

Chapter 21

Civil Functions Of The Department Of The Army

I am firmly convinced that but for the existence of the Corps of Engineers peacetime organization and its resources of men, methods, training and supply and its close association with the military through the years, the history of the Pacific area in World War II would have been written more in blood than in achievement.

GEN Dwight D. Eisenhower, Chief of Staff, U.S. Army
Testimony before House Armed Services Committee on H.R. 3830, 1947

Section I Introduction

21-1. Civil functions defined

A number of activities traditionally carried out by the Department of the Army (DA) are commonly referred to as civil functions. The most extensive of these functions is the Civil Works Program managed by the U.S. Army Corps of Engineers (USACE, or "the Corps"). The Civil Works Program focuses on responsible development, protection and restoration of the Nation's water and related land resources. Civil works projects are implemented and operated for commercial navigation, flood damage reduction, environmental restoration and allied purposes. Civil functions also include USACE engineering and construction support to non-Defense-related activities of the Federal Government, State, and local agencies; and USACE foreign activities not exclusively in support of U.S. forces overseas. Arlington National Cemetery and Soldiers' and Airmen's Home National Cemetery complete the list of civil functions. The activities included in this chapter are not affected by Army Transformation.

21-2. Funding sources for civil functions

Several funding sources finance these activities. For example, the financial and personnel resources associated with the Civil Works Program are principally authorized under the biennial (*Water Resources Development Acts*) and funded by the annual (*Energy and Water Development Appropriations Acts*). Authorization acts often require cost-sharing contributions from State and local government project sponsors for many civil works activities. USACE support activities for other, non-Defense agencies are reimbursed by those agencies. Congressional committees like the Subcommittee on Water Resources and Environment of the House Transportation and Infrastructure Committee (for the Civil Works Program) and the Subcommittee on Benefits of the House Committee on Veterans Affairs (for Arlington National Cemetery) provide legislative oversight. Although they differ from other Army programs in financing and oversight, the civil functions are an integral part of the overall mission of the Army and the service it provides to the Nation.

21-3. Relationship to warfighting competencies

The civil functions complement and augment the Army's warfighting competencies, providing the capability to respond to a variety of situations across the spectrum of conflict. They provide a valuable tool with which to support the NSS by maintaining a trained and ready engineer force at no expense to the DOD military budget and at minimum expense to personnel allocations (military personnel assigned to USACE are funded from civil appropriations).

21-4. Leadership and organization

a. The Assistant Secretary of the Army (Civil Works). Through specific statutory provisions, General Orders from the SECARMY (SA), and internal DA regulation, the Assistant SECARMY (Civil Works) ((ASA(CW)) has been assigned responsibilities for civil functions. The ASA(CW) reports directly to the SA. Congress established the position of the ASA(CW) in Section 211 of the *Flood Control Act of 1970*, Public Law (PL) 91-611, and reaffirmed it in Section 501 of the *Goldwater-Nichols Department of Defense Reorganization Act of 1986*, PL 99-433. The *Goldwater-Nichols Act* specifies that the Assistant Secretary's duties include overall supervision of the functions of the Department of Army relating to programs for conservation and development of national water resources, including flood control, navigation, shore protection and related purposes.

b. USACE. Most of the Army's civil functions are executed by USACE, a MACOM consisting of about 34,000 people, which provides real estate services; research & development; planning & engineering studies; and, designs and builds military facilities for the Army, Air Force, other Federal agencies, and foreign governments. Approximately 170 military personnel and 24,000 civilian employees in USACE are involved in civil functions. USACE is commanded by the Chief of Engineers, who holds positions as both a principal HQDA Staff officer and a MACOM commander. The Chief of Engineers and the Corps' Director of Civil Works report to the ASA(CW) on the Civil Works Program. Under the Chief's command are eight divisions, the Engineer Research and Development Center, two engineer centers, and one MTOE battalion-the 249th Engineer Battalion (Prime Power). Under the divisions, there are 41 districts, 38 of which are within the United States. Division and district boundaries for the Civil Works Program within the CONUS

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generally follow watersheds and drainage basins, as shown in Table 21–1. These delineations reflect the water resources mission of the Corps of Engineers (COE) (boundaries for MILCON districts follow State boundaries). The Corps also includes a number of overseas offices with missions in construction in support of U.S. Forces, assistance to other countries and international organizations, and support to other U.S. agencies. The Pacific Ocean Division, headquartered in Honolulu, Hawaii, includes subordinate districts in Hawaii, Alaska, Japan, and Korea. The North Atlantic Division includes Europe District as well as five stateside districts. Several CONUS-based districts carry out overseas missions, such as Mobile District’s support of USSOUTHCOM. One of the engineer centers, the Transatlantic Programs Center, in Winchester, Virginia, oversees most COE activities in Africa, and the Middle East. The other center, the Huntsville Engineering and Support Center, has a world-wide mission of providing engineering and technical services, including programs such as chemical demilitarization, and Cooperative Threat Reduction.

c. The role of the private sector. The private sector is an essential element of the Engineer team. The Corps employs private architectural, engineering and construction firms for over half of its design and all of its construction work. The partnership between USACE and the private sector represents a force multiplier of several hundred thousand architects, engineers, and builders, ready to support the Nation in times of emergency.

Table 21–1
Civil Works Division and Districts

Major Agency Customer	Value of Support
Environmental Protection Agency	\$295,000,000
Department of Energy	23,000,000
Federal Emergency Management Agency	33,000,000
Department of the Interior	84,000,000
Department of Justice	78,000,000
Department of Transportation	15,000,000

Section II

Civil works program

21–5. Civil works program activities

a. Overview. The Civil Works Program provides for nationwide resources development and management, including the planning, design, construction, rehabilitation, operation and maintenance of flood control, navigation, ecosystem and other environmental restoration, and multiple-purpose water resource projects. Completed Corps projects may include hydroelectric power, water supply, recreation, and natural and cultural resource management and, collectively, they include approximately 12 million acres of land and water. Replacement value of these projects is estimated at over \$150 billion. In addition to this direct Federal investment program, the Civil Works Program includes an important regulatory mission in which the COE regulates construction in navigable waters under the *Rivers and Harbors Appropriation Act of 1899*. The Corps also regulates the deposition of dredged and fill material in waters of the United States, including wetlands, under the *Clean Water Act of 1972*. In addition, the Civil Works Program includes emergency flood fighting, recovery operations, repair and restoration of flood control works, all performed under USACE’s own authority as specified in PL 84–99. USACE also carries out DOD’s responsibilities under the Federal Response Plan (FRP) (see Chapter 23) as the lead planning and operating agent for public works and engineering (Emergency Support Function #3) (see Chapter 23), in support of the FEMA and other Federal agencies.

b. Funding sources. The Civil Works Program receives its principal funding through the annual *Energy and Water Development Appropriations Acts*. The program also receives funding from non-Federal project sponsors who share in project costs according to formulas established by Congress in PL 99–662, the *Water Resources Development Act of 1986*, and subsequent water project authorization acts. The Civil Works Program funding in FY 2002 totaled \$5.16 billion. Of this amount, \$140 million was appropriated by Congress for the Formerly Utilized Sites Remedial Action Program (FUSRAP).

c. Economic infrastructure.

(1) The COE traditionally has been a major contributor to the development, construction, and maintenance of a sound water resources infrastructure. Commercial navigation and flood damage reduction are long-standing missions of the Civil Works Program. The navigation function includes improvement and maintenance of harbors handling all of the Nation’s seaborne commerce and that of the Great Lakes. With funds from the Harbor Maintenance Trust Fund, the Corps maintains navigability in 299 deep draft harbors and more than 600 smaller harbors. With more than 15 million American jobs dependent on U.S. import and export trade, the Nation’s commercial ports are vital to the economic security of the United States.

(2) The Corps has built an intracoastal and inland commercial waterway network of 12,000 miles and over 200 locks and dams. Major segments of this network include these waterways: Lower Mississippi River (1,015 miles),

Upper Mississippi River (936 miles), Ohio River (981 miles), Tennessee River (785 miles), Missouri River (735 miles), Arkansas and White River (706 miles), Columbia River System (468 miles), South Atlantic Coast (1,111 miles), Gulf Intracoastal Waterway (GIWW)-West (1,501 miles), and GIWW-East (431 miles). Major improvements to inland waterway facilities are financed in part by the Inland Waterway Trust Fund. More than 600 million tons of commerce are moved every year on these waterways. Maintaining the system of ports and inland waterways involves removing more than 300 million cubic yards of dredged material each year.

(3) The Nation's \$122 billion investment in flood control (1928 through 2000) has prevented over \$709 billion in flood damages (both figures adjusted for inflation to 2000 dollars) — a return of more than six dollars in flood damage reduction for each dollar invested. Civil works projects seek to prevent flooding and its related damages with structural measures such as reservoirs, levees, improved channels, and floodwalls. Nonstructural measures, such as advice and encouragement for local zoning regulations, flood proofing of individual homes, and setting aside land in the floodplain as open space also contribute to this mission. Flood control efforts range from small, local protection projects to large lakes and dams. Today, 383 dams and reservoirs are maintained and operated by the Corps for the purpose of flood control. Since passage of the *Water Resources Development Act of 1986*, most flood control projects have been constructed as joint ventures between the Federal Government and non-Federal sponsors. These projects, once built, are operated and maintained by the sponsor.

(4) The Corps operates 75 power plants, which represent almost one fourth of the Nation's hydroelectric capacity or three percent of the Nation's total generating capacity. Dams built by USACE provide water storage for drinking water, irrigation, and fish and wildlife habitat. Additionally, 456 of the flood control dams and reservoirs and multiple purpose power projects mentioned above (mostly lakes) are developed for recreational use. These projects accommodate nearly 400 million visits a year. The Corps estimates that 25 million Americans (one in ten) visit a civil works project at least once a year. Visitors to these recreation areas generate 600,000 private and public sector jobs.

(5) The transportation infrastructure developed in the Civil Works Program plays a role in national defense. Ports and waterways serve as vital logistics links when large volumes of materiel and personnel must be moved around the country and around the world. USACE works with the Military Traffic Management Command (MTMC) and the local port authorities to ensure that ports are ready to support movement of military equipment and supplies when needed. Waterways built and operated and maintained by the Army COE similarly have direct military uses for strategic mobility. Units of the Texas, Oklahoma, and Arkansas National Guard have conducted successful movements over the Arkansas, Mississippi, and Illinois Rivers to their summer training sites, and the 101st Air Assault Division conducts annual movements by waterway from Ft. Campbell, Kentucky to Louisiana. COE flood control projects also contribute to force projection by protecting important highway and railway links. Thus, through activities as diverse as facilitating the movement of materiel to protecting vital infrastructure, the Civil Works Program contributes to National security.

d. The environment.

(1) *Project activities and regulatory programs.* The Civil Works Program makes important contributions toward meeting the Nation's environmental goals by constructing projects for restoration and protection of ecosystem and other environmental functions and values. Much of this work proceeds in partnership with other Federal and State agencies or recognized American Indian Tribes, Alaska Natives, and local communities. In 2002, the Corps entered into a partnership with the Nature Conservancy to improve the management of U.S. rivers for restoration purposes while maintaining the projects' economic services. In addition, the Corps has agreements with the National Fish and Wildlife Federation and Ducks Unlimited to advance restoration of important ecological resources.

(2) Project authorities.

(a) Legislation passed in 1990 established environmental restoration and protection as one of the primary missions in the planning, design, construction, operation and maintenance of water resources projects — equivalent to navigation and flood damage reduction. This new direction stimulated the Corps and its non-Federal project sponsors to plan and implement new projects with environmental restoration as a primary project purpose.

(b) Like other major Corps projects, large restoration projects must be authorized by Congress. In one of the largest environmental restoration and protection projects ever undertaken, the Departments of the Army and the Interior have been cooperating with the State of Florida to restore the hydrologic regime of the Everglades in South Florida. Congress approved the Corps' Comprehensive Everglades Restoration Plan as a planning framework as well in Title VI of the *Water Resources Development Act of 2000*, PL 106-541. The first feasibility study for a component of this project requiring specific authorization was completed in 2002.

(c) The Corps and the State of Louisiana are working together to restore and protect that State's shrinking coastal wetlands, and stem an ongoing loss of 25 to 35 square miles per year. This ecosystem is vital to the Nation's environmental health for naturally filtering out water pollution and for providing critical winter habitat for 70% of the Nation's waterfowl. This ecosystem is also vital to the Nation's economy as the home of a major seafood industry. The wetlands and barrier islands also protect inland urban, industrial, and agricultural areas from hurricanes and coastal storms - including New Orleans and dozens of other communities that are home to a culture unique in America.

(d) In addition to specifically authorized projects such as the Everglades and Coastal Louisiana restoration projects described above, environmental restoration is accomplished through three programmatic authorities for small projects. Under Section 1135 of the *Water Resources Development Act of 1986*, PL 99-662, USACE is authorized to modify

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projects constructed by the Corps in the interest of improving the environment. Section 1135 also authorizes USACE to accomplish environmental restoration when the original Corps project contributed to environmental loss. Section 204 of the *Water Resources Development Act of 1992*, provided authority for beneficial uses of dredged material. This authority allows USACE to use material from the dredging of authorized Corps navigation projects for environmental restoration projects. The third authority is Section 206 of the *Water Resources Development Act of 1996*. This provision established a program for Aquatic Ecosystem Restoration under which small projects may be constructed and no link to an existing Corps' project is required. Working toward a national goal of "no net loss of wetlands," the Civil Works Program is undertaking projects to restore existing wetlands and to create new ones.

(3) *Regulatory program.*

(a) The regulatory program of the COE has a long history of protecting the Nation's waters. The *Rivers and Harbors Act of 1899* authorizes the regulation, by permit, of dredging, construction and similar activities in navigable waters of the United States. A principal objective of this program is to ensure that unobstructed waterways are maintained for commercial and recreational users. Over time, the Corps "public interest review" has become an important part of the decision process used by Corps district commanders in granting, modifying or denying permit applications.

(b) The *1972 Clean Water Act* authorized the regulation, by permit, of dredge and fill material discharge activities in all waters of the United States, including wetlands. This Act expanded the COE regulatory responsibilities beyond those contemplated in the *Rivers and Harbors Act of 1899*. Also, other environmental laws that were enacted at about the same time require Federal decision makers to consider and take responsibility for the environmental consequences of their actions. Section 103 of the *Marine Protection, Research and Sanctuaries Act of 1972*, as amended, authorizes the SECARMY to issue permits for the transportation of dredged material for ocean disposal. In its determination, the Corps insures that the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological system, or economic potentialities.

(c) Today the regulatory program consolidates the public interest and environmental consequence reviews into a comprehensive evaluation process for decision-making. The evaluation process promotes the balancing of environmental protection with responsible economic growth. The Corps regulatory program provides the public a valuable service - protection of the Nation's waters and wetlands.

(4) *Stewardship.* The COE is steward for almost 12 million acres of land and water in 42 States. Conservation of forests, range wildlife habitat, fisheries, and soils involves multiple use of resources and practice of sound ecosystem management principles. USACE accomplishes this through a mix of its own management capabilities, partnerships with State and local governments, volunteers, and working agreements with a wide range of interest groups.

(5) *Compliance.* The COE conducts compliance assessments at all of its projects on a five-year cycle through the environmental compliance assessment program. The Environmental Review Guide for Operations (ERGO), the tool used to conduct assessments, is a checklist containing Federal and State environmental statutes and Corps requirements. Project and facility managers, as well as external organizations, use ERGO to systematically locate and correct environmental deficiencies.

(6) *Civil environmental activities' relationship to Army missions.* Environmental activities in the Civil Works Program are essential elements of the Army's Environmental Strategy now and for the 21st Century. People who learn their specialties in civil missions that concern natural and cultural resources, water quality, flood plain management or hazardous waste management help the Army go "beyond compliance" to take on a leadership role in natural resources stewardship. Civil works expertise helped the Army develop such tools as the Environmental Compliance Assessment System (ECAS) and Integrated Training Area Management (ITAM). The Civil Works Program is responsible for about half the Army's land holdings, and is familiar with balancing preservation of the natural environment with human use - a major issue facing the Army. This program is also the Army's reservoir of cultural resources expertise, which the Army has used on several priority missions.

(7) *Environmental Operating Principles.* In 2002, the Chief of Engineers announced a set of Environmental Operating Principles to guide all Corps activities. The essence of these principles is that environmental concerns are integral to all Corps missions, decision-making, programs, and projects. They illuminate ways these missions integrate with environmental laws, values, and sound environmental practices, and serve as a roadmap for all USACE functional areas to follow in ensuring that the effects of their activities upon the environment are included in the decision process at the earliest possible juncture.

e. *Emergency preparedness and disaster response.*

(1) The COE responds to the Nation's needs in case of natural or man-made disasters and emergencies. USACE programs provide a wide variety of assistance to protect human life and improved property, reduce human suffering, help communities recover from the effects of disasters, and mitigate damage and future threats. Response and recovery activities supplement State and local efforts.

(2) Under PL 84-99, USACE undertakes planning and preparedness activities for all types of natural disasters, and provides response and recovery activities necessitated by floods and coastal storms. PL 84-99 activities are funded by the Flood Control and Coastal Emergencies (FCCE) appropriation. Included in these preparedness and response efforts are disaster preparedness measures, advance measures to alleviate high potential flood threats, flood fighting activities,

preservation of threatened Federally-constructed shore protection projects, and life-saving rescue operations. Recovery and mitigation measures include repair and rehabilitation of damaged flood control works and shore protection projects or nonstructural projects in place of structural rehabilitation. PL 84-99 also authorizes USACE to provide emergency supplies of clean water to localities whose water source has been contaminated and to drought-affected areas. In addition, USACE is authorized to provide essential services and restore essential public infrastructure, for a period of up to 10 days, in any area victimized by a natural disaster for which the Governor of a State has requested Federal assistance under *Stafford Act* authority.

(3) Under The *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (42 USC 5121 et seq.) (88 Stat.143) (The *Stafford Act*), USACE uses its engineering expertise and its response and recovery capabilities to carry out DOD's responsibilities under the FRP as the lead planning and operating agency for the Public Works and Engineering Emergency Support Function (ESF) in responding to disasters and emergencies of all kinds. Under authority of the *Stafford Act*, FEMA has developed the FRP, which coordinates the execution of response and recovery operations of the 28 Federal signatory departments and agencies. Under the FRP, DOD has delegated its responsibility for ESF Number 3, Public Works and Engineering, to USACE.

(4) As the lead DOD (and Federal) agency for ESF-3, USACE has a number of standing missions, to include provision of water, ice, emergency power, debris removal, temporary housing, and temporary roofing. Other missions in the Public Works and Engineering area are assigned by FEMA to USACE, as needed. All of these missions are tailored to the needs of, and coordinated with the impacted State, and all are funded by FEMA. Each mission assignment is based on the capabilities of USACE, including its significant and responsive contracting capability. The Deputy Chief of Staff, G-3, Directorate of Military Support (DOMS), coordinates DOD requirements not in the realm of ESF-3 missions.

(5) In FY 2001 and 2002, USACE responded to several significant disasters. The largest event was the World Trade Center and Pentagon Terrorist Attacks of September 11, 2001. Corps emergency management personnel were on the scene within hours, providing structural engineers to monitor unstable buildings; supporting urban search and rescue work; providing a mobile command center and teams to support the New York Fire Department; and developing a debris management plan. Corps expertise was crucial in urban search & rescue, structural assessments to determine when buildings were safe enough for rescuers and later when they were safe for occupancy. The 249th Engineer Battalion (Prime Power) provided the electric power that got the New York financial district back in business while Corps contractors removed 1.7 million tons of debris from the World Trade Center site and transported it by barge to the landfill in Staten Island. This work, however, was similar to what the Corps does every year to support FEMA, State and local authorities in natural disasters.

f. Homeland Security. The Corps has developed in-depth anti-terrorism/force protection expertise, including many skilled engineers with experience on Khobar Towers, in Oklahoma City, the World Trade Center, the Pentagon, and other sites. It leverages that expertise to protect critical water resources infrastructure from terrorists. Over past few years the Corps has been working with other agencies, including the bureau or Reclamation, Department of Energy, TVA, EPA, and FBI to develop comprehensive security assessment processes to identify risks to critical facilities such as locks, dams and hydropower facilities. In the wake of the September 11th attacks, the Corps instituted increased protection measures at its projects. It restricted public access, increased standoff distances to critical structures, increased patrol activities and contract guard support, and increased coordination with local law enforcement.

21-6. Research and development (R&D)

a. Organizing philosophy. The U.S. Army Engineer Research and Development Center (ERDC) includes all of the COE dispersed R&D facilities. The Center supports the Army and the Nation with high quality research, leading edge technology, and state of the art facilities. ERDC applies the "One Door to the Corps" philosophy to the Corps' vast R&D capabilities to undertake research not only for Corps civil works and military projects, but also for other Federal agencies, State and municipal authorities, and, through innovative work agreements, for U.S. industry. This research and testing has produced excellent results, including innovation and significant improvements in the cost-effectiveness of support to civil works projects and associated operations and maintenance activities.

b. Laboratories and locations. The ERDC organization consists of seven unique laboratories in four locations: Construction Engineering Research Laboratory (CERL) at Champaign, Illinois; Cold Regions Research and Engineering Laboratory (CRREL) at Hanover, New Hampshire; Topographic Engineering Center (TEC) at Alexandria, Virginia; and the Coastal and Hydraulics, Geotechnical and Structures, Environmental, and Information Technology Laboratories at Vicksburg, Mississippi. ERDC laboratories work both individually and cooperatively to address a wide range of problems facing civil works projects. The ERDC staff totals over 2,500 engineers, scientists and support personnel. Its scientific and engineering assets include some of the most modern facilities and equipment in the world and are valued at \$1.2 billion.

c. Mission areas. ERDC civil works research mission areas are highly diverse and encompass some of the toughest engineering problems faced by our Nation today. Research is conducted in the fields of mapping and terrain analysis; infrastructure design; construction and maintenance; cold region effects (snow, ice, frozen ground); flooding and coastal storm damage reduction; navigation channels and harbors; hydraulic structures (locks, levees, reservoirs, dams); dredging; groundwater modeling and contaminants; hazardous wastes and environmental chemistry; water quality;

wetlands; threatened, endangered and nuisance species; earthquake engineering; concrete research; high performance computing; geographic information systems; and scientific visualization.

d. Unique laboratory capabilities. Each laboratory has unique capabilities. The TEC does state of the art research in mapping and charting, including exploring applications for satellite ground positioning systems (used to position dredges when working on navigation channels), stand-off sensing (to check underwater channel conditions), and computer/satellite based terrain analyses. The CERL specializes in construction technologies, energy conservation, and environmental operations. The CRREL studies the effects of low temperature on materials, equipment, and engineer operations. The CRREL's research includes the effects of cold weather on tactical engineering. The five laboratories located in Vicksburg, collectively known as the Waterways Experiment Station (WES), specialize in water systems, but they also conduct research in soil and rock mechanics, earthquake engineering, coastal engineering, mobility assessments, computer aided design and drafting, and weapons effects on structures.

Section III
Support to other government agencies

21-7. Overview of support to other government agencies

The COE provides engineering and construction support to over 60 non-DOD Federal agencies, State, and local governments under the Support for Others Program. Funds for this program are provided by the agencies receiving support. USACE support of other entities' infrastructure programs includes managing the design and construction of border control and detention facilities for the Immigration and Naturalization Service, construction management support for the District of Columbia Schools, and emergency management assistance to the Federal Emergency Management Assistance agency. USACE also supports programs and projects of other Federal agencies designed to meet important national environmental objectives. These include the Superfund Program of the EPA and cleanup and decommissioning of a nuclear reactor for the National Aeronautics and Space Administration. Since September 11, 2001, the Corps infrastructure security support to others has increased.

21-8. Value of support activities

In FY 2002, the value of the engineering and construction effort managed by USACE was approximately \$900 million. Non-DOD entities having Corps support costing more than \$1,000,000 in FY 2002 are listed in Figure 21-1.



Figure 21-1. Construction Support for Non-DoD Agencies

Section IV National Cemeteries

21–9. Overview of national cemeteries

For over 125 years, Arlington National Cemetery (ANC) has served as a place of honor and recognition for the men and women who have served in the Nation's Armed Forces. It is the site of numerous important national ceremonies. The Soldiers' and Airmen's Home National Cemetery, located in Washington, D.C., also provides a final resting place for those with military service. The Army takes pride in exercising its assigned responsibilities for operation, maintenance, and improvement of these cemeteries. The ASA(CW) provides program formulation and budget oversight to Arlington and Soldiers' and Airmen's Home National Cemeteries. The day-to-day activities of the cemeteries are the responsibility of the CG, Military District of Washington, who executes these responsibilities through the Superintendent, ANC. The Assistant SECARMY (Manpower and Reserve Affairs) is responsible for burial policy. The COE supports Arlington National Cemetery by providing planning, engineering, design and construction management assistance for cemetery property and facilities.

21–10. Funding

The Army receives funds to operate these cemeteries in the Cemeterial Expenses, Army, appropriations account. These funds are included in the Departments of Veterans Affairs, Housing and Urban Development, and Independent Agencies Appropriations Act. The amount sought by the Administration and appropriated by Congress in FY 2002 - \$22.5 million - will provide for a continuation of the high standard of maintenance expected for these two important national cemeteries.

21–11. Long-term capital planning for Arlington National Cemetery

The development and improvement of the infrastructure at ANC is based on a 1978 master plan. This plan provides a vision of the cemetery's priorities and needs into the twenty-second century. The master plan identified projects and policies to respond to the challenges confronting ANC. These challenges include an aging infrastructure, declining availability of space for initial interment, and preserving the dignity and serenity of ANC while accommodating over 4,000,000 visitors annually. A ten-year Capital Investment Plan has been developed based on the Master Plan outline. The Capital Investment Plan, which is updated regularly by an Army-ANC management team, guides investment planning and budgeting for construction and major maintenance projects at the cemetery.

Section V Engineer Overseas Activities

21–12. Overview of engineer overseas activities

The Army COE conducts a broad range of foreign activities. Many are exclusively in support of U.S. forces overseas. All others are considered part of the civil functions of the Army. In coordination with the Director of Strategy, Plans, & Policy (Army G3), the ASA(CW) provides program direction to the foreign activities of the COE, except those which are exclusively in support of U.S. military forces overseas. In FY 2002, the Engineers supported U.S. foreign policy in about 90 countries. Through the Africa Civil Action Program, assistance and support was provided to developing African nations to improve the construction expertise of their military engineers. The Corps also continued several major efforts to support U.S. initiatives in Africa including assisting on the US–Nigeria Joint Economic Partnership Committee and the USA–Angola Bi-National Cooperation Commission. Through the Counter-Narcotics Program in three Central and South American countries, the Corps provided reimbursable engineering and construction support on 17 projects required to control the production and trafficking of illicit narcotics. It also provided significant remediation support to the U.S. Agency for International Development (USAID) resulting from Hurricane Mitch.

21–13. Foreign military sales (FMS)

As the DOD Construction Agent in many parts of the world, the Corps provides international security assistance to eligible foreign nations as an instrument of NSS and Policy. Under the authorities of the FMS Program, the Corps provides reimbursable design and construction services for defense infrastructure to eligible foreign nations as approved by the Deputy Assistant SECARMY for Defense Exports and Cooperation (DASA–DEC) and authorized by the DSCA. FMS assistance currently is being provided to various countries in the Middle East, Central Asia, Africa, and South American Regions with a total program value of approximately one billion dollars.

21–14. Cooperative threat reduction

Working for the Defense Special Weapons Agency, the Corps is supporting the Cooperative Threat Reduction

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Programs in Russia. The work includes design and construction assistance for a nuclear storage facility. The current program is valued at approximately \$600 million.

21–15. Partnership for peace

This program is an annual series of initiatives with Partnership for Peace nations, focusing U.S. emergency management information know-how and the PfP Information Management System (PIMS) for use by evolving civil protection and civil defense structures of selected nations and their neighbors. Simultaneously, Civil-Military Emergency Planning (CMEP) facilitates the understanding of U.S. concepts and doctrine of military support to civilian authorities in an inter-ministerial and trans-boundary information sharing environment. CMEP develops, through real time and tabletop exercises, co-operation at the provincial level for assistance in technological and natural disasters. CMEP establishes regional cooperation among emergency planners, creates common data bases for uses in catastrophes, acquaints high level decision makers with decision support tools, creates joint operational systems for national reaction centers and develops information exchange on legal and response procedures for large catastrophes with international implications.

21–16. Support for U.S. agencies

The Corps is also called upon to provide support for U.S. agencies overseas. For example, the Corps is managing construction of a \$150 million road project in Palau for the U.S. Department of Interior as part of the Compact of Free Association with that country, and has performed rehabilitation work for the United States Agency for International Development in Latin America after Hurricane Mitch and built border facilities for the Republic of Georgia Border Guard and U.S. Customs.

Section VI

Support To Unified Combatant Commanders

21–17. Benefits to warfighting capabilities

The Civil Works Program provides USACE with a unique capability in DOD. USACE's extensive professional staff of engineers, scientists, economists, etc; provide the critical teamwork necessary to plan engineer infrastructure improvements and institution building at the national level. The training and experience gained from the Civil Works program is leveraged by USACE's Field Force Engineering (FFE) capabilities to provide support to unified combatant commanders (UCCs) and their ACCs. The infrastructure the engineers build provides the facilities and enablers for operations in the future. An excellent example is the infrastructure built by USACE for the Government of Saudi Arabia in the 1970s and 1980s.

21–18. Overview of support to unified combatant commanders

Expertise in water resource development, flood damage reduction, waterway operations, dredging, coastal engineering, environmental stewardship, and disaster response supplement the skills maintained through the Army's MILCON and installation support programs. This expertise and capabilities are routinely called upon by the warfighting and by other DOD agencies and is supplied by the COE on a reimbursable basis. When the Army goes to war, USACE personnel use the experience they have gained in the Civil Works and military programs to provide timely analysis and solutions to the war fighters. COE knowledge of beach dynamics—including the Sea State Prediction Models developed at the Waterways Experiment Station, Vicksburg, Mississippi—help determine the sites for shore landings. When combined with its terrain mobility models, USACE can provide commanders with the most effective plan for logistics-over-the-shore sites in combination with the inland road network to optimize reception, staging, and onward movement in the area of operations. Corps expertise in soil mechanics determines the best routes for armored vehicles; often roads are built using technologies developed in the Civil Works Program. COE experience gained from work on winter navigation helps the Army to cross frozen rivers. Commanders at all levels make use of geospatial products and satellite-based navigation systems developed at the Topographic Engineering Center at Fort Belvoir, Virginia.

21–19. Examples of support to unified combatant commanders

The COE is supporting Operation *Enduring Freedom* in USCENTCOM on several fronts. The 249th Engineer Battalion (Prime Power), a unique strategic asset, provided stable electric power to U.S. and coalition forces on a daily basis in several austere locations in the area of operations. USACE military and civilian personnel have deployed and provided technical assistance, and facility and camp designs for the warfighters. Corps teams in the USCENTCOM area of operations have supported the 101st Airborne and 10th Mountain Divisions as well as non-combat units such as the Combined Joint Civil Military Operations Task Force. Equipped with "TeleEngineering" kits, engineers anywhere on the battlefield were able to communicate real time to Corps experts through a secure, satellite-linked system. Their missions included runway repair analysis, structural evaluations, airfield lighting and base camp design. Also noteworthy are the Contingency Real Estate Support Teams (CREST's), who can deploy within 24 hours to acquire the troop housing, workspace, and covered storage areas the entering force will need. Corps real estate teams executed leases at various locations in Kuwait, Afghanistan, Uzbekistan, and Kyrgyzstan. Other examples of how civil capabilities can be used to support unified combatant commanders include the following: digital mapping and soil trafficability studies for

USCENTCOM in support of Operations Desert Shield and Desert Storm; post-conflict cleanup of Kuwait, reestablishing utilities, and supervising repair of roads, buildings, and airfields; river stage and flood level prediction modeling as Engineer soldiers bridged the Sava River in Bosnia and environmental and water resource assessments in Central and South America.

Section VII

Summary and References

21–20. Summary

The Army, through its civil functions, provides valuable services in maintaining and enhancing the economic and environmental health of the Nation. Civil functions also continue to prove invaluable in furthering national security objectives, both directly and indirectly. The financial and personnel resources associated with these functions are principally authorized and funded under the biennial *Water Resources Development Acts* and annual *Energy and Water Development Appropriations Acts*, respectively. Consequently, civil functions activities, as well as the significant training of COE personnel they provide, are at virtually no cost to the DOD's military budget.

21–21. References

- a. Public Law 84–99, *Amendment of Flood Control Act of August 18, 1941* (Emergency Flood Control Work).
- b. Public Law 91–611, *Flood Control Act of 1970*.
- c. Public Law 93–288, *Disaster Relief Act of 1974* (also known as the *Stafford Act*).
- d. Public Law 99–433, *DOD Reorganization Act of 1986* (also known as the Goldwater-Nichols Act).
- e. Public Law 99–662, *Water Resources Development Act of 1986*.
- f. Public Law 105–245, *Energy and Water Development Appropriations Act, 1999*.
- g. Public Law 105–277, *Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999*.
- h. Public Law 106–541, *Water Resources Development Act, 2000*.
- i. HQDA General Orders No. 3, *Assignment of Functions and Responsibilities within Headquarters, Department of the Army*, 9 July 2002. 15