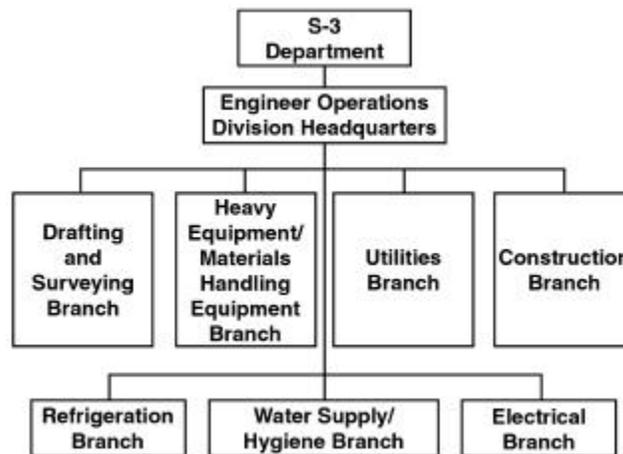


the airfield or air base area. The ACE ASP and the MWSS bulk fuel storage and water production sites are generally located away from the airfield or FOB. Because of this geographic separation, the support squadron should make a special effort to ensure these organizations are integrated into the ACE's communications architecture.

### Essential Engineer Services

One of the key elements to ground service support is the engineer services provided by the engineer operations division. The MWSS engineer operations division is organized to provide the full range of general engineering support (less fuel) to designated ACE components. Figure 2-2 shows the engineer operations division's organization. Additional information regarding engineer support can be found in MCWP 3-17, *Engineering Operations*.



**Figure 2-2. Engineer Operations Division.**

The three main categories of engineer services provided by the engineer operations division are general engineering services, utilities, and material handling and heavy equipment services.

**General Engineering Services**

The engineer operations division provides a host of general engineering services necessary to support the ACE during operations. The following list includes tasks that the engineer operations division must provide per their T/O mission:

- | Engineer reconnaissance and survey.
- | Construction and maintenance of mission-essential base camp requirements, to include—
  - n Revetments for TAFDS and HERS.
  - n Temporary bunkers.
  - n Temporary aircraft parking areas.
  - n Strong-back framing for work and billeting tentage.
- | Technical and equipment assistance for erection and construction of prefabricated shelters and K-Span structures.
- | Development, improvement, and maintenance of airfield and air base drainage systems.
- | Camouflage expertise, equipment, and assistance to support ACE camouflage requirements.
- | Technical expertise in assessing bomb damage and providing the personnel and equipment necessary to perform RRR.
- | Limited mine detection capability.
- | Limited combat engineer services (e.g., countermobility, obstacles).
- | Construction, improvement, and maintenance of vertical/takeoff and landing (VTOL) and vertical/short takeoff and landing (V/STOL) facilities, not to exceed 900 feet.

***Utilities***

The MWSS possesses a host of equipment to provide mobile electric power to ACE airfield, base camp, and satellite locations. To increase habitability during sustained operations, the MWSS is equipped to produce and store sufficient quantities of potable water to support the ACE and to provide for personal hygiene (showers and laundry). The engineer operations division also maintains the refrigeration units that can support the messing and medical needs at the air base. Although the T/O allows for separate branches for electrical, refrigeration, and water supply/hygiene, these branches work under and within the utilities branch.

***Heavy Equipment and Materials  
Handling Equipment Services***

The engineer operations division maintains the personnel and equipment necessary to repair, improve, and maintain existing roads within the ACE operating area; construct and maintain expedient roads; and meet the material handling equipment (MHE) needs of the ACE during deployment, buildup, and support operations. The division also has the equipment necessary to support base recovery and RRR. Because the MWSS possesses insufficient earth moving assets to accomplish large-scale runway repair or construction, it will require either reinforcement or augmentation from other engineer units from other MWSSs, the CSSE or the NCF.

When first deploying to an FOB or existing airfield, engineer operations division sends drafting and surveying branch personnel and engineers to the site to properly design and layout the base camp and air base area. Early physical reconnaissance can confirm the utility of landing sites that were proposed prior to the operation, as well as identify future upgrade and repair requirements. The information gathered can then be transposed into graphical representation through the use of computer-aided design (CAD) software. This information includes necessary utilities support, temporary shelters, and limited vertical and horizontal construction previously identified.

The MWSS is tasked mainly with expeditionary construction and is only required to maintain proficiency in constructing, improving, and maintaining V/STOL facilities not to exceed 900 feet. Any deliberate engineering support requirements that exceed the MWSS's capabilities would be assigned to the engineer element of the CSSE or the NCF supporting MAGTF operations.

These organizations possess the personnel, equipment, and expertise to perform the preponderance of deliberate engineering, which include:

- | Planning and constructing base camps.
- | Improving unpaved roads.
- | Constructing airstrips in excess of 900 feet.
- | Repairing and improving existing bare-base airfields.
- | Constructing EAF-type facilities.
- | Repairing heavy airfield damage.

### **Motor Transport**

The MWSS motor transport (MT) operations division provides the ACE with intrabase MT support, while the CSSE provides interbase MT support. Because MAGs and their respective squadrons do not have organic MT assets on their table of equipment (T/E), the MWSS maintains the MT assets necessary to fulfill the MT needs for the supported MAG.

FOB buildup requires rapid planning and the use of MWSS equipment without competing with other MEF requirements for support. Daily movement of ordnance, personnel, supplies, and equipment at an air base is essential to ACE operations. MT operations division provides light-, medium-, and heavy-lift MT tailored to ACE requirements.