TENANT ORGANIZATIONS

MILITARY POLICE COMMAND (PROVISIONAL)

The **Military Police Command** provides law enforcement support for Fort Leonard Wood and its AR 5-9 area of responsibility. The MP Command further maintains liaison with local law enforcement agencies within its area of jurisdiction and is prepared to provide military police combat support to Forces Command for worldwide deployment.

Headquarters Company, Military Police Activity (HQ, MPA) provides law enforcement support to the Fort Leonard Wood community and is responsible for staffing the Office of the Provost Marshal. Additionally, HQ, MPA provides training, discipline, billeting and logistical support to all assigned or attached personnel.

The **300th and 463d Military Police Companies** maintain continual readiness for rapid strategic worldwide deployment. Both units are prepared to perform combat support operations to protect military activities and operations from hostile exploitation. In peacetime these units train for their worldwide deployment mission and provide military police law enforcement support to the Fort Leonard Wood Provost Marshal.

OPERATING LOCATION—A, DETACHMENT 8, 1ST WEATHER GROUP (USAF)

The primary duty of **OL-A, Detachment 8**, is to support aviation activities at Fort Leonard Wood. The detachment also provides climatology support to on-post units and the Engineer School and recordings of current weather conditions for the general population of the post. While the unit does no forecasting, it does relay weather forecasts and weather warnings received from other Air Force weather units to Fort Leonard Wood and issues weather advisories in the event of severe weather.

543D ORDINANCE DETACHMENT (EODCT)

The **543d Ordinance Detachment (Explosive Ordinance Disposal Control Team)** provides routine and emergency explosive ordinance disposal support to the military, civil authorities and federal agencies in 12 states - Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota and Wisconsin - through the command and control of six EOD detachments.

The **543d EODCT** provides EOD support for VIP protection through the U.S. Secret Service, Department of State and Department of Defense; maintains an EOD incident reporting system; provides technical assistance to civil and federal law enforcement agencies; and trains its subordinate detachments and military and civil authorities in techniques to neutralize the hazards of unexploded muni-

tions.

The **63d EOD** is one of the 543d's subordinate detachments and is also located at Fort Leonard Wood. Its mission is to provide 24-hour-a-day response to hazardous devices, explosives and unexploded ordnance. The 63d EOD also trains both military and civilian agencies in bomb search and ordnance recognition.

902D MILITARY INTELLIGENCE GROUP

The Fort Leonard Wood resident office of the **902d Military Intelligence Group** conducts counterintelligence and counterespionage investigations. The group also advises and assists supported commands and designated Department of Defense agencies in 51 southern Missouri counties in matters of counterintelligence and operational security.

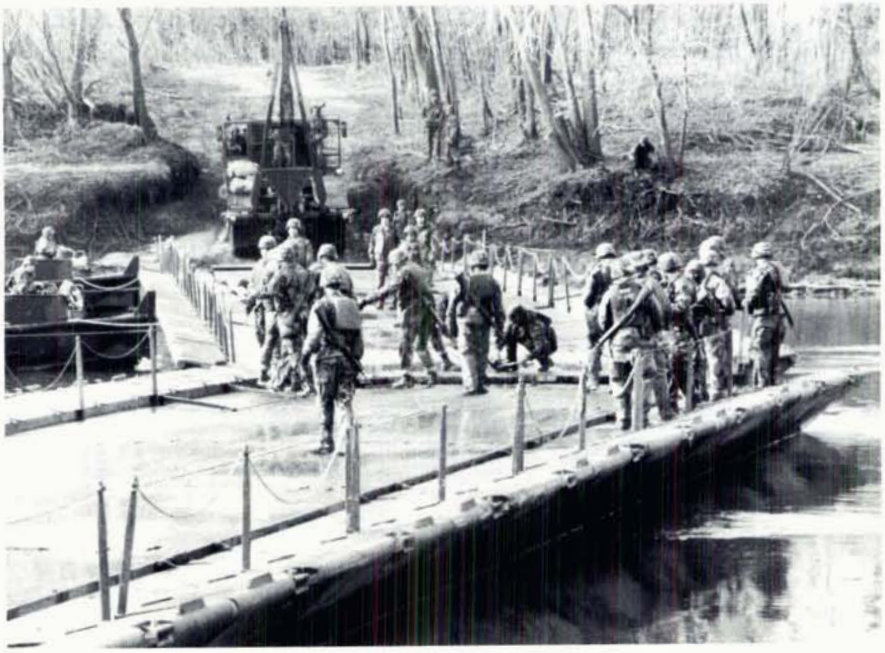
The group also coordinates with federal, state and local investigative, law enforcement and intelligence/security agencies; conducts the interview phase of personnel security screenings and trains and certifies active and reserve component personnel security soldiers.

DEFENSE INVESTIGATIVE SERVICE (DIS)

The **Defense Investigative Service (DIS)** is a law enforcement, personnel security investigation and industrial security agency which conducts personnel security investigations for the Department of Defense and other federal agencies. Fort Leonard Wood's DIS office provides service to the post and 20 counties in southern Missouri.

DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO)

The **Defense Reutilization and Marketing Office (DRMO)** administers property disposal service operations at Fort Leonard Wood. DRMO manages programs which allow government property to be reused by other government agencies, donated, sold, or otherwise disposed of, in support of the military services, other federal agencies and authorized customers. DRMO also serves as the focal point for the ultimate disposition of hazardous materials and wastes.



LOGISTIC ASSISTANCE OFFICE (LAO)

The **Logistical Assistance Office (LAO)** represents the Commander, U.S. Army Material Command in all logistic related matters and helps field commanders, soldiers and activities resolve readiness and logistic issues.

PERSONNEL SECURITY SCREENING PROGRAM (PSSP)

The **Personnel Security Screening Program (PSSP) Detachment** provides personnel security screening, interviewing and processing of soldiers who will be assigned to sensitive positions throughout the Army.

The headquarters for the Fort Leonard Wood detachment is here; however, its personnel are assigned to 27 major cities in the continental United States and in Honolulu.

READINESS GROUP

Readiness Group, Fort Leonard Wood, is a subordinate unit of the Fifth United States Army and Forces Command. Its assistance teams help designated Army Reserve and National Guard units (located primarily in the states of Missouri and Arkansas) remain ready for mobilization by providing doctrinal, tactical, technical and administrative advice and training in combat arms, combat support and combat service support areas.

TRADOC MANAGEMENT ENGINEERING ACTIVITY (TRAMEA)

The **TRADOC Management Engineering Activity (TRAMEA)** conducts operational improvement and manpower staffing standards studies for the Army's Training and Doctrine Command. TRAMEA also studies training functions and participates with other Army commands in conducting Army-wide studies.

TEAM C, CO A, ENGR BN (PRIME POWER)(PROV)

Team C, Company A, Engineer Battalion (Prime Power)(Prov) is a subordinate of the U.S. Army Engineering and Housing Support Center (EHSC), U.S Army Corps of Engineers (USACE), which supports military installations.

Team C, Co A, is one of 13 teams strategically located around the world to: provide advice and technical assistance in all aspects of electrical power and distribution systems; and to generate electrical power in support of warfighting, disaster relief and nation assistance operations.

Team C also assists the Fort Leonard Wood Directorate of Engineering and Housing in areas pertaining to their MOS (52E).

U.S. ARMY INFORMATION SYSTEMS COMMAND DIRECTORATE OF INFORMATION MANAGEMENT (DOIM)

The **Directorate of Information Management (DOIM)** is responsible for installation communications and computer systems. DOIM also operates the fort's printing, records management, mail and publications and forms agencies.

U.S. ARMY RESERVE TRAINING CENTER (USARTC)

The **Army Reserve Training Center (USARTC)** supports tenant Army Reserve units at Fort Leonard Wood and other Army Reserve units within the 102d U.S. Army Reserve Command.

USARTC units include: Service Battery, 3d Battalion 75th Field Artillery, which provides logistical support (maintenance, supply, ammunition, mess) to the 3/75th Field Artillery Battalion; the Detachment 1 of the 936th Maintenance Company, provides support in the areas of recovery and maintenance for engineer units as well as various others; the 938th Maintenance Detachment, provides support to Field Artillery units; and Detachment 1, 25th Mobile Army Surgical Hospital (MASH).

U.S. MARINE CORPS ADMINISTRATIVE DETACHMENT

The **U.S. Marine Corps Administrative Detachment** supports enlisted Marines attending drafting and survey courses at Fort Leonard Wood, as well as Marine officers attending the Engineer School's Engineer Officer Advanced Course. The detachment also provides a limited number of Marine engineer instructors to 87th Engineer Battalion training courses and the Engineer Officer Basic Course.

STAFF AGENCIES

CHAPLAIN

The post **Chaplain Activities** office provides Protestant, Catholic, Jewish and some denominational services and programs. The Chaplain staff also operates a Family Life Center and maintains a 24-hour crisis/help line. (Specific information on chapel

programs is listed in the Services section of this guide.)

DIRECTORATE OF CIVILIAN PERSONNEL (DCP)

The **Directorate of Civilian Personnel (DCP)** provides staff assistance to managers concerning civilian personnel management issues and conducts professional development training.

A representative from the Rolla Office of the **Missouri Division of Employment Security (Job Service)** works through the Job Information Center as well. The Job Service accepts applications and conducts interviews for a variety of positions with private organizations in the area.

DIRECTORATE OF COMMUNITY AND FAMILY ACTIVITIES (DCFA)

The **Directorate of Community and Family Activities (DCFA)** operates all Fort Leonard Wood recreational programs and services, youth activities, family support programs, Army Community Service activities and drug and alcohol programs.

DIRECTORATE OF CONTRACTING (DOC)

The **Directorate of Contracting (DOC)** is responsible for all aspects of contracting with private industry. This includes the bid and award process, as well as quality assurance to ensure work is completed in accordance with contract specifications.

DIRECTORATE OF ENGINEERING AND HOUSING (DEH)

The **Directorate of Engineering and Housing (DEH)** constructs, maintains and repairs real property facilities; including buildings and other structures, utilities and grounds. DEH also provides fire prevention and protection, energy conservation and environmental and natural resources management services.

DIRECTORATE OF LOGISTICS (DOL)

The **Directorate of Logistics' (DOL)** principle mission is to feed, clothe and transport the soldier. To accomplish that mission, the DOL operates post dining facilities; manages all supply operations and facilities, to include bulk petroleum and conventional ammunition storage facilities; and oversees operation of the transportation motor pool. The installation boasts a small railroad, operated by the DOL, which provides freight services. The DOL maintenance activities provide support for installation office equipment, unit equipment and both tactical and non-tactical vehicles.

DIRECTORATE OF MILITARY PERSONNEL (DMP)

The **Directorate of Military Personnel's (DMP)** primary mission is to administer military personnel management and development programs for all enlisted soldiers and officers assigned to Fort Leonard Wood. It administers the 399th Army Band and post retention programs as well. The directorate also provides personnel services to students training on post; initial entry soldiers; area retirees; Army Reserve and National Guard soldiers and eligible family members.

DIRECTORATE OF PLANS, TRAINING AND MOBILIZATION (DPTM)

The **Directorate of Plans, Training and Mobilization (DPTM)** is responsible for the coordination of training for initial entry soldiers, noncommissioned officers, warrant officers and officers at Fort Leonard Wood. DPTM also plans for and executes installation mobilization missions, domestic emergency planning, military occupational specialty testing, security and intelligence activities, ceremonies, airfield and aviation activities and museum operations.

DIRECTORATE OF RESERVE COMPONENTS (DRC)

The **Directorate of Reserve Components (DRC)** directs and/or coordinates the planning, training, resource management and logistical supplies for all Reserve Component units and individuals (except for officer students attending USAES) conducting activities at the installation.

DIRECTORATE OF RESOURCE MANAGEMENT (DRM)

The **Directorate of Resource Management (DRM)** is the principle manager of Fort Leonard Wood's financial, personnel and capitol investment resources. It provides assistance and advice to the fort's headquarters, staff and units in the

areas of budgeting, manpower, commercial activities, program and management analysis and statistical reporting.

EQUAL EMPLOYMENT OPPORTUNITY OFFICE (EEO)

The **Equal Employment Opportunity office (EEO)** ensures equal employment opportunity for all appropriated and non-appropriated fund civilian employees and applicants for employment (with the exception of post exchange employee). The program's objective are to develop and utilize the maximum talents and skills of all personnel regardless of race, color, religion, sex, age, national origin or handicap. EEO also processes discrimination complaints and attempts to resolve them at the lowest level within an organization.

EQUAL OPPORTUNITY OFFICE (EO)

The post **Equal Opportunity Office (EO)** is staffed by trained advisors whose purpose is to advise commanders and staff at all levels on issues concerning sexual harassment and any kind of discrimination and to perform fact finding inquiries on complaints of discrimination, sexual harassment and unequal treatment of soldiers and family members on and off the installation. They also provide systems and organizational analysis to commanders and plan and conduct ethnic observances.

INSPECTOR GENERAL (IG)

The Office of the **Inspector General (IG)** advises the commanding general of Fort Leonard Wood on the readiness and morale of the command. It receives, investigates and reports on requests for assistance or complaints by individuals. It also conducts inquiries and formal investigations as directed by the commanding general or Department of the Army Inspector General. It conducts systemic inspections of functional programs, including training, logistics, management, community support activities, non-appropriated fund, mobilization and other activities and mission areas.

The IG office also serves as instructor for professional development concerning the role and philosophy of the Inspector General and oversees the scheduling of the installation Organizational Inspection Program (OIP).

INTERNAL REVIEW OFFICE (IRO)

The **Internal Review Office (IRO)** performs a number of audits and inquiries to identify weakness in the procedures to control equipment, services and funds. Internal Review will assist any individual who feels funds are not being properly controlled.

PUBLIC AFFAIRS OFFICE (PAO)

The **Public Affairs Office (PAO)** is the official spokesman for Fort Leonard Wood. The PAO staff handles requests from regional, state and national media representatives and disseminates news and information to military and civilian audiences on and off post. PAO also arranges Army support for community events throughout Missouri; advises the command on all aspects of relations with off-post communities and serves as a link between the post and regional, state and national business, civic, political and military organizations.

PAO publishes the weekly post newspaper, **ESSAYONS**, and operates **Channel 59**, a closed-circuit, 24-hour-a-day information service broadcast throughout the post housing areas.

SPECIAL SECURITY/ INTELLIGENCE SUPPORT BRANCH

The **Special Security/Intelligence Support Branch** provides intelligence support to units and activities located at or supported by the Engineer Center.

STAFF JUDGE ADVOCATE (SJA)

The Office of the **Staff Judge Advocate (SJA)** advises commanders and post staff on military and civilian personnel law, procurement and labor law and criminal law matters. It assists soldiers and their families with legal matters, including wills, taxes and contracts. SJA also conducts magistrate court proceedings to prosecute individuals charged with crimes against the Army or which have occurred on the installation.

TRIAL DEFENSE SERVICE

The U.S. **Army Trial Defense Service** gives personal, confidential advice to service members regarding military criminal law and administrative discharges.

HOW DOES FORT LEONARD WOOD RATE AS AN ARMY COMMUNITY OF EXCELLENCE?

This is a good post. The facilities like the hobby shop, the auto crafts shop, the library and the self help shop are excellent. Outdoor recreation facilities and outdoor activities are some of the best I have ever seen in my years in the Army. But my favorite thing about Fort Leonard Wood is the education opportunities available here.

Staff. Sgt. Chris Cooper

Fort Leonard Wood is constantly improving. This is the cleanest post I have ever been on. Another good thing about the post is the low crime rate and the nice people in the community.

Sgt. Hughie McCoy

Fort Leonard Wood is better than any other post I have been to because we place a lot of value in the family. The Better Opportunities for Single Soldiers program, youth activities programs and family support groups are a few of the ways people are taken care of.

Sgt. 1st Class Kenneth Wilder

This post has been, and will be, one of the finest in Army, because of the available facilities and the caring attitudes of the people who work here. It's out of the way from the driven path, so you find that the people try to make it a great post.

Capt. Harry Rossander

The services received at Fort Leonard Wood are personable and people are willing to go the extra mile to help you. Also, the local community provides affordable housing.

Alycia Davis

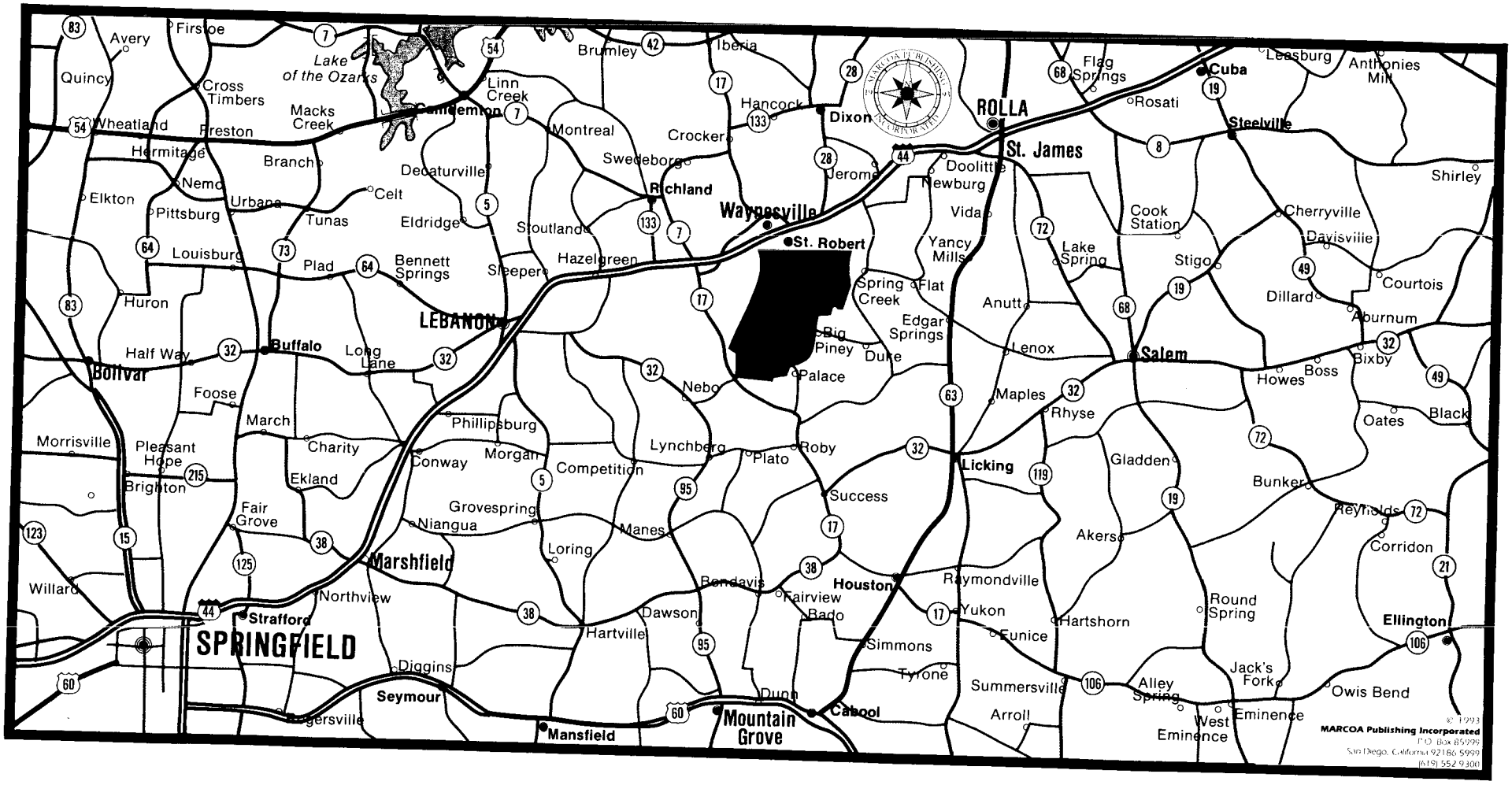
It's a great place to be for a family that likes to both hunt and fish. It's also far enough away from the BIG city atmosphere so you don't have to be afraid of what your kids are doing all the time.

Kay Smith

F O R T

LEONARD WOOD

ESSAYONS


Avery
Firstoe
Quincy
Cross Timbers
Lake of the Ozarks
Macks Creek
Linn Creek
Camdenton
Brumley
Iberia
Hancock
Dixon
ROLLA
Flag Springs
Rosati
Leasburg
Cuba
Anthonies Mill
Steelville
Wheatland
Preston
Hermitage
Branch
Montreal
Crocker
Swedeborg
Jerome
St. James
Doolittle
Newburg
Shirley
Nemo
Decaturville
Celt
Elkton
Pittsburg
Urbana
Tunas
Eldridge
Stoutland
Richland
Waynesville
Vida
Cook Station
Cherryville
Davisville
St. Robert
Yancy Mills
Lake Spring
Stigo
Louisburg
Plad
Bennett Springs
Sleeper
Hazelgreen
Spring Creek
Flat
Anutt
Dillard
Courtois
Huron
LEBANON
Edgar Springs
Big Piney
Duke
Lenox
Salem
Aburnum
Half Way
Buffalo
Long Lane
Bolivar
Palace
Howes
Boss
Bixby
Foose
Nebo
Maples
Rhyse
Oates
Black
March
Phillipsburg
Morrisville
Pleasant Hope
Charity
Lynchberg
Roby
Plato
Licking
Gladden
Bunker
Brighton
Conway
Morgan
Competition
Ekland
Success
Fair Grove
Grovespring
Niangua
Manes
Loring
Akers
Reynolds
Corridon
Willard
Marshfield
Bendavis
Houston
Raymondville
Fairview
Bado
Yukon
Round Spring
Northview
Strafford
SPRINGFIELD
Hartville
Dawson
Hartshorn
Ellington
Simmons
Funice
Diggins
Tyrone
Jack's Fork
Summersville
Alley Spring
Owis Bend
Seymour
Dunn
Cabool
Arroll
Eminence
West Eminence
Rogersville
Mansfield
Mountain Grove
MARCOA Publishing Incorporated
P.O. Box 85099
San Diego, California 92186-5999
(619) 552-9300

Military Buyer's Guide

The appearance of advertising in this publication does not constitute endorsement by the Department of Defense, the Department of the Army, the Department of the Navy, the Department of the Air Force, the U.S. Marine Corps or MARCOA Publishing Incorporated of the products or services advertised.

Everything advertised in this publication will be made available for purchase, use or patronage without regard to race, color, religion, sex, national origin, age, marital status, physical handicap, political affiliation or any other nonmerit factor of the purchaser, user or patron. If a violation or rejection of this equal opportunity policy by an advertiser is confirmed, the publisher shall refuse to print advertising from that source until the violation is corrected.

MEMBER OF YELLOW PAGES PUBLISHERS ASSOCIATION YPPA

AMUSEMENT PLACES

JESSE JAMES WAX MUSEUMS
I-44 Exit 230 STANTON 927-5233
See our Ad - this classification

MERAMEC CAVERNS
I-44 Exit 230 STANTON 468-3166
See our Ad - this classification

ONYX MOUNTAIN CAVERNS
Rt 2 NEWBURG 762-3341
See our Ad - this classification

APPLIANCES-HOUSEHOLD-MAJOR-DEALERS

SEARS
City Rt 44 ST ROBERT 336-3111
See our Ad - this classification

ATTORNEYS

SMITH, HUTCHESON AND DUNBAR
1 Marshall Dr ST ROBERT 336-5222
See our Ad - this classification

ATTORNEYS (CONT'D)

THOMAS, JAMES L. ATTORNEY AT LAW
Centre Plaza ST ROBERT 336-5574
See our Ad - this classification

AUTOMOBILE DEALERS-NEW & USED

AL WEST MOTORS
Highway 63 S ROLLA 364-1233
See our Ad - this classification

LOWE CHEVROLET-BUICK-GEO INC
Bus Loop 44 WAYNESVILLE 336-3141
See our Ad - this classification

RELIABLE CHEV,GEO,HYUNDAI, SUBARU,SAAB, MERCEDES, RV
3655 S Campbell SPRINGFIELD 887-5800
See our Ad - this classification

SEEGER TOYOTA
501 Hwy 72 W ROLLA 800-844-6026
See our Ad - this classification

YORK'S USED CARS
1047 Kingshighway ROLLA 364-8563
See our Ad - this classification

YOUNGBLOOD NISSAN, CHRYSLAR, PLYMOUTH, BMW
3505 S Campbell SPRINGFIELD 882-3838
See our Ad - this classification

AUTOMOBILE PARTS & SUPPLIES

BIG A AUTO PARTS-ST ROBERT AUTO SUPPLY
Missouri Av ST ROBERT 336-3021
See our Ad - this classification

DISCOUNT AUTO PARTS AND SERVICES
City Rt 66 ST ROBERT 336-5252
See our Ad - this classification

AUTOMOBILE RENTING & LEASING

BUDGET CAR & TRUCK RENTAL
2100 Missouri Av ST ROBERT 336-7078

AUTOMOBILE REPAIRING & SERVICE

GERMAN AUTO WORKS
1841 W Sunset SPRINGFIELD 882-1374
See our Ad - this classification

MOATS BODY SHOP INC
Hwy 28 N ST ROBERT 336-4668
See our Ad - this classification

AUTOMOBILE TRANSPORTERS & DRIVE AWAY COMPANIES

AAA UNIVERSAL INTERNATIONAL AUTO TRANSPORT
..... 800-526-4792

ALL STAR AUTO CARRIERS INC
2429 E Livingston SPRINGFIELD 866-0093
See our Ad - this classification

BANKS

ARMY NATIONAL BANK
484 Nebraska Av FT LEONARD WOOD 329-2000
See our Ad- Map Section

BOATMEN'S BANK OF PULASKI COUNTY
112 McClurg RICHLAND 765-3221
See our Ad - this classification

UNITED SAVINGS & LOAN ASSOCIATION
HiddenValley Shopping Center ST ROBERT 336-3262
See our Ad - this classification

BICYCLES-DEALERS

SUNSHINE SCHWINN CYCLES & FITNESS
1926 E Sunshine SPRINGFIELD 883-1113

BOATS-DEALERS

APPLEBY'S BOATS & MOTORS
1600 W Elm LEBANON 588-1222
See our Ad - this classification

BOOK DEALERS-RETAIL

LEBANON BIBLE & BOOK STORE
200 W Commercial LEBANON 532-9516
See our Ad - this classification

BRAKE SERVICE

AUTOCRAFT MUFFLER & BRAKE SHOP
120 S Bishop ROLLA 341-3434
See our Ad - Mufflers

CARPETS

BUCKHORN CARPET CENTER
Rt 1 WAYNESVILLE 774-2958
See our Ad - this classification
FLOORCRAFT CARPET INC
1327 S Glenstone SPRINGFIELD 881-7861
See our Ad - this classification

CHECK CASHING

CHECKMATE
Missouri Av ST ROBERT 336-4133
See our Ad - this classification

CHILD CARE CENTERS

BRIGHT BEGINNINGS DAYCARE & PRESCHOOL
1 Holly Dr ST ROBERT 336-3186

CHURCHES

ROCK OF AGES CHRISTIAN SERVICEMENS CENTER
E Lawn Av ST ROBERT 336-5624
See our Ad - this classification

CLEANERS

RICE'S LAUNDRIES & CLEANERS
Hwy 17 N WAYNESVILLE 774-2416
See our Ad - this classification
WOODMAN'S SPUR LAUNDRY & CLEANERS
Missouri Av ST ROBERT 336-3979
See our Ad - this classification

COMPUTER-DEALERS

THE COMPUTER OUTLOOK
87 C Bosa Dr ST ROBERT 336-2121
See our Ad - this classification

CREDIT UNIONS

FORT LEONARD WOOD CREDIT UNION
Bldg 494 FORT LEONARD WOOD 329-3151

DATING SERVICE

SUCCESSFUL SINGLES INTERNATIONAL
9255 Towne Centre Dr Ste 290 SAN DIEGO 597-0466

DENTISTS

DR JON C WILSDORF FAMILY DENTISTRY
1701 E 10th St ROLLA 364-1599
GASCONADE HILLS DENTAL CENTERS LTD
300 Locust DIXON 759-6204/6240
See our Ad - this classification
REZNICEK, PAUL D DDS
Roubidoux Medical Park 1400 State Rd F WAYNESVILLE 774-6101
SMALL, DR DAVID M DMD
1740-P S Glenstone SPRINGFIELD 882-0930
See our Ad - this classification

DEPARTMENT STORES

JC PENNEY
1360 Forum Plaza ROLLA 364-1611
See our Ad - this classification

FIREPLACES

HMI FIREPLACE SHOPS
586 N Washington LEBANON 588-3463
See our Ad - this classification

FLORIST-RETAIL

IN FULL BLOOM
Missouri Av ST ROBERT 336-4681
See our Ad - this classification

FURNITURE-RETAIL

ARROWMART
Missouri Av ST ROBERT 336-5000
DESIGNER FURNITURE
1025 Kingshighway ROLLA 341-3804
See our Ad - this classification

FURNITURE-RETAIL (CONT'D)

THE FURNITURE BROKER
3534 E Sunshine SPRINGFIELD 881-0229
See our Ad - this classification

SUNBURST CONTEMPORARY FURNITURE
426 S Jefferson SPRINGFIELD 865-8968
See our Ad - this classification

GAS-PROPANE

EMPIRE GAS
S Hwy 5 LEBANON 532-3101
See our Ad - this classification

GIFT SHOPS

UNIQUE GIFT SHOPPE
3303 S Campbell SPRINGFIELD 887-5476
See our Ad - this classification

GLASS-AUTOMOBILE, PLATE, WINDOW, ETC

COVERDELL GLASS & MIRROR
502 S Franklin CUBA 800-621-6913
See our Ad - this classification

ST ROBERTS GLASS INC
Ft Wood Spur WAYNESVILLE 336-4122
See our Ad - this classification

HARDWARE-RETAIL

TAPJAC
Hidden Valley Plaza ST ROBERT 336-4716
See our Ad - this classification

HOSPITALS

HEARTLAND HOSPITAL
1500 W Ashland NEVADA 1-800-243-5437
See our Ad - Outside Back Cover

LAKELAND REGIONAL HOSPITAL
440 S Market SPRINGFIELD 800-432-1210
See our Ad - Map Section

PROFESSIONAL COUNSELING SERVICES OF ST ROBERT
VFW Cr ST ROBERT 336-5995
See our Ad - Outside Back Cover

INSURANCE

GEICO
1030 Mini Mall ST ROBERT 336-2252
See our Ad - this classification

JEWELERS-RETAIL

EIRCIL'S JEWELRY
317 North St WAYNESVILLE 774-5211
See our Ad - this classification

KENT JEWELRY & FINE GIFTS
110 W 8th St ROLLA 364-1030
See our Ad - this classification

LAUNDRIES-SELF SERVICE

BESTWAY LAUNDRY & VIDEO WEST
1115 Bus Rt I-44 W WAYNESVILLE 774-5997

MOBILE HOMES

J & R MOBILE HOMES
E of St Robert I-44 336-4065
See our Ad - this classification

MORTGAGES

FIRST COMMUNITY MORTGAGE
3637 S Av SPRINGFIELD 883-8840
See our Ad - this classification

FIRST RATE MORTGAGE CO
1035 Lower Mini Mall ST ROBERT 336-4650
See our Ad - this classification

LENDERS MORTGAGE SERVICES INC
210 D W Sunshine SPRINGFIELD 864-6363
See our Ad - this classification

MOTELS

BATTLEFIELD INN
2114 S Glenstone SPRINGFIELD 883-1340
See our Ad - this classification

MOTELS (CONT'D)

BEST BUDGET INN
Intersate I-44 & Missouri Av ST ROBERT 336-5212
See our Ad - this classification

DEVILLE MOTOR INN
Bus Loop I-44 WAYNESVILLE 336-3113
See our Ad - this classification

DRURY INN
2006 N Bishop Av ROLLA 364-4000
See our Ad - this classification

ECONO LODGE
1417 Martin Spring Dr ROLLA 341-3130
See our Ad - this classification

Econo Lodge®

(417) 864-3565
(800) 424-4777
For Reservations

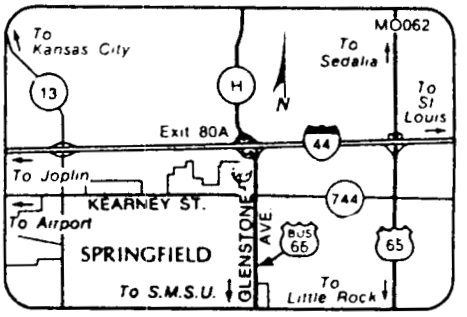
Guaranteed Military Rates

Military ID Required

29.95 Single Queen

38.66 Double Queen (2-4) People

- Complimentary Continental Breakfast/ Popcorn in Evening
- Cable TV/Free HBO
- Free Local Calls
- Complimentary USA Today Papers on Weekdays
- Restaurants/Lounges Nearby
- Guest Laundry Facilities
- Children Under 18 Stay Free in Room with Parents
- Group Discounts Available
- Major Credit Cards Accepted



GIVES US A TRY!
OUR FACILITY IS ONLY ONE YEAR OLD

MOTELS (CONT'D)

ECONO LODGE
2611 N Glenstone SPRINGFIELD 864-3565
See our Ad - this classification also Map Section

INTERSTATE INN
1116 W Norton SPRINGFIELD 833-1550
See our Ad - this classification

MUNGER MOSS MOTEL
Old US Rt 66 LEBANON 532-3111
See our Ad - this classification

OZARK MOTEL
Bus Loop 44 Old Rt 66 ST ROBERT 336-3520
See our Ad - this classification

RAMADA INN
I-44 At Ft Wood Exit WAYNESVILLE 336-3121
See our Ad - this classification

SOOTER INN
Hwy 63 & I-44 ROLLA 364-1333
See our Ad - this classification

MOVERS

A-1 MOVING & STORAGE/ALLIED VAN LINES
615 S Hwy 63 ROLLA 364-2100

MUFFLERS & EXHAUST SYSTEMS-ENGINE

AUTOCRAFT MUFFLER & BRAKE SHOP
120 S Bishop ROLLA 341-3434
See our Ad - this classification

PHYSICIANS & SURGEONS-MD

CENTRAL OZARKS MEDICAL CENTER
304 W Washington RICHLAND 765-5141
See our Ad - this classification

PHYSICIANS & SURGEONS-MD-OBSTETRICS & GYNECOLOGY

FERGUSON,JOHN P MD/ELLIS,FRANCIS J MD
Bonebrake MD MD/Wyrsch Leo M MD/Grace,Steve MD
Bonebrake,Al MD/Bell,Laird MD/Powell Lisa G MD
Redfern,David L/Kratz,Donald P MD
1900 S National Av N Wing Ste 2960 SPRINGFIELD 887-5500
ROLLA WOMEN'S CLINIC INC
1100 W 10th St Ste 140 ROLLA 364-8100
See our Ad - this classification

PIZZA

DOMINOS PIZZA
Gateway Shopping Center ST ROBERT 336-3400
See our Ad - this classification

REAL ESTATE

ALCO REALTY INC
Plaza Centre/Missouri Av ST ROBERT 336-4100
See our Ad - this classification
AMERICANA REAL ESTATE
VFW Cr Missouri Av ST ROBERT 336-2020
See our Ad - this classification
BUXTON REALTY
215 E Sunshine SPRINGFIELD 831-2677
See our Ad - this classification
CENTURT 21 PRESTIGE REAL ESTATE INC
Missouri Av ST ROBERT 336-4377
See our Ad - this classification
FARNHAM REALTY
Missouri Av ST ROBERT 336-4747
See our Ad - this classification
FOXTROT REALTY
Jct Hwy 32 & 63 LICKING 674-3054
See our Ad - this classification
KAREN FOSTER REALTY
1 Shivers Mini Mall ST ROBERT 774-2315
See our Ad - this classification
PROPERTY MANAGEMENT & REALTY
1810-B N Pine ROLLA 341-8100
See our Ad - this classification

REAL ESTATE (CONT'D)

SHO ME REAL ESTATE
721 S Jefferson LEBANON 532-3135
SIMMONEAUS REALTY
Bus Loop I-44 E ST ROBERT 800-833-9516/736-5567
TOWN AND COUNTY REALTORS INC
211 Hwy 63 S ROLLA 364-2303
See our Ad - this classification

RECREATIONAL VEHICLES-DEALERS

BOURBON RV CENTER
1 Blk S of I-44 BOURBON 800-343-5795
See our Ad - this classification

RESTAURANTS

ARBY'S
For Delivery Call 336-3664
See our Ad - this classification

MITCH'S OLD FASHION CAFE
Missouri Av ST ROBERT 336-4811
See our Ad - this classification

THE PASTA HOUSE COMPANY
Battlefield Mall SPRINGFIELD 883-5666
See our Ad - this classification

PIZZA HUT
City Rt 144 ST ROBERT 336-4828

TED WILLIAMS STEAK HOUSE
Exit 153 BUCKHORN 774-6151
See our Ad - this classification

SCHOOLS-ACADEMIC-COLLEGES & UNIVERSITIES

COLUMBIA COLLEGE
Truman Education Center FT LEONARD WOOD 329-4050
See our Ad - this classification

DRURY EVENING COLLEGE
Truman Education Center FT LEONARD WOOD 329-4400
See our Ad - this classification

SOUTHWEST MISSOURI STATE UNIVERSITY
901 S National Av SPRINGFIELD 1-800-492-7900
See our Ad - this classification

SCHOOLS-BUSINESS & VOCATIONAL

METRO BUSINESS COLLEGE
Hwy 63 N ROLLA 364-8464
See our Ad - this classification

SHOPPING CENTERS & MALLS

BATTLEFIELD MALL
101 Battlefield Mall SPRINGFIELD 883-4444
See our Ad - this classification

STATIONERS

PAPERWORLD
3057 S Fremont SPRINGFIELD 887-2884
See our Ad - this classification

STOCK & BOND BROKERS

CONSERVATIVE FINANCIAL SERVICES INC
1704 E 10th St ROLLA 800-369-3771
See our Ad - this classification

STORAGE-HOUSEHOLD & COMMERCIAL

BATES SELF-STORAGE
1821 VFW Circle ST ROBERT 336-5980
See our Ad - this classification

TANNING SALONS

THE STATION
Ft Wood Spur WAYNESVILLE 336-7160
See our Ad - this classification

TELEPHONE COMPANIES

AT&T LONG DISTANCE SERVICES
Inquiries & AT&T Calling Card 800-222-0300

TELEPHONE EQUIPMENT

MISSOURI CELLULAR
2200B N Bishop ROLLA 364-9360
See our Ad - Inside Front Cover

TELEVISION & RADIO-RENTING & LEASING

COLORTYME
Ft Wood Spur ST ROBERT 336-3200
See our Ad - this classification

TELEVISION-CABLE, CATV & SATELLITES

EXCALIBUR SATELLITES SALES & SERVICE
Missouri Blvd ST ROBERT 336-5423
See our Ad - this classification

TRUCK RENTING & LEASING

BUDGET CAR & TRUCK RENTAL
2100 Missouri Av ST ROBERT 336-7078

VIDEO TAPES & DISCS-RENTING & LEASING

BESTWAY LAUNDRY & VIDEO
253 Bus Rt I-44 ST ROBERT 336-3007

WOMENS APPAREL-RETAIL

BONNIES PLACE-FOUR SEASONS
125 W Commercial LEBANON 532-3593
See our Ad - this classification