

Military Engineering

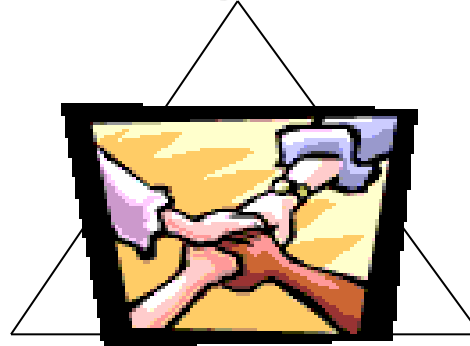
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Military Engineering Support

Installation Management



**Combat
Engineering**

**Civil Works &
Emergency
Response**



What is Military Engineering?

The application of engineering and related disciplines in support of military installations and units, the nation's infrastructure, and the environment in peace and war.

The Military Engineering Team includes uniform services (active, guard and reserve), civil service employees and contractors



Military Engineer Tasks

- **Combat Engineering:** Building field fortifications
- **Contingency Base Engineering:** Building base camps for deployed soldiers and refugees
- **Readiness and Homeland Security:** Support to National Response Plan
- **Theater of Operations Engineering:** Building roads, airfields and buildings in a theater of operations
- **Installation Engineering and Management:**
 - Master planning and real estate
 - Design and construction of facilities and infrastructure
 - Operations and maintenance of facilities and infrastructure
- **Civil Works:** Planning, design, and construction of water resources infrastructure in the U.S. and overseas following military operations
- **Environmental Engineering:** Cleanup of contamination



U.S. Army Corps of Engineers

- **37,000 civilians and 700 military**
- **\$20-40 billion business**
 - **\$25B Military Support**
 - **\$7B Civil Works**
- **9 Division and 45 District offices in U.S. and overseas**
- **7 Laboratories with \$1.5B**



**US Army Corps
of Engineers®**

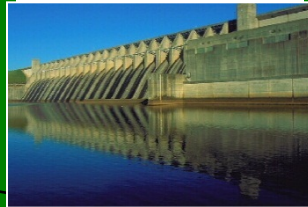
***Building
Strong!***



USACE Civil Works Missions



**1/4 of Nation's
 Hydropower:
 \$500 M + in
 power sales**



**11,000 miles of
 Commercial Inland
 Waterways:
 1/2 the cost of rail
 1/10 the cost of
 trucks**

**299 Deep Draft
 Harbors**



**627 Shallow Draft
 Harbors**

**8500 Miles of
 Levees**



**Emergency
 Operations**



**Stewardship of
 11.7 Million Acres
 Public Lands**



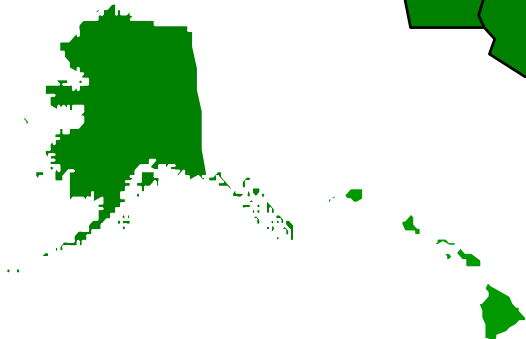
**Environmental
 Restoration**



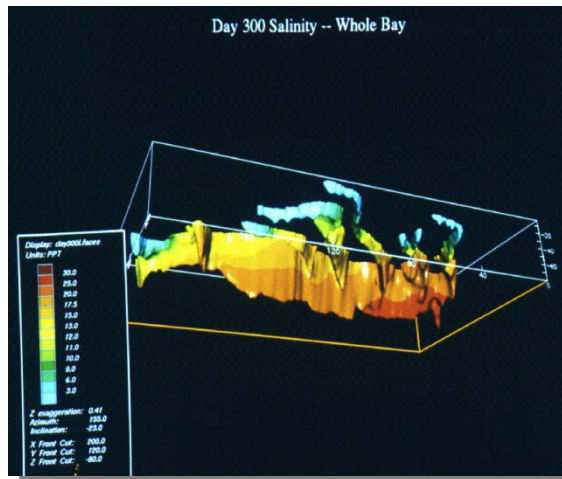
**Regulatory
 Responsibilities**

**Recreation areas
 376 M Visitors/yr
 Generate \$15 B in
 economic activity,
 500,000 jobs**

**400 miles of
 Shore protection
 Destination for
 75% of U.S.
 Vacations**



Environmental Quality



Water Quality



Wetlands



Fisheries Mitigation

Dredging and Disposal



Hazardous and Toxic Waste Management

UXO Cleanup



Environment al Chemistry





Environmental Conservation

Threatened and Endangered Species



Land Characterization and Rehabilitation

Noise Mitigation and Land Management



Military Construction (NAVFAC & USACE)



Army Installation Management Command

- HQ in San Antonio, TX and 4 Regions in the US, one in Europe, one in Korea
- Includes over 30,000 civilians at 120 Army bases
- Army installation engineers are called Directors of Public Works (DPW) – have a job very similar to a City Public Works Director
- Responsible for master planning, operations, maintenance, repair, and environment



Army Engineering Units

- **Over 85,000 Engineer soldiers in the Guard, Reserve and Active force**
 - **40,000 Guard**
 - **23,000 Reserve**
 - **25,000 Active Duty**
- **Construction and combat capabilities**
- **Prime Power Units**
- **Geospatial Units**
- **Engineers in separate battalions and part of Army Brigade Combat Teams**



Air Force Civil Engineers Total Force

- **Military**
 - 19,700 Active Duty
 - 6,000 Reserve
 - 10,200 Guard
- Civilians – 21,300
- ~ 57,200 (8% of Total AF)
- Supports 84 major installations (72 in CONUS / 12 Overseas)
- Support 16 contingency bases in Middle East and Eastern Europe
- Includes **PRIME BEEF** Teams that deploy with AF fighter and bomber aircraft
- Includes **RED HORSE** teams that deploy to perform heavy repair and construction



U.S. AIR FORCE



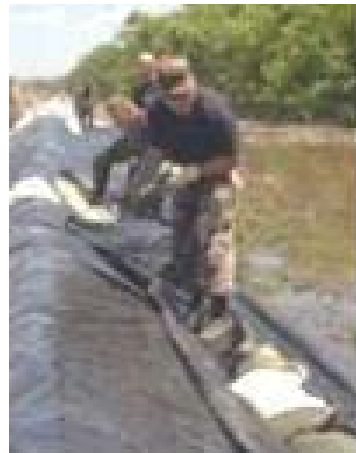


Prime BEEF Mission



Prime Base Engineer Emergency Force

- Establish a forward airbase for a flying unit mission
- Protect and sustain the base (priority is airfield)
- Recover the base in event of attack/damage
- Reconstitute/Restore the site and equipment (includes environmental and energy stewardship)





Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers

- Self-sufficient construction and heavy repair in permissive environment – designed to support AF mission
- Airborne RED HORSE
 - Airlift/repel & sling/parachute into remote and inaccessible airfields
 - Assess and repair airfields



RED HORSE Constructs Aircraft Ramp



Airborne RED HORSE at Baghdad Intl



Naval Facilities Engineering Command

- 1,125 Military and 12,800 Civilian employees
- Supports 79 installations in the U.S. and overseas
- 2 Major Commands - NAVFAC Atlantic and NAVFAC Pacific with 10 subordinate Field Engineering Commands (FECs) worldwide
- 3 Specialty Centers: Engineering, Logistics and
- ~18B annual business volume
- Business lines:
 - Capital Improvements
 - Public Works
 - Environmental
 - Base Development
 - Contingency Engineering



Navy Seabees - Organization

- First Naval Construction Division (1NCD)
- 3 Active and 4 Reserve Naval Construction Regiments (NCR)
- 9 Active and 12 Reserve Naval Mobile Construction Battalions (NMCB)
- 2 Amphibious Construction Battalions (ACB)
- 2 Construction Battalion Maintenance Units (CBMU)
- 2 Underwater Construction Teams (UCT)
- The Force:
 - 9,000 Active Seabees
 - 8,000 Reserve Seabees



Navy Seabees - Combat Role

- Provide general engineering capabilities to the Navy, Marine Corps, and Geographic Combatant Commanders
- Currently deployed in in more than two dozen countries around the world supporting various Overseas Contingency Operations

With compassion for others, “WE BUILD, WE FIGHT” for peace with freedom!



Marine Corps Engineer Units

- **12,000 Marine Engineers in the Active and Reserve**
 - 6,800 Active Duty
 - 4,100 Reserve
- **Both combat and expeditionary engineering capabilities**
- **Includes Fuel and Explosive Ordnance Disposal**





Marine Engineers in Action



Airfield Matting

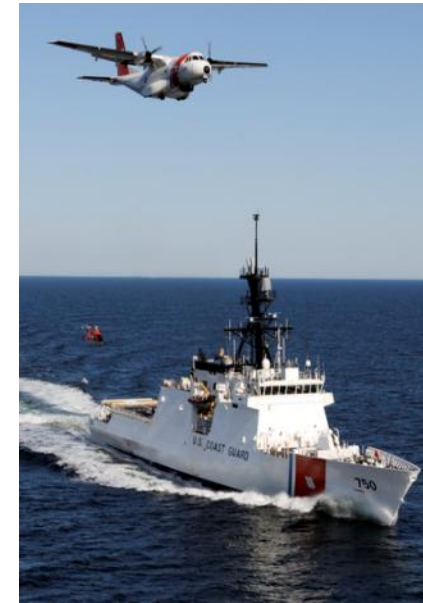


Bridging



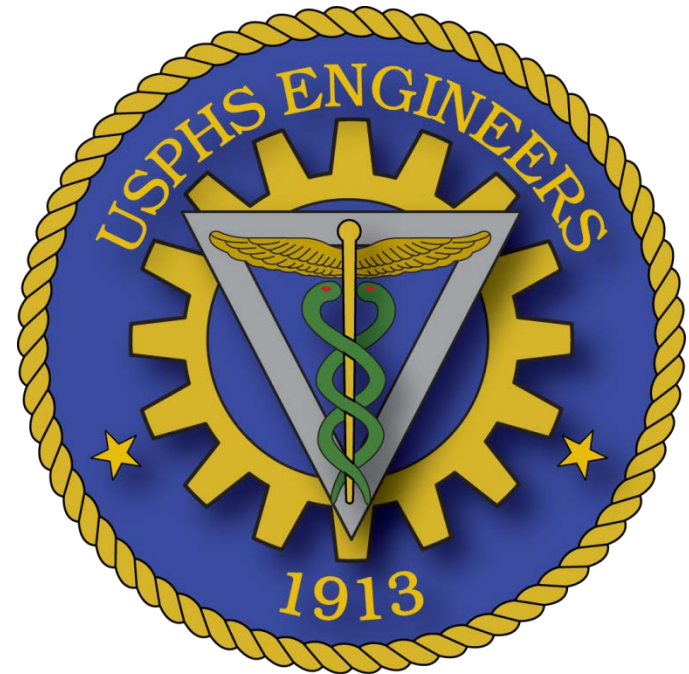
U.S. Coast Guard Civil Engineering

- ~150 officers and ~400 civilians in USCG Civil Engineering Program
- Manage diverse shore infrastructure portfolio including industrial bases, sectors, small boat stations, air stations, waterfront structures, training centers, aids to navigation, towers, historic bldgs, etc.
 - 28,000+ Buildings & Structures
 - 2,000+ Sites, covering 92,000 Acres
 - \$12BIL replacement value
 - Average Bldg Age >45 years



U.S. Public Health Service Engineers

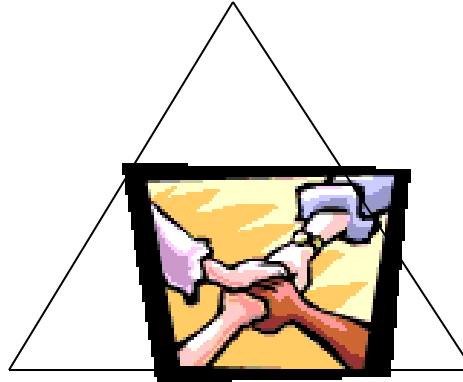
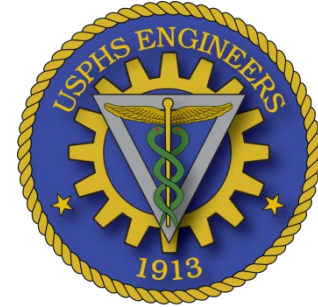
- **Dept of Health and Human Services (DHHS)**
- **USPHS has over 6,500 uniformed officers**
 - **424 Engineer Officers**
 - **Approximately 800 Civil Service Engineers**
- **Agencies with Engineers:**
 - **Indian Health Service**
 - **Centers for Disease Control & Prevention**
 - **Food and Drug Administration**
- **Non-DHHS Agencies:**
 - **Environmental Protection Agency**
 - **National Park Service**
 - **US Army**



Joint Engineer Partnership -- With the Private Sector



Installations



Troops



Civil Works

