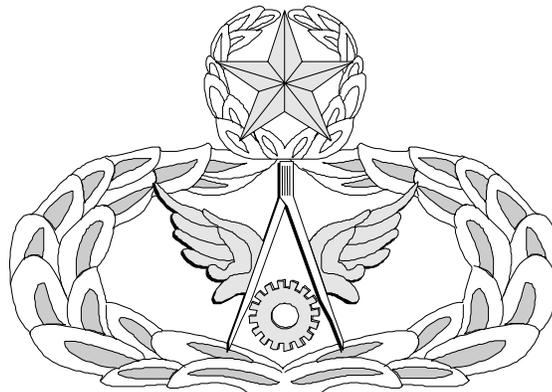


**AFSC 3E2X1**

**PAVEMENTS AND CONSTRUCTION EQUIPMENT  
OPERATOR**



**MASTER**



**BASIC**



**SENIOR**

**CAREER FIELD  
EDUCATION AND TRAINING PLAN**

**CAREER FIELD EDUCATION AND TRAINING PLAN  
PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR SPECIALTY  
3E2X1**

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## PREFACE

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements, training support resources, and minimum core task requirements for this specialty. The CFETP will provide personnel a clear career path to success and instill rigor in all aspects of career field training.
2. The CFETP consists of two parts used by the supervisor to plan, manage, and control training within the career field.
  - 2.1. **Part I** provides information necessary for overall management of the specialty.
    - 2.1.1. **Section A** provides general information about how the CFETP will be used.
    - 2.1.2. **Section B** identifies career field progression information, duties and responsibilities, training strategies, and career field path.
    - 2.1.3. **Section C** associates each skill-level with specialty qualifications (knowledge, education, and training).
    - 2.1.4. **Section D** indicates resource constraints.
    - 2.1.5. **Section E** identifies transition training guide requirements for SSgt through MSgt.
  - 2.2. **Part II** includes the following:
    - 2.2.1. **Section A** identifies the Specialty Training Standard (STS) to include duties, tasks, and technical references to support Air Education and Training Command (AETC) conducted training, wartime course, and correspondence course requirements.
    - 2.2.2. **Section B** contains the course objective list and training standards supervisors will use to determine if airmen satisfy training requirements.
    - 2.2.3. **Section C** identifies available support materials. Air Force Qualification Training Packages (AFQTPs) and CerTests support both upgrade training (UGT) and qualification training.
    - 2.2.4. **Section D** identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses, and exportable courseware.
    - 2.2.5. **Section E** identifies MAJCOM-unique training requirements supervisors can use to determine additional training required for the associated qualification needs.
    - 2.2.6. **Section F** identifies home station training references and courses material required for this specialty in support of contingency/wartime training.
3. Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their careers. This plan will enable us to train today's work force for tomorrow's jobs. At unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide.

## ABBREVIATIONS/TERMS EXPLAINED

**Advanced Distributive Learning (ADL).** Anytime, anyplace learning within DoD consisting of instructional modules comprised of sharable content objectives in an Internet/Intranet environment.

**Advanced Training (AT).** A formal course which provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

**Air Force Career Field Manager (AFCFM).** An individual on the Air Staff charged with the responsibility for overseeing all training and career field management aspects of an Air Force specialty or group of specialties.

**Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS).** A comprehensive task list that describes a particular job type or duty position. Used by supervisors to document task qualifications. The tasks on the AFJQS/CJQS are common to all persons serving in the described duty position.

**Air Force Qualification Training Package (AFQTP).** An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. AFQTPs identify the Air Force's standardized method for performing the task. The AFQTP may be printed (paper-based), computer-based, or in other audiovisual media.

**Career Field Education and Training Plan (CFETP).** A comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

**Certification and Testing (CerTest).** A multi-media evaluation program used to test an individual's knowledge of principles and procedures in their career field.

**Commercial Off The Shelf (COTS).** Commercially-procured training products.

**Computer-Based Training (CBT).** A self-paced stand-alone computer product used to deliver interactive subject and task knowledge.

**Continuation Training.** Additional training exceeding requirements with emphasis on present and future duty assignments.

**Core Task.** A task Air Force Career Field Managers (AFCFMs) identified as a minimum qualification requirement within an Air Force specialty or duty position. These tasks exemplify the essence of the career field.

**Course Objective List (COL).** A publication derived from initial/advanced skills course training standard, identifying the tasks and knowledge requirements, and respective standards provided to achieve a 3-, 5-, and 7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, Developing, Managing, and Conducting Training.

**Critical Task.** Tasks that have been identified by the work center supervisor as having a detrimental effect on mission accomplishment if not performed correctly. Critical tasks may or

may not be the same as core tasks but are mandatory if identified as 'critical' to the individual's position by the supervisor or work center.

**Diamond Tasks (◆).** Diamond tasks are extremely important to the career field. Diamond tasks are the same as core tasks with one exception--equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training. Hands-on certification should be accomplished at the first opportunity when equipment is available.

**Distance Learning (DL).** Includes Video Teleseminar (VTS), Video Teletraining (VTT), and Computer-Based Training (CBT). Formal courses that a training wing or a contractor develops for export to a field location (in place of resident training) for trainees to complete without the on-site support of the formal school instructor. For instance, courses are offered by Air Force Institute of Technology, Air University, and Training Detachment.

**Duty Position Task.** The tasks assigned to an individual for the position currently held. These include as a minimum all core tasks, critical tasks, and any other tasks assigned by the supervisor.

**Enlisted Specialty Training (EST).** A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in each skill level of a specialty.

**Exportable Training.** Additional training via computer-assisted, paper text, interactive video, or other necessary means to supplement training.

**Field Technical Training (Type 4).** Special or regular on-site training conducted by a Field Training Detachment (FTD) or by a Mobile Training Team (MTT).

**Initial Skills Training.** AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training wings.

**Instructional System Development (ISD).** A deliberate and orderly, but flexible, process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost-efficient way the knowledge, skills, and attitudes essential for successful job performance.

**Mission Ready Airmen (MRA) Training.** Initial skills training allowing airmen to perform select tasks unsupervised equal to 3-levels with one year of experience.

**Occupational Survey Report (OSR).** A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

**On-the-Job Training (OJT).** Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill-level award) and job qualification (duty position certification) training.

**Optimal Training.** The ideal combination of training settings resulting in the highest levels of proficiency on specified performance requirements within the minimum time possible.

**Proficiency Training.** Additional training, either in-residence, exportable advanced training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

**Qualification Training (QT).** Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade training process. It is designed to provide the performance skills required to do the job.

**Readiness Training Package (RTP).** Establishes standard levels of knowledge and proficiency for common Disaster Preparedness and Readiness subject areas by providing instructors with training references, materials, and lesson objectives used in teaching and evaluating the course subject matter.

**Representative Sites.** Typical organizational units having similar missions, weapon systems or equipment, or a set of jobs, used as a basis for estimating average training capacities and costs within the Training Impact Decision System (TIDES).

**Resource Constraints.** Resource deficiencies, such as money, facilities, time, manpower, or equipment that precludes desired training from being delivered.

**Skills Training.** A formal course resulting in the award of a skill level.

**Specialty Training.** A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in the award of a skill level.

**Specialty Training Standard (STS).** Describes skills and knowledge that airmen in a particular AFS need on the job. It further serves as a contract between the Air Education and Training Command (AETC) and the user to show the overall training requirements for an AFS taught in the resident and nonresident courses.

**Spin-up Training.** Training required just prior to a select deployment that delivers training necessary for mission accomplishment. It is typically predicated on hard to attain contingency skills.

**Standard.** An exact value, a physical entity, or an abstract concept, established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results; a fixed quantity or quality.

**Supplemental Training.** Training for a portion of an AFS without a change in AFSC. Formal training on new equipment, methods, and technology that are not suited for on-the-job training.

**Total Force.** All collective Air Force components (active duty, Reserve, Guard, and civilian elements) of the United States Air Force.

**Training Capacity.** The capability of a training setting to provide training on specified requirements, based on the availability of resources.

**Training Impact Decision System (TIDES).** A computer-based decision support technology designed to assist Air Force Career Field Managers (AFCFMs) in making critical judgments relevant to what training should be provided to personnel within career fields, when training should be provided (at what career points), and where training should be conducted (training setting). A TIDES template is used Air Force-wide for standardization and formatting of CFETPs.

**Training Planning Team (TPT).** Comprised of the same personnel as a U&TW; however, TPTs are more intimately involved in training development and the range of issues is greater than is normal in the U&TW forum.

**Training Requirements Analysis.** A detailed analysis of tasks for a particular AFS to be included in the training decision process.

**Upgrade Training (UGT).** Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

**Utilization and Training Workshop (U&TW).** A forum of the AFCFM, MAJCOM Functional Managers (MFMs), Subject Matter Experts (SMEs), and AETC training personnel that determines career ladder training requirements.

## PART I

### SECTION A - GENERAL INFORMATION

**1. Purpose.** This CFETP provides information necessary for the Air Force Career Field Managers (AFCFMs), MAJCOM Functional Managers (MFMs), commanders, education and training managers, supervisors/trainer, and certifiers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training individuals require to develop and progress throughout their careers. It identifies initial skills, upgrade, qualification, advanced, and proficiency training.

**1.1. Initial skills training.** Is the AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training wings.

**1.2. Upgrade training.** Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

**1.3. Qualification training.** Is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge required to do the job.

**1.4. Advanced Training.** Is a formal course that provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

**1.5. Proficiency training.** Is additional training either in-residence, exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

#### **2. The CFETP has several purposes:**

**2.1.** Serves as a management tool to plan, manage, conduct, and evaluate a career field training program. It is used to help supervisors identify training at the appropriate point in an individual's career.

**2.2.** Identifies task and knowledge training requirements for each skill level in the specialty and recommends education/training throughout each phase of an individual's career.

**2.3.** Lists training courses available in the specialty and identifies sources of training and training delivery methods.

**2.4.** Identifies major resource constraints that impact full implementation of the desired career field training process.

**3. Uses.** The plan will be used by MFMs and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

**3.1.** AETC training personnel will develop/revise formal resident, nonresident, field, and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM, Air Force Civil Engineer Support Agency Force Development Division (HQ AFCEA/CEOF) to develop acquisition strategies for obtaining resources needed to provide the identified training.

**3.2.** MFMs will ensure their training programs complement CFETP mandatory initial, upgrade, and proficiency requirements and identify requirements that can be satisfied by OJT, resident training, contract training, CerTest, or exportable courses. MAJCOM-developed training to support this AFS must be identified for inclusion into the plan.

**3.3.** Unit Education and Training managers and supervisors must ensure each individual completes the mandatory training requirements (including MAJCOM supplemental requirements) for the upgrade training specified in this plan.

**3.4.** Each individual will complete the mandatory training requirements specified in this plan. The lists of courses in Part II will be used as a reference to support training.

**4. Coordination and Approval.** The AFCFM is the approval authority for the CFETP. MAJCOM representatives and AETC personnel will identify and coordinate on the career field training requirements. The AETC training manager for this specialty will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II, they will eliminate duplicate training.

## **SECTION B - CAREER FIELD PROGRESSION AND INFORMATION**

**5. Specialty Descriptions.** Pavements and Construction Equipment Operator Apprentice, Journeyman, Craftsman, and Superintendent.

**5.1. Specialty Summary.** Operates and maintains heavy construction equipment, such as, loaders, graders, dozers, backhoes, and dump trucks. Constructs and maintains concrete and asphalt runways, aircraft parking aprons, and roads. Operates tractor-trailer combinations, transporting construction equipment, and materials. Ensures compliance with all safety and environmental regulations. Related DoD Occupational Subgroup: 710.

### **5.2. Duties and Responsibilities for Apprentice, Journeyman, and Craftsman.**

**5.2.1.** Plans, constructs, and repairs airfield pavements, roads, streets, curbs, surfaces, mats, membranes, and other improved areas using paving and surfacing procedures.

**5.2.1.1.** Takes soil, aggregate, asphalt, and concrete samples for laboratory tests.

**5.2.1.2.** Interprets construction drawings and surveys using information such as sub-grade contours and grade alignment.

**5.2.1.3.** Inspect pavements for surface, base, and sub-base damage or defects. Repairs damaged or defective areas by removing and replacing joint and crack sealing, surface overlays, and seal coats.

**5.2.1.4.** Determines equipment requirements and prepares cost estimates for construction activities.

**5.2.1.5.** Uses approved methods to provide erosion control.

**5.2.1.6.** Operates concrete and asphalt batch, rock crushing, and fixed or mobile plants.

**5.2.2.** Determines type and application of equipment to use in various construction, maintenance, and repair operations.

**5.2.2.1.** Operates various types of construction equipment under conditions requiring knowledge, skills, and techniques necessary to finish grade, level, slope, compact, and perform other construction equipment operations.

**5.2.2.2.** Operates snow and ice removal equipment.

**5.2.2.3.** Applies chemicals and other ice control products.

**5.2.3.** Performs operator maintenance inspections to determine condition and operational reliability of equipment.

**5.2.3.1.** Inspects, lubricates, and performs operator maintenance on construction and snow removal equipment.

**5.2.3.2.** Adjusts and changes attachments on equipment.

**5.2.3.3.** Connects and repairs wire rope rigging to cable operated equipment.

**5.2.3.4.** Schedules and coordinates equipment repair and servicing with the vehicle maintenance activity and other servicing facilities.

**5.2.4.** Investigates proposed work sites to determine resource requirements.

**5.2.4.1.** Prepares cost estimates for work requests.

**5.2.4.2.** Applies engineered performance standards to plan and estimate jobs.

**5.2.4.3.** Coordinates and plans with other civil engineer and base agencies.

**5.2.4.4.** Inspects work to ensure quality and compliance with policies, regulations, and other publications.

**5.2.5.** Designs demolition projects, places, and detonates explosives.

**5.2.5.1.** Performs quarry demolition, clearing and base denial operations as required.

**5.2.5.2.** Operates water well drilling, rock crushing equipment, and fixed/mobile concrete and asphalt batch plants.

**5.3. Duties and Responsibilities for Superintendents.** Advises on problems associated with the installation and repair of structural systems.

**5.3.1.** Solves complex maintenance problems by studying layout drawings, and by analyzing construction and operating characteristics.

**5.3.2.** Develops and establishes operation and maintenance procedures to ensure maximum efficiency.

**5.3.3.** Operates water well drilling, rock crushing equipment, and fixed/mobile concrete and asphalt batch plants.

**6. Skill/Career Progression.** Adequate training and timely progression from the apprentice to the superintendent skill level plays an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training does their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure individuals receive viable training at appropriate points in their careers.

### **6.1. Apprentice. (3-Level)**

**6.1.1.** Upon completion of initial skills training, a trainee will work with a trainer to enhance their knowledge and skills to progress to the 5-level.

**6.1.2.** Utilize the Career Development Course (CDC), Air Force Qualification Training Packages (AFQTPs) and other exportable courses for subject and task fundamentals in the career field. Successfully complete applicable CerTests.

**6.1.3.** Once trained and task certified, a trainee may perform the task unsupervised.

**6.1.4.** After all upgrade training requirements are completed, supervisors and Unit Education and Training Managers (UETM) coordinate upgrade procedures.

**6.1.5. NOTE:** All trainees are automatically enrolled in the Community College of the Air Force (CCAF) when awarded their primary AFSC.

### **6.2. Journeyman. (5-Level)**

**6.2.1.** Enter into continuation training to broaden experience base and to advance to the 7-level.

**6.2.2.** 5-Levels may be assigned job positions such as team leader and shift supervisor.

**6.2.3.** Will attend the Airman Leadership School (ALS) after serving 48 months in the Air Force (active duty only). Either the in-residence or correspondence course is required for Air Reserve Component (ARC) personnel.

**6.2.4.** Will use CDCs and other reference material to prepare for Weighted Airman Performance Systems (WAPS) testing.

**6.2.5.** Should continue pursuing a CCAF degree.

**6.2.6.** After all upgrade training requirements are completed, supervisors and UETMs coordinate upgrade procedures.

### **6.3. Craftsman. (7-Level)**

**6.3.1.** Completion of read-ahead material (RAM) and 100% core/diamond task completion and resident graduation from the 7-level resident course are basic prerequisites for award of the 7-level. Must complete, as a minimum, twelve months OJT before award of the seven-level.

**6.3.2.** A craftsman can expect to fill various supervisory and management positions such as shift leader, mobility team chief, production supervisor, or task certifier.

**6.3.3.** Seven-levels should take continuation training courses or obtain additional knowledge on management of resources and personnel.

**6.3.4.** Continue academic education through CCAF and higher degree programs is encouraged.

**6.3.5.** Will attend the Noncommissioned Officer Academy (NCOA) after promotion to TSgt (active duty only). Either the in-residence or correspondence course is required for Air Reserve Component (ARC) personnel.

**6.3.6.** After all upgrade training requirements are completed, supervisors and UETMs coordinate upgrade procedures.

### **6.4. Superintendent. (9-Level)**

**6.4.1.** Must be a SMSgt for award of the 9-skill level.

**6.4.2.** A 9-level can be expected to fill positions such as flight chief, zone superintendents, and various staff positions.

**6.4.3.** Should pursue increased knowledge of budget, manpower, resources, and personnel management.

**6.4.4.** After completion of CCAF, recommend the pursuit of additional higher education and completion of courses outside of their career AFS.

### **6.5. Civil Engineer Manager.**

**6.5.1.** Must be selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E191, 3E291, 3E391, 3E490, 3E591, and 3E691).

**6.5.2.** Will work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.

**6.5.3.** Resident graduation of the USAF Senior NCO Academy (SNCOA) is a prerequisite for CMSgt sew-on (active duty only). In residence or correspondence course required for ARC personnel.

**7. Training Decisions.** The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Pavements and Construction Equipment Operator career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce

duplication of training and eliminate a disjointed approach to training. The following decisions were made at the career field Utilization & Training Workshop held at Ft Leonard Wood MO in May 2000.

**7.1. Initial Skills Training.** The initial skill course was reviewed for content. Additions, deletions, and modifications were made to the course using Mission Ready Airman (MRA) as the guiding criteria. Wartime training tasks were identified. Additional contingency training was also identified.

**7.2. Five Level Upgrade Training Requirements.** Existing CDCs were reviewed and scrubbed to ensure only current material remained and new technology information was added.

**7.3. Seven Level Upgrade Training Requirements.** 7-level training requirements were reviewed.

**7.4. Proficiency Training.**

**7.4.1.** Any additional knowledge and skill requirements that were not taught through initial skills or upgrade training are assigned as continuation training.

**7.4.2.** Purpose of continuation training is to provide training exceeding minimum upgrade training requirements with emphasis on present and future duty positions.

**7.4.3.** MAJCOMs must develop a continuation-training program that ensures personnel in the Pavements and Construction Equipment Operator career field receive the necessary training at the appropriate point in their careers.

**7.4.4.** The training program will identify both mandatory and optional training requirements.

**7.5. Supplemental Training.** Subject Matter Experts (SME) and the Training Committee reviewed supplemental training courses for technical accuracy and identified training that was no longer required. They revalidated the remaining courses as necessary to fully support career progression in the AFS.

**7.6. CerTest.** Originally, the CerTest program was developed to support transition training, and meet DoD certification requirements. Now, it is also the singular platform to launch AFQTP tests and supplement the evaluation of OJT.

**8. Community College of the Air Force (CCAF) Academic Programs.** Airmen are automatically enrolled in CCAF upon completion of basic military training. CCAF provides the opportunity to obtain an Associate in Applied Sciences Degree. In addition to its associates degree program, CCAF offers the following:

**8.1. Occupational Instructor Certification.** Upon completion of instructor qualification training (consisting of the Instructor Methods course and supervised practice teaching), CCAF instructors possessing an associates degree or higher may be nominated by their school commander/commandant for certification as an occupational instructor.

**8.2. Trade Skill Certification.** When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency-based assessment process for trade skill certification at one of four proficiency

levels: Apprentice, Journeyman, Craftsman/Supervisor, or Master Craftsman/Manager. All are transcribed on the CCAF transcript.

**9. The Construction Technology Associates Degree (4VEB) applies to this AFSC.**

**9.1. Degree Requirements.** Prior to completing an Associates Degree, the individual must be awarded a 5-level and the following requirements must be met:

<b>Course</b>	<b>Semester Hours</b>
Technical Education.....	
24	
Leadership, Management, and Military Studies.....	6
Physical Education.....	
4	
General Education.....	
15	
Program Elective.....	
15	
Technical Education; Leadership, Management, and Military Studies; or General Education	
Total.....	<b>64</b>

**9.1.1. Technical Education (24 Semester Hours):** A minimum of 12 semester hours of Technical Core subjects/courses must be applied and the remaining semester hours applied from Technical Core/Technical Elective courses.

<b>Technical Core Requirements</b>	<b>Semester Hours</b>
Blueprint Reading.....	6
Building Construction.....	3
Carpentry.....	12
CCAF Internship.....	16
College Algebra/Trigonometry.....	3
Computer Aided Drafting.....	6
Construction Inspection.....	9
Drafting/Engineering Drawing.....	3
Heavy Equipment Operations.....	24
Masonry.....	9
Metals Characteristics.....	3
Metals Fabrication.....	14
Rigid and Flexible Pavements.....	12
Surveying.....	9
Welding.....	9

<b>Technical Electives</b>	<b>Semester Hours</b>
Computer Science.....	6
Construction Building Codes.....	6
Construction Material Estimating.....	3
Enlisted Professional Military Education.....	12
Hazardous Materials.....	3
Industrial Safety.....	3

Properties of Materials.....	6
Quality Assurance.....	3
Soil Mechanics.....	3
Strength of Materials.....	6
Technical Writing.....	3

**9.1.2. Leadership, Management, and Military Studies** (6 Semester Hours): Professional military education and/or civilian management courses.

**9.1.3. Physical Education** (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

**9.1.4. General Education** (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the General Education Requirements (GER) and be in agreement with the definitions of applicable general education subjects/courses as provided in the CCAF General Catalog.

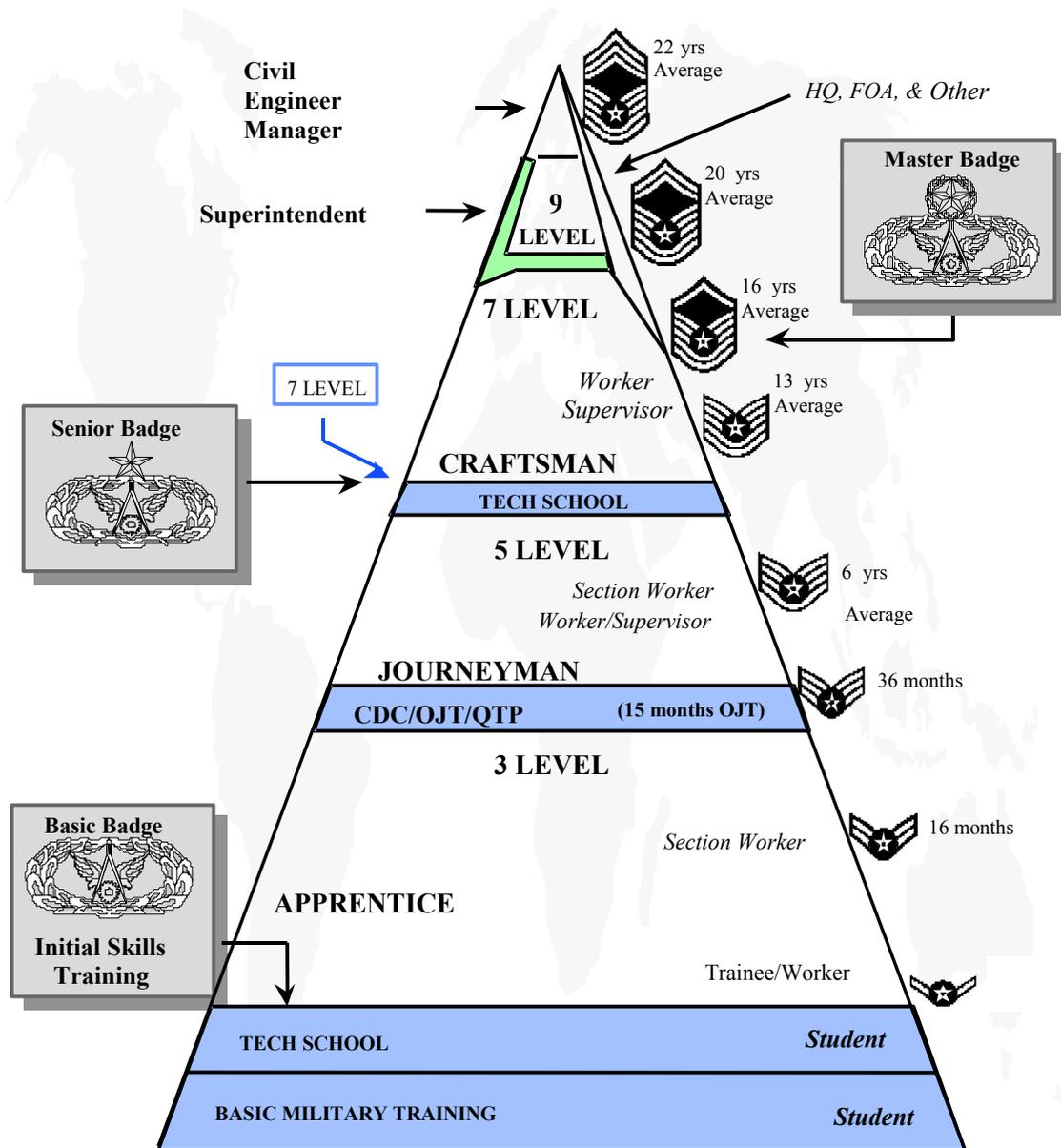
<b>General Education</b>	<b>Semester Hours</b>
Oral Communication.....	3
Speech	
Written Communication.....	3
English Composition	
Mathematics.....	3
An intermediate algebra or a college-level mathematics course that Satisfies the delivering institution's mathematics requirement for Graduation. If an acceptable mathematics course is applied as a technical or program elective, a natural science course may be substituted for mathematics.	
Social Science.....	3
Anthropology, archaeology, economics, geography, government, history, political science, psychology, and sociology	
Humanities.....	3
Fine Arts (criticism, appreciation, historical significance) foreign language, philosophy, and religion.	

**9.1.5. Program Elective** (15 Semester Hours): Courses applicable to the technical education; leadership, management, and military studies (LMMS); or general education requirements. Natural science courses that meeting the general education Requirement (GER) application criteria. Foreign language credit earned at the Defense Language Institute or through the Defense Language Proficiency Test. Six semester hours of CCAF-degree applicable technical credit otherwise not applicable to this program may be applied. See the CCAF General Education Catalog for details regarding the Associates of Applied Science for this specialty.

**9.1.6.** Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an Air Education and Training Command Instructor should actively pursue an Associates Degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

10. Career Field Path. The following chart depicts this specialty's career path.

## Enlisted Career Pyramid



<b>10.1 Enlisted Career Path</b>				
<b>Education and Training Requirements</b>	<b>GRADE REQUIREMENTS</b>			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
<b>Basic Military Training school</b>				
<b>Apprentice Technical School</b> (3-Skill Level)	Amn A1C	6 months 16 months		
<b>Upgrade To Journeyman</b> (5-Skill Level) - Complete all core and duty related tasks identified in CFETP - Minimum 15 months on-the-job training. (9 months for retrainees) - Complete appropriate CDC if/when available.	SrA	3 years	28 months	10 Years
<b>Airman Leadership School (ALS)</b> - Must be a SrA with 48 months time in service or be a SSgt Selectee. - Resident graduation is a prerequisite for SSgt sew-on (Active Duty Only).	<b><u>Trainer</u></b> - Trainer must be qualified and certified on tasks to be trained. - Must attend formal AF Training Course and be appointed by Commander in writing.			
<b>Upgrade To Craftsman</b> (7-Skill Level) - Complete all core and duty related tasks identified in CFETP - Minimum rank of SSgt. - 12 months OJT. - Complete appropriate CDC if/when available. - Attend 7-level Craftsman Course {may attend prior to completion of 12 months UGT However, must complete read ahead material (RAM) prior to attending}	SSgt	6 years	3 years	20 Years
<b>Retrainee:</b> - Minimum 9 months for 5-level - Minimum 12 months for 7-level UGT	<b><u>Certifier</u></b> - SSgt with 5-skill level or civilian equivalent. - Attend formal AF Certifier Course and appointed by Commander in writing. - Be a person other than the trainer (for core and critical tasks only).			
<b>Noncommissioned Officer Academy</b> (NCOA) - Must be a TSgt or TSgt Selectee. - Resident graduation is a prerequisite for MSgt sew-on (Active Duty Only).	TSgt	13 years	5 years	20 Years
	MSgt	16 years	8 years	24 Years
<b>Upgrade To Superintendent</b> (9-Skill Level) - Minimum rank of SMSgt.	SMSgt	20 years	11 years	26 Years
<b>Civil Engineer Manager (CEM)</b> - USAF Senior NCO Academy (SNCOA) resident graduation is a prerequisite for CMSgt sew-on (Active Duty Only)	CMSgt	22 years	14 years	30 Years

**10.2. CE Occupational Badge.** The Civil Engineer badge reflects a great history and tradition. By wearing it, you will be recognized by your fellow airmen as having achieved an expected level of competence. The multitude of engineers before you established this expectation through excellent service in both peace and war. Eligibility criteria for award and wear of AF occupational badges can be found in AFI 36-2923 (Aeronautical, Duty, and Occupational Badges), on the Air Force Electronic Publications Library (AFEPL).

**10.2.1. CE Badge Heraldry.** The gear wheel and compass have historically been used to represent the engineering profession, in both the military and civilian sector. The gear represents the essence of engineering: applying scientific principles and technology to practical ends. To Air Force engineers, the gear symbolizes an element (representing the built environment) that meshes with other environments (weapon systems and trained personnel) to enable the Air Force to perform its mission. The compass is a precision tool historically used by engineers in designing and constructing facilities and equipment. The gear and compass together symbolize all the diverse specialties within Air Force civil engineer. Finally, the wings help to portray the fundamental linkage between the engineering and aviation components; and that the built environment is the foundation supporting Air Force mission and people.

**10.2.2. Basic Badge.** The basic badge is awarded upon successful completion of the apprentice course.

**10.2.3. Senior Badge.** The senior badge adds a star to the top of the badge. Wear the senior badge after award of the 7-skill level.

**10.2.4. Master Badge.** The master badge adds a wreath around the star. It's awarded to master sergeant or above with 5 years in the specialty from award of the 7-skill level.

## SECTION C - SKILL LEVEL TRAINING REQUIREMENTS

**11. Purpose.** The various skill levels in the career field are defined in terms of tasks and knowledge requirements for the AFS career ladder. They are stated in broad, general terms and establish the standards of performance. An all-encompassing core task list has been developed for this specialty because of the diversity of the missions supported and the equipment installed to meet mission requirements. Core tasks (and diamond tasks as applicable), knowledge items, and skill requirements are identified in the STS. Completion of the mandatory 3- skill level awarding course, the mandatory completion of CDCs, the mandatory completion of applicable AFQTPs and CerTests, and the mandatory 7-level Craftsman course, comprise Air Force requirements.

### 12. Skill Level Training Requirements.

#### 12.1. Apprentice (3-Level) Training Requirements.

##### 12.1.1. Specialty Qualifications.

**12.1.1.1. Knowledge.** Completion of the Apprentice course satisfies this mandatory requirement.

**12.1.1.2. Education.** Completion of high school or General Education Development (GED) is mandatory for entry into this AFS. Courses in science, shop mechanics, and use of drawings are desirable.

**12.1.1.3. Training.** Completion of the Pavements and Construction Equipment Operator Apprentice course, J5AQA/J3ABP3E231 000, is mandatory for award of this skill level.

**12.1.1.4. Experience.** N/A

**12.1.1.5. Other.**

**12.1.1.5.1.** Qualification to operate government vehicles according to AFMAN 24-301, Vehicle Operations.

##### 12.1.2. Training Sources/Resources.

**12.1.2.1.** Formal training is accomplished through course J5AQA/J3ABP3E231-000, at Ft Leonard Wood MO.

**12.1.2.2.** The COL (Part II, Section B of this CFETP) identifies all the knowledge and tasks, with their respective standards.

**12.1.2.3.** When available, AFQTPs and applicable CerTests are mandatory for use during UGT/QT on all core tasks, critical tasks, and contingency/war diamond (◆) tasks.

### **12.1.3. Implementation.**

**12.1.3.1.** The 3-skill level is awarded upon graduating the Apprentice course.

## **12.2. Journeyman (5-Level) Training Requirements.**

**12.2.1. Specialty Qualification.** Entry into 5-level upgrade training is initiated after the individual has completed the 3-level school. All 3-Level qualifications apply to 5-Level requirements.

**12.2.1.1. Knowledge.** Knowledge is mandatory of:

**12.2.1.1.1.** Use, operation, and maintenance of construction equipment.

**12.2.1.1.2.** Basic surveying principles, including grade stakes.

**12.2.1.1.3.** Earth leveling, grading, filling, and compaction.

**12.2.1.1.4.** Strength and characteristics of ropes, wires, and cables.

**12.2.1.1.5.** Techniques for lifting and moving heavy objectives by machine and mechanical advantage.

**12.2.1.1.6.** Characteristics of pavement surfacing materials and techniques for installing and repairing asphalt and concrete pavements.

**12.2.1.1.7.** Use, installation, and repair of airfield mats and membranes, and aircraft revetments.

**12.2.1.1.8.** Soil stabilization procedures and techniques.

**12.2.1.1.9.** Soil erosion control.

**12.2.1.1.10.** Environmental concerns and safety precautions required when using and storing hazardous materials.

**12.2.1.2. Education.** N/A

**12.2.1.3. Training.**

**12.2.1.3.1.** Completion of CDCs is mandatory.

**12.2.1.3.2.** Certification of all 5-level core tasks identified with a single asterisk (\*) in the core task column of the STS is mandatory.

**12.2.1.3.3.** Completion of AFQTPs for assigned core tasks and contingency war diamond (◆) tasks are mandatory.

**12.2.1.3.4.** Completion of CerTests for all contingency war diamond (◆) tasks with a minimum of 80% is mandatory.

**12.2.1.3.5.** Certification of duty position requirements identified by the supervisor is mandatory.

**12.2.1.3.6.** Completion of J4AZP3E271-001, Pavements Maintenance, Inspection, and Repair MTT course is strongly encouraged. The J6ANU3E271-000 ADL course must be completed prior to enrollment in this course.

**12.2.1.3.7.** Completion of J6ANU3E271-000, Pavements Maintenance, Inspection, and Repair ADL course is strongly encouraged. This course must be completed prior to enrolling in the J4AZP3E271-001 MTT course.

**12.2.1.3.8.** Completion of Regional Equipment Operator Training Site (REOTS) course is desirable.

**12.2.1.3.9.** Completion of courses/training leading to the award of a Commercial Drivers License (CDL) is strongly encouraged.

#### **12.2.1.4. Experience.**

**12.2.1.4.1.** Qualification in and possession of 3-Skill Level.

**12.2.1.4.2.** Operating tools and equipment to prepare areas for construction and to maintain roads, runways, and grounds.

**12.2.1.4.3.** Mixing and placing concrete and bituminous materials.

**12.2.1.4.4.** Minimum 15 months on-the-job training (9 months for re-trainees) before award of 5-skill level.

**12.2.1.5. Other.** N/A

#### **12.2.2. Training Sources/Resources.**

**12.2.2.1.** CDC 3E251, Pavements and Construction Equipment Operator Journeyman.

**12.2.2.2.** The STS (Part II, Section A of the CFETP) identifies all core tasks required for qualification in the individual's duty position.

**12.2.2.3.** Qualified trainers provide upgrade and qualification training for duty positions, managed programs, and/or equipment to be used.

**12.2.2.4.** Course J4AZP3E271-001, Pavements Maintenance, Inspection, and Repair MTT course.

**12.2.2.5.** Course J6ANU3E271-000, Pavements Maintenance, Inspection, and Repair ADL course.

**12.2.2.6.** Regional Equipment Operator Training Site (REOTS) course.

### **12.2.3. Implementation.**

**12.2.3.1.** Entry into formal Journeyman upgrade training is accomplished after individuals are assigned to their first duty station.

**12.2.3.2.** Qualification training is initiated any time individuals are assigned duties they are not certified to perform.

**12.2.3.3.** AFQTPs are used concurrently to obtain necessary duty position qualifications.

### **12.3. Craftsman (7-Level) Training Requirements.**

**12.3.1. Specialty Qualification.** All 5-Level qualifications apply to 7-Level requirements.

**12.3.1.1. Knowledge.** Knowledge is mandatory of:

**12.3.1.1.1.** Use, operation, and maintenance of construction equipment.

**12.3.1.1.2.** Basic surveying principles, including grade stakes.

**12.3.1.1.3.** Earth leveling, grading, filling, and compaction.

**12.3.1.1.4.** Strength and characteristics and ropes, wires, and cables.

**12.3.1.1.5.** Techniques for lifting and moving heavy objects by machine and mechanical advantages.

**12.3.1.1.6.** Characteristics of pavement surfacing materials and techniques for installing and repairing asphalt and concrete pavements.

**12.3.1.1.7.** Use, installation, and repair of airfield mats and membranes, and aircraft revetments.

**12.3.1.1.8.** Soil stabilization procedures and techniques.

**12.3.1.1.9.** Soil erosion control.

**12.3.1.1.10.** Environmental concerns and safety precautions required when using and storing hazardous materials.

**12.3.1.2. Education.**

**12.3.1.2.1.** To assume the grade of SSgt, individuals must successfully complete Airman Leadership School (active duty only).

**12.3.1.2.2.** To assume the grade of MSgt, individuals must successfully complete the NCO Academy (active duty only).

**12.3.1.2.3.** For ANG/AFRC, completion of Air Force Institute for Advanced Distributive Learning (AFIADL) courses 00001 (ALS) and 00006 D&E (NCO Academy) satisfy the requirements.

### **12.3.1.3. Training.**

**12.3.1.3.1.** Completion of 7-Level read ahead material (RAM) for course J3ACR3E070-000 is mandatory prior to attendance at in-residence course.

**12.3.1.3.2.** Completion of in-residence CE Management Craftsman Course J3ACR3E070-000 is mandatory.

**12.3.1.3.3.** Certification of all 5 and 7-skill level core tasks identified with a single asterisk (\*) and double asterisk (\*\*) in the core column of the STS is mandatory.

**12.3.1.3.4.** Completion of all AFQTPs for assigned core and diamond (◆) tasks is mandatory.

**12.3.1.3.5.** Completion of CerTests for all diamond (◆) tasks with a minimum of 80% is mandatory.

**12.3.1.3.6.** Certification of duty position requirements identified by the supervisor is mandatory.

**12.3.1.3.7.** Completion of J4AZP3E271-001, Pavements Maintenance, Inspection, and Repair MTT course is strongly encouraged. The J6ANU3E271-000 ADL course must be completed prior to enrollment in this course.

**12.3.1.3.8.** Completion of J6ANU3E271-000, Pavements Maintenance, Inspection, and Repair ADL course is strongly encouraged. This course must be completed prior to enrollment in the J4AZP3E271-001 MTT Course.

**12.3.1.3.9.** Completion of Regional Equipment Operator Training Site (REOTS) course is optional. (Mandatory for ARC every 3 years).

### **12.3.1.4. Experience.**

**12.3.1.4.1.** Qualification in and possession of a 5-Level

**12.3.1.4.2.** Performing or supervising functions such as construction equipment operations

**12.3.1.4.3.** Special techniques in using construction equipment to prepare areas for construction and maintaining roads, runways, and airfield surfaces.

**12.3.1.4.4.** Concrete work, soil stabilization, and rigid and flexible pavement construction and maintenance.

**12.3.1.5. Other.** N/A

**12.3.2. Training Sources/Resources.**

**12.3.2.1.** CE Management Craftsman RAM.

**12.3.2.2.** Course J3ACR3E070-000, CE Management Craftsman Course.

**12.3.2.3.** NCO Academy Course 00006 D&E (paper base correspondence).

**12.3.2.4.** CDC 3E251, Pavements and Construction Equipment Operator Journeyman.

**12.3.2.5.** Course J4AZP3E271-001, Pavements Maintenance, Inspection, and Repair MTT course.

**12.3.2.6.** Course J6ANU3E271-000, Pavements Maintenance, Inspection, and Repair ADL course.

**12.3.2.7.** Regional Equipment Operator Training Site (REOTS) course.

**12.3.2.8.** The STS (Part II, Section A of this CFETP) identifies all core tasks required for qualification in the individual's duty position.

**12.3.2.9.** Qualified trainers provide upgrade and qualification training for duty positions, managed programs, and/or equipment to be used.

**12.3.3. Implementation.**

**12.3.3.1.** Entry into 7-level training is initiated when an individual is selected for SSGT and has fulfilled all 5-level requirements.

**12.3.3.2.** Qualification training is initiated any time an individual is assigned duties that they are not certified to perform.

**12.3.3.3.** AFQTPs are used concurrently to obtain necessary duty position qualifications.

**12.4. Superintendent (9-Level) Training Requirements.**

**12.4.1. Specialty Qualification.**

**12.4.1.1. Knowledge.** Knowledge is mandatory of:

**12.4.1.1.1.** Air Force training programs.

**12.4.1.1.2.** CE policies, practices, and procedures of base maintenance and operations, crafts, facilities, equipment, and systems.

**12.4.1.1.3.** Interpretations and applications of maintenance and work force management.

**12.4.1.1.4.** General construction, maintenance, and repair of pavements, grounds drainage facilities, surface mats and membranes, and aircraft revetments.

**12.4.1.1.5.** General construction, maintenance, and repair of pavements, grounds drainage facilities, surface mats and membranes, and aircraft revetment.

**12.4.1.1.6.** Standard soil test procedures.

**12.4.1.1.7.** Construction administration procedures.

**10.4.1.1.8.** Landscaping procedures.

**12.4.1.2. Education.**

**12.4.1.2.1.** ANG/AFRC must complete AFIADL course 00005 (computer base CD-ROM) or in-residence SNCOA course prior to award of the 9-skill level.

**12.4.1.3. Training.** Completion of duty position training requirements.

**12.4.1.4. Experience.**

**12.4.1.5.** Qualification in and possession of 7-skill level is mandatory.

**12.4.1.6.** Directing functions such as snow and ice removal, construction equipment operations, and pavements and grounds maintenance.

**12.4.1.7. Other.**

**12.4.2. Training Sources/Resources.**

**12.4.2.1.** In-residence SNCO Academy located at Maxwell AFB - Gunter Annex AL.

**12.4.2.2.** SNCO Academy Course 00005 (exportable computer based CD-ROM).

**12.4.3. Implementation.**

**12.4.3.1.** Entry into 9-level training is initiated when an individual is selected for SMSgt and is a fully qualified 7-Level.

**12.4.3.2.** QT is initiated any time an individual is assigned duties they are not qualified to perform.

**12.5. Civil Engineer Manager.**

**12.5.1. Specialty Qualification.**

**12.5.1.1. Knowledge.** Knowledge is mandatory of:

**12.5.1.1.1.** Managing and directing personnel resource activities.

**12.5.1.1.2.** Interpreting and enforcing policy and applicable directives.

**12.5.1.1.3.** Establishing control procedures to meet work goals and standards.

**12.5.1.1.4.** Recommending or initiating actions to improve operational efficiency.

**12.5.1.1.5.** Planning and programming work commitments and schedules.

**12.5.1.1.6.** Developing plans regarding facilities, supplies, and equipment procurement and maintenance.

**12.5.1.2. Education.** Must be a resident graduate of SNCOA (active duty only).

**12.5.1.3. Training.** N/A

**12.5.1.4. Experience.**

**12.5.1.4.1.** Possess qualifications in feeder specialty (3E391) prior to award of Civil Engineer Manager code 3E000.

**12.5.1.4.2.** Managerial ability to plan, direct, coordinate, implement, and control a wide range of work activity.

**12.5.1.5. Other.** N/A

**12.5.2. Training Sources and Resources.** N/A

**12.5.3. Implementation.** Entry into Civil Engineer Manager code 3E000 is initiated when an individual is selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E191, 3E291, 3E391, 3E490, 3E591, and 3E691).

## SECTION D - RESOURCE CONSTRAINTS

**13. Purpose.** The following paragraphs describe the resource constraints that result from publication of this CFETP. All constraints are referenced to specific STS line items that are shown as slashed (/) on the STS.

**13.1. Equipment Constraints:**

**13.1.1.** STS item 15.8.3 Berming – 3 Crawler Tractors (dozers) with attachments.

**13.2. Time/Manpower/Student Manyears Constraints: N/A**

**13.3. Facilities Constraints: N/A**

**13.4. Exportable Training: N/A**

**13.5. Proficiency Training: N/A**

**14. Apprentice (3-Level) Training.**

**14.1. Constraint.** The constrained course (slashes in column 4A1) cannot be implemented until equipment is received.

**14.1.1. Impact.** Required training will not be ready for implementation upon publication of this CFETP.

**14.1.2. Resources Required.** Resource constraints are identified in paragraph 11. The constrained course will not be implemented until required resources are received.

**14.1.3. Action Required.** Complete revision of the 3-level course to meet all training requirements and proficiency codes identified in this CFETP.

**14.2. OPR/Target Completion Date.** 366 TRS (or Det) will implement revised training with class beginning 5 August 2002.

**15. Journeyman (5-Level) Training.** AFQTP development for all core tasks.

**15.1. Constraints.** No constraints.

**15.1.1. Impact.** Required AFQTPs will be ready for UGT or QT upon publication of this CFETP.

**15.1.2. Resources Required.** None.

**15.1.3. Action Required.** None.

**15.2. OPR/Target Completion Date.** HQ AFCESA/CEOF completed required AFQTPs May 2000

**16. Craftsman (7-Level) Training. AFQTPs.**

**16.1. Constraints.** None.

**16.1.1. Impact.** Required AFQTPs will be ready for UGT or QT upon publication of this CFETP.

**16.1.2. Resources Required.** None.

**16.1.3. Action Required.** None.

**16.2. OPR/Target Completion Date.** HQ AFCESA/CEOF completed required AFQTPs May 2000

**17. Superintendent (9-Level) Training. No Constraints.**

## **SECTION E - TRANSITIONAL TRAINING GUIDE**

**18. “There is currently no transition training requirements. This area is reserved.”**

## PART II

### SECTION A - SPECIALTY TRAINING STANDARD

**1. Implementation.** This STS will be used to identify technical training provided by AETC for the 3-level Pavement Maintenance and Construction Equipment Operator Apprentice course with class beginning 5 Aug 02 and graduating 13 Nov 02. Also, the 7-level Civil Engineer Management Craftsman course with class beginning 23 Jul 01 and graduating 3 Aug 01.

**2. Purpose.** As prescribed in AFI 36-2201, this STS:

**2.1.** Lists in Column 1 (*Tasks, Knowledge, and Technical Reference*) the most common tasks, knowledge, and Technical References (TR) necessary for airmen to perform duties in the 3-, 5-, and 7-skill level.

**2.2.** Column 2 (*Core Tasks*) identifies core tasks (specialty-wide training requirements) by an asterisk (\*) for 5-skill level or a double asterisk (\*\*) for 7-skill level. **As a minimum, trainees must complete hands-on certification on all core and critical tasks for skill-level upgrade.**

**2.2.1.** Tasks identified by a diamond (◆) in column 2 are considered contingency tasks for both the 5- and 7-skill level and are extremely important to the career field. Equipment shortfalls at most locations however, have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training.

**2.3.** Provides **certification for OJT**. Columns 3A, B, C, D, and E are used to record completion of tasks and knowledge training requirements. If available, and approved by the CE CFM, use automated training management systems to document technician qualifications. **Task certification of core and critical tasks** require a training completion date and initials of the trainee, trainer, and certifier. All non-core tasks require training completion date and initials of the trainee and trainer only.

**2.4.** Shows **formal training and correspondence course** requirements. Columns 4A, B, and C show the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the initial skills training course, correspondence course, and read-ahead material. See CADRE/AFSC/CDC listing maintained by the unit education and training manager for current CDC listings.

**2.5.** Identifies **qualitative requirements**. Attachment 1 contains the *Proficiency Code Key* used to indicate the level of training and knowledge provided by resident training and career development courses.

**2.6.** Becomes a **job qualification standard (JQS)** for on-the-job training when placed in AF Form 623, Individual Training Record, and used according to AFI 36-2201. When used as a JQS, the following requirements apply:

**2.6.1. Documentation.** Document and certify completion of training.

**2.6.1.1.** Identify **current duty position requirements** by circling the subparagraph number or letter next to the task statement. Additionally, all core and diamond (◆) identified tasks should be circled. Document task completion by annotating columns 3A, 3B, 3C, and 3D. *Note:* All entries shall be made in pencil.

**2.6.1.2.** Enter the start date of the AFQTP on the documentation record. Once completed enter the completion date. When **hands-on** training is started and completed annotate the STS accordingly.

**2.6.1.3. Transcribing from old document to CFETP.** Use the new STS to identify and certify all current and past task qualifications.

**2.6.1.3.1. For tasks previously certified and still required in the current duty position:**

**2.6.1.3.1.1.** For **core and critical tasks** the trainer and certifier evaluate airman's current qualifications and validates airman's ability to complete the task. The certifier and trainee then enter their initials and new certified date.

**2.6.1.3.1.2. For non-core duty position tasks,** the trainer evaluates the airman's current qualifications and validates the airman's ability to complete the task. The trainer and trainee then enter their initials in columns 3D and 3C respectively and the current date is entered in column 3B.

**2.6.1.3.2. To transcribe previous certification for tasks not required in the current duty position,** carry forward only the previous completion dates (not the initials of another person). If and when these tasks become a duty position requirement, recertify with current date and certifier, trainer, and trainee's initials.

**2.6.1.4. Documenting Career Knowledge.** When a CDC is not available, the supervisor identifies STS training references that the trainee requires for career knowledge and ensures, as a minimum, that trainees cover all mandatory items specified in AFMAN 36-2108, Utilization and Classification of Air Force Military Personnel. For two-time CDC exam failures, supervisors identify all STS items corresponding to the areas covered by the CDC. The trainee completes a study of STS references, undergoes evaluation by the task certifier, and receives certification on the STS. *NOTE:* Career knowledge must be documented prior to submitting a CDC waiver.

**2.6.1.5. Decertification and Desertification.** When an airman is found to be unqualified on a task, the supervisor shall erase previous certification and enter airman into qualification training. Appropriate remarks are entered on the AF Form 623a, On-The-Job Training Record Continuation Sheet, as to the reason for desertification. The individual is resertified using the normal certification process.

**2.6.2. Training Standard.** Tasks are trained and certified to the “go” level. “Go” means the individual can perform the task without assistance and meets the local requirements for accuracy, timeliness, and correct use of procedures. This equates to a “3c” in the proficiency code key. AFQTPs, when available, shall be used to identify Air Force standardized procedures. Local requirements for accuracy, timeliness and use of procedures shall be applied accordingly.

**2.7. The STS** is a guide for **development of promotion tests** used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKTs) are developed at the USAF Occupational Measurement Squadron by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS catalog. Individual responsibilities are in chapter 14 of AFI 36-2606, United States Air Force Reenlistment, Retention, and NCO Status Programs. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

**3. Recommendations.** Comments and recommendations are invited concerning the quality of training AETC graduates receive. Reference this STS regarding changes and address your correspondence to 782 TRG/TTS, 620 9<sup>th</sup> Avenue, Suit 3, Sheppard AFB TX 76311-2268 or E-mail 782d [csil@sheppard.af.mil](mailto:csil@sheppard.af.mil). A 782 customer service information line (CSIL) has been installed for the supervisor's convenience to identify graduates who may have received over or under training on tasks/knowledge items listed in this STS. For a quick response to problems, call the CSIL at DSN: 736-2574 any time (day or night).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

EARNEST O. ROBBINS II, Maj Gen, USAF  
The Civil Engineer  
DCS/Installations and Logistics

3 Attachments

1. Qualitative Requirements
2. 3-, 5-, and 7-level career field training requirements
3. General Contingency
4. AFQTP Documentation record

*THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY*

**NAME OF TRAINEE**

PRINTED NAME *(Last, First, Middle Initial)*

INITIALS *(Written)*

SSN

**PRINTED NAME OF CERTIFYING OFFICIAL AND WRITTEN INITIALS**

N/I	N/I

**QUALITATIVE REQUIREMENTS**

**PROFICIENCY CODE KEY**

	SCALE VALUE	DEFINITION: The individual
<b>TASK PERFORMANCE LEVELS</b>	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
<b>*TASK KNOWLEDGE LEVELS</b>	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (ADVANCED THEORY)
<b>**SUBJECT KNOWLEDGE LEVELS</b>	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

**EXPLANATIONS**

- \* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)
- \*\* A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.
- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.
- X This mark is used alone in course columns to show that training is required but not given due to limitations in resources.



**Note 1:** Underlined training references are commercial publications or other publications essential for enlisted specialty training and mission accomplishment.  
**Note 2:** Task knowledge gained at Basic Military Training (BMT) will not be repeated during resident training.  
**Note 3:** Prior to attending Civil Engineer Management Craftsman resident course, all personnel must successfully complete the 7-level Read-ahead Material (RAM) for J3ACR3E070 000. Personnel must present RAM test results upon arrival.  
**Note 4:** QTPs may be provided through multiple delivery systems (paper-based, CD-ROM, or video). Completion is required for upgrade or qualification. Access AFCESA's homepage (www.afcesa.af.mil) for most current AFQTPs.  
**Note 5:** Annotate AFQTP completion on the AFQTP Documentation Record (Attachment 4). The AFQTP Documentation Record is used to track knowledge training only. Annotate the STS only when hands-on training is started and completed.  
**Note 6:** In addition to completing the AFQTP Documentation Record, for ease of reference, you may place an "X" in column "4B(2)-QTP" to denote QTP Completion.

1. Task Knowledge And Technical References	2. Core Task	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided						
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course	
<b>1. CE ORGANIZATION AND CAREER FIELD STRUCTURE TR: AFDD 2-4.2; AFIs 10-209, 10-210, 10-211, 32-1022, 36-2101, 38-101, 51 903; AFMAN 36-2108; AF PAM 32-2004 v 1-6 &amp; 32-1005</b>													
1.1. Base Civil Engineer (BCE) structure						A		B					
1.2. Progression in career ladder						A		B					
1.3. Duties and responsibilities													
1.3.1. Peacetime						A							
1.3.2. Contingency						A							
1.4. Functions of:													
1.4.1. BCE						A		B			B		
1.4.2. Prime BEEF						A		B			B		
1.4.3. RED HORSE						A		B			B		
1.4.4. HQ ANG/AFRC						A		B			B		
1.5. Resources													
1.5.1. Assess manpower requirements											b	3c	
1.5.2. Identify budget requirements											b	3c	
1.5.3. Determine equipment requirements											b	3c	
1.5.4. Use Allowance Standards (AS)											b	3c	
1.5.5. Research, Development, and Acquisition (RD&A) TR: DoDD 5000.1													
1.5.5.1. Process													B
1.5.5.2. Unit responsibilities													B
1.5.5.3. Major command responsibilities													B
1.5.6. Assess vehicle requirements											b	1b	
1.5.7. Requesting contract services											b	2c	
1.5.8. Requesting Simplified Acquisition of Base Engineering Requirements (SABER) contract											B	C	
<b>2. SPECIFIC OPSEC VULNERABILITIES TR: AFI 10-1101</b>						A							



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		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
6.3. Environmental Impact Analysis Process (EIAP)						A		B			B	
6.4. Emergency Planning and Community Right to Know Act (EPCRA)						A		B			B	
<b>7. CE MANAGEMENT TR: AFI 32-1031, 32-1022; AFPAM 32-1004 v.1-6; 32-1005; 32-1098; AFMAN 23-110</b>												
7.1. Customer relationships						A		B			B	
7.2. Work identification and authorization								A			B	
7.3. Plan work requirements								a			b	2b
7.4. Plan logistics support (CEMAS, BOM)								a			b	2b
7.5. IMPAC Program											A	B
7.6. Maintain recurring work program								a			b	2b
7.7. Scheduling/time accounting								a			b	2b
7.8. Warranty and Guarantee Program								A			B	
7.9. Property Accountability								B				B
7.10. Base Comprehensive Plan											A	
7.11. Legal limits								A				
7.12. Mark "As Built " Drawings											b	2b
7.13. Reimbursements procedures								A			B	
7.14. CE Specific Automated Systems (Computer) Capability												
7.14.1. Perform inputs								a			b	1a
7.14.2. Maintain files								a			b	1a
7.14.3. Develop automated reports								a			b	1a
7.14.4. Extract automated reports								a			b	1a
7.14.5. Perform automated data analysis								a			b	1a
7.15. Host Tenant and Interservice Agreements											A	
7.16. Civil Engineer Civilian Management											B	C
<b>8. COMMUNICATIONS TR: AFI 33-106; AFJMAN 24-306</b>												
8.1. Use radios						b						
8.2. Use hand signals						b						
8.3. Identify airdrome signals						b						
<b>9. AF OCCUPATIONAL SAFETY AND HEALTH (AFOSH) PROGRAM TR: AFPDs 91-2, 91-3; AFI 91-302</b>												
9.1. Supervisory responsibilities								B				
9.2. Hazardous materials waste handling						A		B				
9.3. Lead-based paint (LBP) hazard TR: 29 CFR 1926.62; Working With Lead- based Paint: Facts and Information Applicable to Air Force Facilities						B						
9.4. Fire extinguisher training						A						

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		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
<b>10. PUBLICATIONS TR: AFI 37-360 Vol 1 &amp; 2; AFPAMs 32-1004 v1-6; 32-1005</b>												
10.1. Military						A		B				
10.2. Commercial						A		B				
10.3 Engineering Technical Letters (ETL)						A		B				
<b>11. AFS SPECIFIC SAFETY TR: AFPDs 91-2, 91-3; AFI 91-302, AFIND 17</b>												
11.1. Use protective equipment such as:												
11.1.1. Eye protectors						3c		B				
11.1.2. Ear protectors						3c		B				
11.1.3. Safety helmets						3c		B				
11.1.4. Respirators						B		B				
11.1.5. Gloves						3c		B				
11.1.6. Safety shoes						3c		B				
11.1.7. Seat belts						3c		B				
11.2. Cardiopulmonary resuscitation (CPR)												
11.3. "Employ" safety principles when:												
11.3.1. Getting on/off equipment						3c		B				
11.3.2. Starting/stopping engines						3c		B				
11.3.3. Placing equipment in motion						3c		B				
11.3.4. Operating in hazardous conditions						B		B				
11.3.5. Servicing equipment						2b		B				
11.3.6. Loading equipment						a		B				
11.3.7. Unloading equipment						a		B				
11.3.8. Hauling equipment						a		B				
11.3.9. Adjusting equipment						2b		B				
11.3.10. Loading material						2b		B				
11.3.11. Unloading material						2b		B				
11.3.12. Hauling material						2b		B				
11.4. Electrical hazards and precautions						B		B				
11.5. Initial Federal Hazard Communication Training Program (FHCTP) TR: DoD 6050.5-G-1; OSHA 29CFR1910.1200; AFI 91-302						A						
<b>12. AFS SPECIFIC PUBLICATIONS TR: TO's 0-1-1, 0-1-20, 00-201, 00-5-2, 00-20-7</b>												
12.1. Locate technical order numbers and titles in Index type technical orders/commercial manuals								b				
12.2. Use technical orders/commercial manuals to:												
12.2.1. Perform Operation Checks						2b		B				
12.2.2. Perform Maintenance						2b		B				
12.2.3. Locate part numbers in illustrated parts breakdown						2b		B				
<b>13. PROJECT PLANNING TR: AFM 67-1 Vol 2; FM 5-233</b>												
13.1. Construction Stake Markings						A		B				
13.2. Equipment Requirements						A		B				

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		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
13.3. Material Requirements						A		B				
13.4. Drawings						A		B				
13.5. Levels						A		B				
13.6. Engineers Level								B				
<b>14. POWERED EQUIPMENT TR: T.O.s 34Y and 36C Series</b>												
14.1. Perform Operational Checks						2b		B				
14.2. Perform Operator Maintenance						2b		B				
14.3. Use Powered Equipment												
14.3.1. Vibrator Tamper						2b		B				
14.3.2. Vertical Router						2b		B				
14.3.3. Crack Saw						2b		B				
14.3.4. Concrete Saw						2b		B				
14.3.5. Portable Concrete Mixer						2b		B				
14.3.6. Air Compressor						2b		B				
14.3.7. Hot/cold Joint Sealing Machines						a		B				
14.3.8. Chain Saw						2b		B				
14.3.9. K-saws						2b		B				
14.3.10. Saw Blades												
14.3.10.1. Asphalt						2b		B				
14.3.10.2. Wet/dry						2b		B				
14.4. Use Air Compressor Accessories TR: T.O. 34Y Series												
14.4.1. Pneumatic Drill						2b		B				
14.4.2. Pneumatic Hammer with attachments:						2b		B				
14.4.3. Pneumatic Tamper						2b		B				
<b>15. MATERIAL HANDLING EQUIPMENT TR: AFMAN 24-306; T.O.s 36A2, 36A9-2, 36- A12, 36C9, 36C12, 36C15, 36C26, 36Y9 Series</b>												
15.1. Dump Trucks												
15.1.1. Perform Operational Checks	*					2b		B				
15.1.2 Perform Operators Maintenance	*					2b		B				
15.1.3. Operate												
15.1.3.1. Haul Material	*					2b		B				
15.1.3.2. Dump Material	*					2b		B				
15.1.3.3. Spread Material such as:												
15.1.3.3.1. Gravel	*					2b		B				
15.1.3.4. Tow Equipment						2b		B				
15.1.4. Tailgate												
15.1.4.1. Removal	*					b		B				
15.1.4.2. Installation	*					b		B				
15.2. Wheel Mounted Front-end Loaders												
15.2.1. Perform Operational Checks	*					2b		B				
15.2.2. Perform Operators Maintenance	*					2b		B				
15.2.3. Loader Operations:												
15.2.3.1. Load Gravel into dump truck	*					2b		B				
15.2.3.2. Level Area						2b		B				
15.2.3.3. Spread Materials						2b		B				

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		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
15.2.3.4. Stockpile Materials						2b		B				
15.2.3.5. Backfill						2b		B				
15.2.3.6. Clamshell Bucket						2b		B				
15.2.4. Forklift Attachment Operations:												
15.2.4.1. Load/Unload Material	*					2b		B				
15.2.4.2. Transport Material	*					2b		B				
15.2.5. Move Material Using:												
15.2.5.1. Boom								A				
15.2.5.2. Blade								A				
15.2.6. Change Attachments on front-end loaders						2b		B				
15.3. Skid Steer Loader												
15.3.1. Perform Operational Checks	**					2b		B				
15.3.2. Perform Operators Maintenance	**					2b		B				
15.3.3. Operate Using Attachments such as:												
15.3.3.1. Impactor						1a		B				
15.3.3.2. Bucket						2b		B				
15.3.3.3. Forklift						2b		B				
15.3.3.4. Earth auger						2b		B				
15.3.3.5. Backhoe								B				
15.3.3.6. Sweeper						2b		B				
15.3.4. Perform Functions such as:												
15.3.4.1. Excavating						2b		B				
15.3.4.2. Backfill						2b		B				
15.3.4.3. Leveling						2b		B				
15.3.4.4. Load Materials						2b		B				
15.3.5. Change Attachments on Skid Steer Loader						2b		B				
15.4. Tractor-Trailer Combinations												
15.4.1. Perform Operational Checks	**					a		B				
15.4.2. Perform Operators Maintenance	**					a		B				
15.4.3. Operate												
15.4.3.1. Couple/Uncouple Trailer	**					a		B				
15.4.3.2. Load/Unload Construction Equipment	**					a		B				
15.4.3.2.1. Utilize Cribbing						a		B				
15.4.3.3. Load/Unload Construction Materials	**					a		B				
15.4.3.4. Secure Equipment/Materials Using:												
15.4.3.4.1. Chains and Binders	**					1a		B				
15.4.3.4.2. Cargo Straps	**					1a		B				
15.4.3.5. Backing	**					a		B				
15.4.3.6. Over the Road	**					a		B				
15.5. Asphalt Pavers												
15.5.1. Perform Operational Checks	**					b		B				
15.5.2. Perform Operators Maintenance	**					b		B				
15.5.3. Operate Self Propelled Paver						b		B				
15.6. Graders												
15.6.1. Perform Operational Checks						2b		B				
15.6.2. Perform Operators Maintenance						2b		B				

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
<b>15.6.3. Perform Grader Operations such as:</b>												
15.6.3.1. Ditching						2b		B				
15.6.3.2. Sloping Banks								B				
15.6.3.3. Spreading Materials in Articulated Mode								B				
15.6.3.4. Leveling Materials	**					2b		B				
15.6.3.5. Maintaining Unpaved Surfaces	**					2b		B				
15.6.3.6. Finish Grading						b		B				
15.6.3.7. Scarifying Materials						b		B				
15.6.3.8. Mixing Materials						A		B				
<b>15.7. Industrial Tractors</b>												
15.7.1. Perform Operational Checks						b		B				
15.7.2. Perform Operators Maintenance						b						
<b>15.7.3. Operate with Attachments such as:</b>												
15.7.3.1. Dragbox						b		B				
15.7.4. Tow Equipment						A		B				
<b>15.8. Crawler Tractor</b>												
15.8.1. Perform Operational Checks	**					2b		B				
15.8.2. Perform Operators Maintenance	**					2b		B				
<b>15.8.3. Perform Crawler Tractor Operations such as:</b>												
15.8.3.1. Stockpiling	**					2b		B				
15.8.3.2. Leveling	**					2b		B				
15.8.3.3. Berming						2b/b		B				
15.8.3.4. Ditching						2b		B				
15.8.3.5. Ripping								B				
15.8.3.6. Winching								B				
15.8.3.7. Clearing						b		B				
15.8.3.8. Bank Sloping								B				
15.8.3.9. Tow Equipment						A		B				
<b>15.9. Curbing Machine</b>												
15.9.1. Perform Operational Checks								B				
15.9.2. Perform Operators Maintenance								B				
15.9.3. Operate								B				
<b>16. MOTORIZED SCRAPERS TR: T.O.s 36C22-2 and 36C22-3 Series</b>								A				
<b>17. COMPACTION EQUIPMENT TR: T.O. 36C20 Series</b>												
17.1. Perform Operational Checks	*					2b		B				
17.2. Perform Operators Maintenance	*					2b		B				
<b>17.3. Compact Earthen Materials Using:</b>												
17.3.1. Steel Wheel Roller						b		B				
17.3.2. Pneumatic Tired Roller						b		B				
17.3.3. Sheepsfoot Roller						b		B				
17.3.4. Steel Wheel Vibratory Roller	*					2b		B				
<b>18. LIQUID MATERIAL DISTRIBUTORS TR: T.O.s 36C5 and 36C20 Series</b>												

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		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
<b>18.1. Bituminous Distributor</b>												
18.1.1. Perform Operational Checks								B				
18.1.2. Perform Operators Maintenance								B				
18.1.3. Perform Operations such as:												
18.1.3.1. Heating								B				
18.1.3.2. Application								B				
<b>18.2. Water Distributor</b>												
18.2.1. Perform Operational Checks						1a		B				
18.2.2. Perform Operators Maintenance						1a		B				
18.2.3. Perform Operations such as:												
18.2.3.1. Gravity feed						1a		B				
18.2.3.2. Pressure spray						1a		B				
18.2.3.3. Fill from hydrant						A		B				
18.2.3.4. Fill from stand						1a		B				
18.2.3.5. Suction fill						A		B				
<b>19. SWEEPERS TR: T.O. 36C25 Series</b>												
<b>19.1. Towed Sweepers</b>												
19.1.1. Perform Operational Checks								B				
19.1.2. Perform Operator Maintenance								B				
19.1.3. Operate								B				
<b>19.2. Front-Mounted Sweepers</b>												
19.2.1. Perform Operational Checks						A		B				
19.2.2. Perform Operator Maintenance						A		B				
19.2.3. Operate						A		B				
<b>19.3. Multi-purpose Sweepers</b>												
19.3.1. Perform Operational Checks	*					2b		B				
19.3.2. Perform Operator Maintenance	*					2b		B				
19.3.3. Operate on:												
19.3.3.1. Airfield						2b		B				
19.3.3.2. Street						2b		B				
19.3.4. Change Brooms	*					2b		B				
19.3.5. Change Wearing Surfaces	*					2b		B				
19.3.6. Make Adjustments to:												
19.3.6.1. Hood	*					2b		B				
19.3.6.2. Broom	*					2b		B				
19.3.7. Perform Cleaning Operations						2b		B				
<b>20. CRANES TR: T.O.s 36C3, 36C23, 36Y2, 36Y8 Series</b>												
<b>20.1. General</b>												
20.1.1. Perform Operational Checks						A		B				
20.1.2. Perform Operators Maintenance						A		B				
20.1.3. Operate Crane Carrier						A		B				
20.1.4. Interpret Load Charts						A		B				
20.1.5. Setup and Maneuver						A		B				
<b>20.2. Hydraulic Telescopic Cranes</b>												
20.2.1. Perform Operational Checks						A		B				
20.2.2. Perform Operators Maintenance						A		B				
20.2.3. Operate with:												
20.2.3.1. Hookblock						A		B				

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		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
20.2.3.2. Working Platform						A		B				
20.2.3.3. Clamshell						A		B				
20.2.4. Install and Remove Cables						A		B				
20.2.5. Change Attachments												
20.2.5.1. Taglines						A		B				
20.2.5.2. Dielectric Boom Shield						A		B				
<b>21. RIGGING AND LIFTING TR: TM 5-725</b>												
21.1. Identify the handling characteristics and inspection requirements of:												
21.1.1. Chains						A		B				
21.1.2. Wire Rope						A		B				
21.1.3. Nylon Slings						A		B				
21.2. Rig Loads to be Lifted Using:												
21.2.1. Chains						a		b				
21.2.2. Wire Rope						a		b				
21.2.3. Nylon Slings						a		b				
21.2.4. Spreader Bars						a		b				
21.3. Move and Place Equipment Using:												
21.3.1. Skids								B				
21.3.2. Rollers								B				
21.3.3. Hydraulic/Screw/Ratchet Jacks								B				
21.3.4. Deadman Devices								B				
21.4. Fabricate Wire Rope Slings								b				
<b>22. EXCAVATING/TRENCHING MACHINES TR: 36C6, 36C12, 36C37 Series</b>												
22.1. Backhoe												
22.1.1. Perform Operational Checks	*					2b		B				
22.1.2. Perform Operator Maintenance	*					2b		B				
22.1.3. Perform Backhoe Operations such as:												
22.1.3.1. Excavate with front bucket						2b		B				
22.1.3.2. Excavate with rear bucket	*					2b		B				
22.1.3.3. Load with front bucket						1b		B				
22.1.3.4. Load with rear bucket	*					2b		B				
22.1.3.5. Backfill with front bucket						2b		B				
22.1.3.6. Backfill with rear bucket						2b		B				
22.2. Hydraulic Excavator												
22.2.1. Perform Operational Checks						2b		B				
22.2.2. Perform Operator Maintenance						2b		B				
22.2.3. Perform Excavator operations such as:												
22.2.3.1. Excavate with Bucket						2b		B				
22.2.3.2. Load with Bucket						2b		B				
22.2.3.3. Backfill with Bucket/Dozer Blade						2b		B				
22.2.3.4. Compact Materials						2b		B				
22.2.3.5. Break Materials with Impactor						2b		B				
22.2.3.6. Lift / Position Loads						2b		B				

1. <b>Task Knowledge And Technical References</b>	2. Core Task	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
22.2.4. Change Excavator Attachments such as:												
22.2.4.1. Bucket						b		B				
22.2.4.2. Impactor						b		B				
22.2.4.3. Compactor						b		B				
22.3. Trenching Machines												
22.3.1. Perform Operational Checks						b		b				
22.3.2. Perform Operator Maintenance						b		B				
22.3.3. Perform Operations such as:												
22.3.3.1. Trenching						b		B				
22.3.3.2. Backfilling						b		B				
22.4. Shoring Applications						A		B				
<b>23. SNOW AND ICE CONTROL TR: AFI 32-1002; T.O.s 36C5-3 36C18, and 36C25-2 Series</b>												
23.1. Snow Blowers												
23.1.1. Perform Operational Checks						b		B				
23.1.2. Perform Operator Maintenance						b		B				
23.1.3. Operate						b		B				
23.2. Snow Plows												
23.2.1. Perform Operational Checks						b		B				
23.2.2. Perform Operator Maintenance						b		B				
23.2.3. Operate						b		B				
23.3. Snow Sweepers												
23.3.1 Perform Operational Checks						b		B				
23.3.2. Perform Operator Maintenance						b		B				
23.3.3. Operate						b		B				
23.4. Multi-purpose Snow Removal Unit												
23.4.1. Perform Operational Checks						b		B				
23.4.2. Perform Operator Maintenance						b		B				
23.4.3. Operate						b		B				
23.4.4. Change Attachments						b		B				
23.5. Remove Snow Using:												
23.5.1. Snow Blowers						A		B				
23.5.2. Snow Plows						A		B				
23.5.3. Snow Sweepers						A		B				
23.5.4. Multi-Purpose Snow Removal Unit						A		B				
23.6 Perform Ice Control Operations using:												
23.6.1. Mechanical equipment						b		B				
23.6.2. Chemicals						b		B				
23.6.3. Abrasives						b		B				
23.7. Environmental Concerns												
23.7.1. Chemicals						A		B				
23.7.2. Abrasives						A		B				
23.8. Snow and Ice Control Plan						B		B				
23.9. Runway Ice Detection System (RIDS)								B				

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
<b>24. PAVED SURFACES TR: AFJMAN 32-1040; AFMs 88-6, 88-7, 88-19, 88-24; Design and Control of Concrete Mixtures; Concrete Technology; The Asphalt Handbook</b>												
24.1. Construct Pavement Surface												
24.1.1. Interpret Construction Drawings	*					A		B				
24.1.2. Layout the area using:												
24.1.2.1. Levels												
24.1.2.1.1. Line Level						2b		B				
24.1.2.1.2. Laser Level						A		B				
24.1.2.1.3. Carpenter Hand Level						2b		B				
24.1.2.1.4. Engineer Level						2b		B				
24.1.2.2. Prepare Area as Indicated by Construction Stakes						2b		B				
24.1.3. Compute Material Requirements												
24.1.3.1. Fill						2b		B				
24.1.3.2. Asphalt						2b		B				
24.1.3.3. Concrete						2b		B				
24.1.3.4. Base Course						2b		B				
24.1.4. Clear the area						2b		B				
24.1.5. Prepare Subgrade												
24.1.5.1. Stabilize using:												
24.1.5.1.1. Mechanical means	**					2b		B				
24.1.5.1.2. Chemicals	**					2b		B				
24.1.5.2. Compact	*					2b		B				
24.1.6. Prepare Base Course												
24.1.6.1. Place materials	*					2b		B				
24.1.6.2. Compact materials	*					2b		B				
24.1.7. Install Moisture Barriers						A		B				
<b>24.2. Rigid Pavement</b>												
24.2.1. Construct Concrete Slab												
24.2.1.1. Install Forms												
24.2.1.1.1. Wood	*					2b		B				
24.2.1.1.2. Metal	*					2b		B				
24.2.1.2. Install Reinforcing Materials												
24.2.1.2.1. Wire Mesh	*					2b		B				
24.2.1.2.2. Rebar						2b		B				
24.2.1.3. Install load transfer devices												
24.2.1.3.1. Keyways						A		B				
24.2.1.3.2. Dowels						A		B				
24.2.1.4. Perform Slump Test						2b		B				
24.2.1.4.1. Prepare Cylinders for Testing						A		B				
24.2.1.5. Place Concrete	*					2b		B				
24.2.1.6. Fabricate Joints	*					2b		B				
24.2.1.7. Finish Concrete												
24.2.1.7.1. Smooth						2b		B				
24.2.1.7.2. Non-Skid	*					2b		B				
24.2.1.8. Cure Concrete	*					2b		B				
24.2.1.9. Remove Forms	*					2b		B				
24.2.1.10. Landscape Site						A		B				

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
24.3. Repair Defective Pavement TR: AFRs 85-8, 93-5; AFM 88-6												
24.3.1. Perform Full Depth Pavement Repair TR: AFJMAN 32-1040												
24.3.1.1. Cut Pavement using Concrete Saw	*					2b		B				
24.3.1.2. Break Pavement using Air Compressor with Jack Hammer	*					2b		B				
24.3.1.3. Remove Pavement						2b		B				
24.3.1.4. Prepare the Area												
24.3.1.4.1. Remove/Replace Base Course						2b		B				
24.3.1.4.2. Remove/Replace Subgrade						2b		B				
24.3.1.5. Reinstall Load Transfer Devices						A		B				
24.3.1.6. Install Reinforcement Material						2b		B				
24.3.1.7. Replace Concrete												
24.3.1.7.1. Mix Concrete using Portable Concrete Mixer						2b		B				
24.3.1.8. Finish Concrete						2b		B				
24.3.1.9. Cure Concrete						2b		B				
24.3.2. Perform Partial Depth Repair TR: AFJMAN 32-1040						b		B				
24.4. Repair Defective Sealing Material TR: AFJMAN 32-1040												
24.4.1. Prepare Joints for Resealing												
24.4.1.1. Remove Existing Sealant using:												
24.4.1.1.1. Vertical Router						2b		B				
24.4.1.1.2. Joint Plow						A		B				
24.4.1.1.3. Saw or Reface the Joint using Concrete Saw						2b		B				
24.4.2. Prepare Cracks for Resealing												
24.4.2.1. Remove Existing Sealant using:												
24.4.2.1.1. Vertical Router						b		B				
24.4.2.1.2. Crack Saw						b		B				
24.4.3. Clean Joints/Cracks with:												
24.4.3.1. Water blaster						b		B				
24.4.3.2. High Pressure Air						2b		B				
24.4.4. Install backer materials						b		B				
24.4.5. Reseal joints/cracks using:												
24.4.5.1. Cold-applied sealants						1b		B				
24.4.5.2. Hot-applied sealants						b		B				
24.5. Flexible Pavements TR: AFJMAN 32-1040												
24.5.1. Construct with Bituminous Materials												
24.5.1.1. Types						A		B				
24.5.1.2. Uses						A		B				
24.5.1.3. Environmental Concerns						A		B				
24.5.2. Apply Prime Coat	**					1b		B				
24.5.2.1. Determine Asphalt Temperatures						A		B				
24.5.3. Place Asphalt	**					2b		B				
24.5.4. Asphalt Concrete Lifts												
24.5.4.1. Binder Course						A		B				
24.5.4.2. Wear Course						A		B				
24.5.5. Compact Asphalt	**					2b		B				

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
<b>24.5.6. Repair Defective Pavement</b>												
24.5.6.1. Identify the Area						2b		B				
24.5.6.2. Cut Area Using K-Saw						2b		B				
24.5.6.3. Remove Pavement						2b		B				
24.5.6.4. Prepare Base						2b		B				
24.5.6.5. Prepare Subgrade						2b		B				
24.5.6.6. Apply Tack Coat	**					1b		B				
24.5.6.7. Place asphalt						2b		B				
24.5.6.8. Compact asphalt						2b		B				
24.5.7. Perform Partial Depth Repair TR: AFJMAN 32-1040						b		B				
<b>24.6. Repair Cracks in Flexible Pavements TR: AFJMAN 32-1040</b>												
<b>24.6.1. Prepare Cracks Using:</b>												
24.6.1.1. Vertical Router						A		B				
24.6.1.2. Impact Router						A		B				
24.6.1.3. Crack Saw						A		B				
24.6.1.4. Mechanical Wire Wheel						A		B				
24.6.2. Clean Area Using High Pressure Air						A		B				
<b>24.6.3. Seal Cracks Using:</b>												
24.6.3.1. Hot Applied Sealant						A		B				
24.6.3.2. Cold Applied Sealant						A		B				
<b>24.6.3.3. Surface Treatments</b>												
24.6.3.3.1. Fog Seal						1b		B				
24.6.3.3.2. Slurry Seal						1b		B				
24.6.3.3.3. Chip Seal						A		B				
<b>25. DRAINAGE SYSTEMS TR: AFR 85-8; AFM 88-5</b>												
25.1. Install						b		B				
25.2. Inspect						b		B				
25.3. Repair						b		B				
<b>26. FENCES TR: AFI 31-209, 32-1024</b>												
<b>26.1. Install</b>												
26.1.1. Chain link						b		B				
26.1.2. Barbed wire						b		B				
<b>26.2. Inspect</b>												
26.2.1. Chain link						b		B				
26.2.2. Barbed wire						b		B				
<b>26.3. Repair</b>												
26.3.1. Chain link						b		B				
26.3.2. Barbed wire						b		B				
<b>27. AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES TR: AFIs 10-210; 10- 211; 32-1026; TO's 35E-5-6-1, 35E4-132-1, 35E4-94-1; Army TMs 10-8340-207-14, 10- 450-200-12; WMP-1, Annex S; (Mar 95); AFPAM 10-219, Vol 2, 3, 4, &amp; 5</b>												

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
27.1.1. Rapid Runway Repair (RRR) TR: AFPAM 10-219, Vol 4; AFI 10-210; T.O.s 35E2-3-1, 35E2-2-7, 35E2-4-1												
27.1.1.1. RRR Philosophy						A		B				
27.1.1.2. Repair Procedures												
27.1.1.2.1. Crater Repair/RQC						b		B				
27.1.1.2.2. AM-2 Matting						b		B				
27.1.1.2.3. Fiberglass Mat						b		B				
27.1.1.2.4. Spall Repair						b		B				
27.1.1.3. Equipment/Vehicular "R" Packages						A		B				
27.1.1.4. RRR Organization						A		B				
27.1.2. Contingency Oxyacetylene Cutting. TR: TO 34W-1-5; Victor Corp.; Welding Skills Book												
27.1.2.1. Oxyacetylene Cutting Applications												
27.1.2.1.1. Set up						2b		B				
27.1.2.1.2. Perform cutting operations						2b		B				
27.1.2.1.3. Disassemble						2b		B				
27.1.3. Airfield Paint TR: AFPAM 10-219, Vol 4; TO 35E2-6-1; AFAM 32-1076; AFIs 32-1042, 32-1044, 13-217, 10-44; Army, FM 5-430-00-2												
27.1.3.1. Characteristics of Paint used for Pavement Surfaces						A		B				
27.1.3.2. Striping												
27.1.3.2.1. Runways/Minimum Operating Strip (MOS)						A		B				
27.1.3.2.2. Taxiways						A		B				
27.1.3.2.3. Parking Aprons						A		B				
27.1.4. Explosive Materials TR: AFMAN 91-201; AFPAM 10-219, Vol 2 & 3; AFIs 21-201, 31-101, 91-409; AFH 31-223; T.O. 11-A-1-66; Army, FM 5-25												
27.1.4.2. Storage								A				
27.1.4.3. Capabilities								A				
27.1.4.4. Applications												
27.1.4.4.1. Quarry Operations								A				
27.1.4.4.2. Construction								A				
27.1.4.4.3. Base Denial								A				
27.1.5. RRR Concrete Saw Operations TR: AFPAM 10-219, Vol 4, Home Station Training (HST) Courses of Study, Volume III; Rapid Runway Repair Saw Kit (SMG MACHINES BRASIFIES)						A		B				
27.2 Passive Defense Measures Splinter Protection Construction TR: AFPAM 10-219, Vol 2 & 5; AFDD 42; AFMAN 32-4005; Instructions for Assembly and Erection of (Type A1 and B1) Aircraft Revetment Kit, 1 Oct 1998.												

1. <b>Task Knowledge And Technical References</b>	2. <b>Core Task</b>	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC		(1) RAM	(2) Course
27.2.1. Primary Revetment Materials						A		B				
27.2.2. Expedient Revetment Materials						A		B				
27.2.3. Construct Kit-Type Revetments												
27.2.3.1. A-1								B				
27.2.3.2. B-1						a		B				
27.2.3.3. ARMCO								B				
27.2.3.4. Pre-cast Modular Concrete								B				
27.2.3.5. Concertainer												
27.3. Expedient Field Construction												
27.3.1. Sanitary Landfill TR: AFI 41-201; AFPAM 10-219, Vol 5								A				
27.3.2. Berms and Dikes TR: AFPAM 10-219, Vol 2; TM 5-302												
27.3.2.1. Fuel Bladders						A		B				
27.3.2.2. Ammunition Pads						A		B				
27.3.3. Waste Water Disposal TR: AFPAM 10-219, Vol 5; AFIs 10-210, 32-1067, 48-110; AFMAN 91-32; AFD 48-1												
27.3.3.1. Oxidation Lagoon						A		B				
27.3.3.2. Evaporation Lagoon						A		B				
27.3.4. Roadwork TR: AFI 32-1045; AFPAM 10-219, Vol 3												
27.3.4.1. Timber Bridge								B				
27.3.4.2. Drainage Structures								A				
27.3.4.3. Soil Cement Road						A		B				
27.4. Expedient Beddown Methods												
27.4.1. Harvest Falcon (HF) Type Assets												
27.4.1.1. Temper Tent TR: TO 35E-3-6-1; AFPAM 10-219, Vol 2 & 5; AFH 10-222, Vol 1												
27.4.1.1.1. Assemble						1a		B				
27.4.1.1.2. Disassemble						1a		B				
27.4.2. Medical Facilities Erection Support TR: AFPAM 10-219, Vol 5; AFI 10-404								A				
27.5. Miscellaneous Support. Special purpose vehicles / equipment TR: TO's series 35C6, 36A2, 36A12, 36C6, 36C12, 36C14, 36C20, 36C25, 36C37, 36M2; Miller Spreader Saw Manual (SMG Machines-Abrasives)												
27.5.1. Special Purpose Vehicles / Equipment TR: AFD 25-1; AFMANs 24-306; 24-309; AFIs 23-101, 10-210, 24-301; AFOSH 91-46; AFPAM 10-219, Vol 4; TA 12												
27.5.2. General Purpose Vehicles (up to 14,000 GVW)												
27.5.6. HMMWV												



## GENERAL CONTINGENCY

1  <b>Tasks, Knowledge, And Technical References</b>	2.  Core Tasks	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC	(2) SC/QTP	(1) CDC	(2) Course
28.2.3. Basic lifesaving steps												
28.2.4. Move and transport injured personnel												
<b>For Reference Only</b>												
<b>28.3. Field Sanitation &amp; Hygiene Measures</b> TR: AFIs 48-110, 10-210; AFDD 35; <b>ARMY FM 21-10</b>												
28.3.1. Personal hygiene measures												
28.3.2. Countermeasures												
28.3.2.1. Disease and pestilence												
28.3.2.2. Communicable diseases												
28.3.3. Sanitation requirements												
28.3.3.1. Field												
28.3.3.2. Kitchen & Mess												
<b>Document General Contingency Training IAW AFI 10-210</b>												
<b>28.4. Self Protection from Extreme Weather</b> TR: A77; AFPAM 10-219, Vol 5; Army FM 21-76												
28.4.1. Hot weather survival techniques												
28.4.2. Cold weather survival methods												
<b>For Reference Only</b>												
<b>28.5. Force Protection</b> TR: Joint Pub 1-02; AFH 32-4014, Vol 4; AFH 10-222, Vol 3; AFPAM 10-219 Vol 2; DoD 0-2000.12-H; Joint Services Guide 5260												
28.5.1. Personal / Work Party Security TR: AFIs 36-2226, 36-2209, A88, 31- 301, 10-403, 10-404, 31-207, 10-215; AFPAM 10-219, Vol 3 ; Army FMs 21-75; 7-8												
28.5.1.1. Combat skills												
28.5.1.2. Defensive tactics												
28.5.1.2.1. Cover and concealment												
28.5.1.2.2. Individual movement												
28.5.1.2.3. Weapons fire control												
28.5.1.2.4. Communications												
28.5.1.2.5. Field fortifications												
28.5.1.2.6. Guard placement/perimeter defense												
28.5.1.2.7. Recognition code system												
<b>Document General Contingency Training IAW AFI 10-210</b>												



## GENERAL CONTINGENCY

1.  <b>Tasks, Knowledge, And Technical References</b>	2.  Core Tasks	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided								
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level				
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC	(2) SC/QTP	(1) CDC	(2) Course			
28.5.4.5. Terrorism TR: AFI 31-210, AFPAM 10-219, Vol 2; Joint Pub 1-02															
28.5.4.5.1. Awareness			<b>For Reference Only</b>												
28.5.4.5.2. Countermeasures			<b>Document General Contingency Training IAW AFI 10-210</b>												
28.5.4.6. Chemical warfare protection TR: AFMAN 32-4005; AFIs 10-210, 13-218, 21-101, 32-4001; AFPAM 10-219 Vol 3 & 4; AFH 32-4014 Vol 2; AFMAN 32-4005, AFVA 32-4012															
28.5.4.6.1. Individual protective equipment															
28.5.4.6.2. Wartime threat / protective actions / procedures															
28.5.4.6.3. Decontaminating vehicle / equipment															
28.5.4.6.4. Decontaminate shelter entry point															
28.5.4.6.5. USAF standard alarm signals TR: AFPAM 10-219 Vol 2; AFVA 32-4011															
28.5.4.6.6. Protective shelters															
<b>28.6. Base Denial</b> TR: AFIs 10-210, 10-211; AFPAM 10-219, Vol 3; Army FM 5-250; TO 11A-1-66; WMP-1, Annex S															
28.6.1. Base denial concept															
28.6.2. Denial methods			<b>For Reference Only</b>												
<b>28.7. Multi-Contingency/Warskills Training Requirements</b> TR: AFI 10-210; WMP-1, Annex S			<b>Document General Contingency Training IAW AFI 10-210</b>												
28.7.1. Multi-warskilling concept															
28.7.2. Vehicle Qualifications TR: AFI 10-210; AFPAM 10-219, Vol. 3, 4, 8; AFPD 25-1; AFMAN 24-309; AFI 23-101; 25-101; AS 12; T.O.s 36A2 series, 36M2 series, 36A12 series; War & Mobilization Plan (WMP), Vol. I, Annex S; HST/RTP															
28.7.2.1. Contingency vehicles and equipment responsibilities															

## GENERAL CONTINGENCY

1  <b>Tasks, Knowledge, And Technical References</b>	2.  Core Tasks	3. Certification for OJT					4. Proficiency Codes Used To Indicate Training / Information Provided					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2)	(1) CDC	(2) SC/QTP	(1) CDC	(2) Course
28.7.2.2. Obtain government driver's license												
28.7.2.3. Qualify on contingency vehicles												
28.7.2.4. General purpose vehicles (up to 14,000 GVW)												
<b>28.8. Explosive Ordnance Reconnaissance (EOR)</b> TR: AFI 10-210; AFPAM 10-219, Vol 3 & 4; Army FMs 21-16, 21-75												
28.8.1. Potential ordnance												
28.8.2. Marking procedures												
28.8.3. Reporting procedures												
28.8.4. Mass ordnance clearance												
<b>28.10. Beddown shelters</b> TR: T.O.s 35E-5-6-1, 35E4-132-1, 35E4-94-1; TM 10-4500-200-13; AFI 10-219, Vol 2, 3 & 5												
28.10.1. Bare base concept												
28.10.2. Beddown package assets												
28.10.2.1. Harvest Eagle												
28.10.2.2. Harvest Falcon												
28.10.2.3. TEMPER Tent TR: AFPAM 10-219, Vol 2, 5; AFH 10-222, Vol 1; T.O. 35E5-6-1												
28.10.2.4. Small Shelter System (SSS) TR: T.O. 35E5-6-11												
<b>28.11. Rapid Runway Repair (RRR)</b> TR: AFIs 10-210, 10-211, 10-212; T.O.s 35E2-3-1, 35E2-2-7, 35E2-5-1; AFPAM 10-219, Vol 4												
28.11.1. Base Recovery concepts												
28.11.2. Damage assessment												
28.11.3. Damage reporting												
28.11.4. Rapid Runway Repair (RRR) concept												
28.11.4.1. RRR Philosophy												
28.11.4.2. AM-2 Matting												
28.11.4.3. Fiberglass Mat												
28.11.5. Spall Repair												

## AFQTP Documentation Record For AFSC 3E2X1

- Download applicable AFQTPs at <http://www.afcesa.af.mil/Directorate/CEO/Training/Enlisted/enlisted.htm>
- Trainers/Certifiers enter their name and initials in the identification block at beginning of the STS
- Upon administering AFQTPs, enter start date in column 4 of this record
- Upon completion of each unit, document columns 5, 6, and 7
- Upon completion of applicable CerTests, trainer will place the completion date in column 8
- Transcribe by entering current date in columns 5 and 8, Trainees & Trainers Initials in columns 6 & 7

1	2	3	4	5	6	7
TASK NUMBER	TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	* * 5 LEVEL * 7 LEVEL ◆ SEE NOTE 1	START DATE	COMPLETE DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS
<b>8</b>	<b>COMMUNICATIONS</b> TR: AFI 33-106; AFJMAN 24-306					
8.1.	Use Radios	*				
8.3.	Identify Airdrome Signals	*				
<b>12</b>	<b>AFS SPECIFIC PUBLICATIONS</b> TR: TOs 0-1-1, 0-1-20, 00-201, 00-5-2, 00-20-7					
12.2.2.	Perform Maintenance (Use technical orders/commercial manuals to)	*				
<b>14</b>	<b>POWERED EQUIPMENT</b> TR: TOs 34Y and 36C Series					
14.1.	Perform Operational Checks	*				
14.2.4.	Concrete Saw (Use powered equipment)	*				
14.2.6.	Air Compressor (Use powered equipment)	*				
14.2.10.1.	Asphalt (Saw blades, use powered equipment)	*				
14.2.10.2.	Wet/dry (Saw blades, use powered equipment)	*				
14.3.2.	<b>Pneumatic Hammer with attachments: (Use air compressor accessories)</b>	*				

1 TASK NUMBER	2 TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	3 * 5 LEVEL ** 7 LEVEL ◆ SEE NOTE 1	4 START DATE	5 COMPLETE DATE	6 TRAINEE'S INITIALS	7 TRAINER'S INITIALS
15	<b>MATERIAL HANDLING EQUIPMENT</b> TR: AFMAN 24-306; TOs 36A2, 36A9-2, 36-A12, 36C9, 36C12, 36C15, 36C26, 36Y9 Series					
15.1.1.	Perform Operational Checks (Dump trucks)	*				
15.1.2.1.	Haul Material (Operate, dump truck)	*				
15.1.2.2.	Dump Material (Operate, dump truck)	*				
15.1.2.3.	Spread Material (Operate, dump truck)	*				
15.1.2.4.	Tow Equipment (Operate, dump truck)	*				
15.1.3.	Perform Operators Maintenance (Dump truck)	*				
15.1.4.1.	Tailgate Removal (Dump truck)	*				
15.1.4.2.	Tailgate Installation (Dump truck)	*				
15.2.1.	Perform Operational Checks (Wheel mounted front-end loaders)	*				
15.2.2.1.1	Load Materials (Bucket attachment)	*				
15.2.2.1.2.	Level Area (Bucket attachment)	*				
15.2.2.1.3.	Spread Materials (Bucket attachment)	*				
15.2.2.1.4.	Stockpile Materials (Bucket attachment)	*				
15.2.2.1.5.	Backfill (Bucket attachment)	*				
15.2.3.1.	Load/Unload Material (Use forklift attachment)	*				
15.2.3.2.	Transport Material (Use forklift attachment)	*				
15.2.5.	Change Attachments on front-end loaders	*				
15.2.6.	Perform Operators Maintenance (Wheel mounted front-end loader)	*				
15.4.1.	Perform Operational Checks (Tractor trailer combinations)	**				
15.4.2.1	Couple/Uncouple Trailer (Operate, tractor trailer combinations)	**				

1 TASK NUMBER	2 TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	3 * 5 LEVEL ** 7 LEVEL ◆ SEE NOTE 1	4 START DATE	5 COMPLETE DATE	6 TRAINEE'S INITIALS	7 TRAINER'S INITIALS
15.4.2.2.	Secure Materials (Operate, tractor trailer combinations)	**				
15.4.2.3.	Backing (Operate, tractor trailer combinations)	**				
15.4.2.4.	Load/Unload Construction Equipment (Operate, tractor trailer combinations)	**				
15.4.2.5.	Secure Equipment (Operate, tractor trailer combinations)	**				
15.4.2.6	Load/Unload Construction Materials (Operate, tractor trailer combinations)	**				
15.4.2.7	Over the Road (Operate, tractor trailer combinations)	**				
15.4.3.	Perform Operators Maintenance (Tractor trailer combinations)	**				
15.6.1.	Perform Operational Checks (Graders)	**				
15.6.2.4.	Level Materials (Perform grader operations such as)	**				
15.6.2.5.	Maintain Unpaved Surfaces (Perform grader operations such as)	*				
15.6.3.	Perform Operators Maintenance (Graders)	**				
15.8.1.	Perform Operational Checks (Crawler tractor)	**				
15.8.2.1	Stockpiling (Perform crawler tractor operations such as)	*				
15.8.2.2.	Leveling (Perform crawler tractor operations such as)	**				
15.8.3.	Perform Operators Maintenance (Crawler tractor)	**				
<b>17</b>	<b>COMPACTION EQUIPMENT</b> <b>TR: TO 36C20 Series</b>					
17.1.	Perform Operational Checks (Compaction equipment)	*				
17.2.4.	Steel Wheel Vibratory Roller (Operate compaction equipment)	*				
17.3.	Perform Operators Maintenance (Compaction equipment)	*				

1 TASK NUMBER	2 TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	3 * 5 LEVEL ** 7 LEVEL ◆ SEE NOTE 1	4 START DATE	5 COMPLETE DATE	6 TRAINEE'S INITIALS	7 TRAINER'S INITIALS
18	<b>LIQUID MATERIALS DISTRIBUTORS</b> TR: TOs 36C5 and 36C20 Series					
18.2.1.	Perform Operational Checks (Water distributor)	*				
18.2.2.1.	Gravity feed (Perform water distribution operations with attachments such as)	*				
18.2.2.2.	Pressure spray (Perform water distribution operations with attachments such as)	*				
18.2.2.3.	Fill from hydrant (Perform water distribution operations with attachments such as)	*				
18.2.3.	Perform Operators Maintenance (Water distributor)	*				
19	<b>SWEEPERS</b> TR: TO 36C25 Series					
19.3.1.	Perform Operational Checks (Multi-purpose sweepers)	*				
19.3.2.2.	Street (Operate on)	*				
19.3.3.	Perform Operator Maintenance (Multi-purpose sweepers)	*				
19.3.4.	Change Brooms (Multi-purpose sweepers)	*				
19.3.5.	Change Wearing Surfaces (Multi-purpose sweepers)	*				
19.3.6.1.	Hood (Make adjustments to)	*				
19.3.6.2.	Broom (Make adjustments to)	*				
19.3.7.	Perform Cleaning Operations (Multi-purpose sweepers)	*				
21	<b>RIGGING AND LIFTING</b> TR: TM 5-725					
21.2.1.	Chains (Rig loads to be lifted using)	**				
21.2.2.	Wire Rope (Rig loads to be lifted using)	**				
21.2.4.	Nylon Slings (Rig loads to be lifted using)	**				

1 TASK NUMBER	2 TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	3 * 5 LEVEL ** 7 LEVEL ◆ SEE NOTE 1	4 START DATE	5 COMPLETE DATE	6 TRAINEE'S INITIALS	7 TRAINER'S INITIALS
22	<b>EXCAVATING/TRENCHING MACHINES</b> TR: TOs 36C6, 36C12, 36C37 Series					
22.1.1.	Perform Operational Checks (Backhoe)	*				
22.1.2.1.2.	With Backhoe Bucket (Load materials)	**				
22.1.2.2.	Excavate (Perform backhoe operations such as)	*				
22.1.2.3.	Backfill (Perform backhoe operations such as)	*				
22.1.3.	Perform Operator Maintenance (Backhoe)	*				
24	<b>PAVED SURFACES</b> TR: AFJMAN 32-1040; AFMs 88-6, 88-7, 88-19, 88-24; <u>Design and Control of Concrete Mixtures;</u> <u>Concrete Technology;</u> <u>The Asphalt Handbook</u>					
24.1.1.	Layout Area (General pavement functions)	*				
24.1.2.1.	Hand Tools (Clear area using)	*				
24.1.2.2.	Construction Equipment (Clear area using)	*				
24.1.3.1.	Hand Tools (Excavate area using)	*				
24.1.3.2.	Construction Equipment (Excavate area using)	*				
24.1.4.1.	Stabilize (Prepare subgrade)	*				
24.1.4.2.	Compact (Prepare subgrade)	*				
24.1.5.1.	Place (Prepare base course)	*				
24.1.5.2.	Compact (Prepare base course)	*				
24.1.6.	Compute Materials Required (General pavement functions)	**				
24.2.2.1.	Install Forms (Construct rigid pavement)	*				
24.2.2.2.	Install Reinforcing Materials (Construct rigid pavement)	*				
24.2.2.5.	Place (Construct rigid pavement)	*				
24.2.2.6.	Finish (Construct rigid pavement)	*				

1 TASK NUMBER	2 TASKS, KNOWLEDGE, AND TECHNICAL REFERENCES	3 * 5 LEVEL * * * 7 LEVEL ◆ SEE NOTE 1	4 START DATE	5 COMPLETE DATE	6 TRAINEE'S INITIALS	7 TRAINER'S INITIALS
24.2.2.7.	Cure (Construct rigid pavement)	*				
24.2.2.8.	Fabricate Joints (Construct rigid pavement)	*				
24.2.2.9.	Remove Forms (Construct rigid pavement)	*				
24.2.3.1.	Remove Defective Pavement (Repair defective pavement)	*				
24.2.3.2.2.	High-Pressure Air (Clean concrete using)	*				
24.2.3.3.1.	Portland Cement Concrete (Mix/place & repair patches using)	*				
24.3.1.3.	Apply Bituminous Material (Flexible pavement)	*				
24.3.3.1.	Remove (Repair defective pavement)	*				
24.3.3.2.	Replace (Repair defective pavement)	*				
<p><b>NOTE 1:</b> ◆ Diamond tasks are extremely important to the career field. Diamond tasks are the same as core tasks with one exception--equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP and passing the corresponding CerTest is all that is required for upgrade and qualification training. Hands-on certification should be accomplished at the first opportunity when equipment is available. In locations where the equipment is available for hands-on certification, CerTest completion is still a mandatory requirement.</p>						

## SECTION B - COURSE OBJECTIVE LIST (COL)

**4. Measurement.** Measurement of each objective is indicated as follows:

**4.1. Written Test (W)** indicates task or subject knowledge that is measured using a written test.

**4.2. Performance Test (P)** indicates required task performance that is measured with a performance progress check.

**4.3. Progress Check (PC)** indicates separate measurement of both knowledge and performance elements using a written test and a performance progress check.

**5. Standard.** The standard is 70% on written examinations. Standards for performance measurement are indicated in the objectives and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check, and students may be required to repeat all or parts of the behavior until satisfactory performance is attained.

**6. Proficiency Level.** Most task performance is taught to the “2b” proficiency level which means the student can do most parts of the task, but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step-by-step procedures for doing the task.

**7. Course Objective List.** These objectives are listed in the sequence taught by Block of Instruction.

**7.1. Initial Skills Course.** A detailed listing of the initial skills course objectives may be obtained by written request to 366 TRS/DO, 727 Missile Road, Sheppard AFB TX 76311-2254.

**7.2. 7-Skill Level Course.** A detailed listing of the CE Craftsman Management course objectives may be obtained by written request to 366 TRS/DO, 727 Missile Road, Sheppard AFB TX 76311-2254.

## SECTION C - SUPPORT MATERIALS

### 8. CerTest.

**8.1.** CerTest is a program that uses computer-based evaluation to ensure skilled craftsmen are available to meet the Air Force's changing needs. It enhances upgrade and qualification training by testing and evaluating an individual's knowledge of the principles and procedures in each specialty.

**8.1.1.** The program contains tests used evaluate task knowledge received through different media such as paper products (text), videotapes, and computer-based programs.

**8.1.2.** The CerTest program contains **mandatory** tests, required for upgrade. All **diamond** (◆) coded tasks on the STS have a corresponding **mandatory** test.

**8.1.3.** CerTest is also a powerful training management tool. It can be used to find the strengths and weaknesses in an individual's training and experience. CerTest automatically records and updates all test results. The training manager can copy records to a disk so that an individual can bring current, accurate training information to a new unit; thereby helping the gaining supervisor evaluate the trainee's knowledge and experience.

**8.2.** CerTest also enables unit personnel to develop site-specific tests. These custom-made tests standardize testing on tasks unique to a specific duty station and/or assignment. The program contains a graphics library that may be used along with a menu-driven test editor to develop these site-specific tests.

**8.3.** CerTest also contains **optional** CDC pre-evaluation tools. Volume review exercises are available for progress checks after each volume is completed. After all volumes are completed in a set, the trainee may take the course review exercise before taking the final End of Course exam at the base training office. Commanders are encouraged to integrate these tools in their unit's OJT program.

**8.4.** CerTest has been adopted as the Air Force platform for future electronic CDC testing. The Air Force Institute for Distributive Learning (AFIADL) began using CerTest on 1 June 2000. Currently, all CE AFSs are allowed to use AFIADL's CerTest on installations where Base Test Control Facilities (TCFs) are equipped. See your UETM for further information.

**8.5.** The **mandatory** CerTests for each AFSC are identified, by number, with it's corresponding AFQTP on the 3E2X1 AFQTP Documentation Record.

**8.6.** For a complete list of up-to-date AFQTPs applicable to the 3E2X1 AFSC see our web page at: <http://www.afcesa.af.mil/Directorate/CEO/Training/Enlisted/QTPs/3E2X1.htm>

## SECTION D - TRAINING COURSE INDEX

**9. Purpose.** This section of the CFETP identifies training courses available for the specialty. Refer to AFCAT Education and Training Course Announcement (ETCA) web site, <https://etca.randolf.af.mil/> complete information on the Air Force in-residence courses.

### **10. Air Force In-Residence/Mobile Training Team (MTT) Courses.**

<b>Course Number</b>	<b>Title</b>	<b>Developer</b>
J5AQA3E231-000/ J3ABP3E231-000	Pavements Maintenance and Construction Equipment Operator Apprentice Course (AFSC 3E231)	366 TRS
J4AZP3E271 001	Pavements Maintenance, Inspection, and Repair Course MTT (AFSC 3E251/71)	366 TRS
J6ANU3E271-000	Pavements Maintenance, Inspection, and Repair internet course	366 TRS
J3ACR3E070 000	Civil Engineer Management Craftsman Course	366 TRS
AFCESA 3E2X1	Regional Equipment Operator Training Site (REOTS) Course.	201 <sup>st</sup> RH

### **11. Air Force Institute for Advanced Distributed Learning (AFIADL) Courses.**

<b>Course Number</b>	<b>Title</b>	<b>Date</b>
CDC 3E251A	Pavements and Construction Equipment Specialist	Jun 02
CDC 3E251B	Pavements and Construction Equipment Specialist (AFSC 3E251)	Jun 02

### **12. Exportable Courses/Information.**

<b>Course Number</b>	<b>Title</b>	<b>Date</b>
J6ANU3E271-000	Pavements Maintenance, Inspection, and Repair internet course	Jan 02
	Civil Engineer Management Craftsman Read-Ahead-Material (RAM) version 2.1 prerequisite for J3ACR3E070-000 course	Jul 01

**13. Courses Under Development/Revision.**

<b>Course Number</b>	<b>Title</b>	<b>Date Due</b>
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N/A		
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## **SECTION E - MAJCOM UNIQUE REQUIREMENTS**

**14. "There are currently no MAJCOM unique requirements. This area is reserved."**

## SECTION F - HOME STATION TRAINING

**15. Purpose.** The purpose of this section is to identify the tasks, training references, and training sources available in support of contingency/wartime training. Training ranges from knowledge-type training conducted in a classroom to task-oriented (hands-on) training conducted in the field. These training requirements, frequencies, and sources are listed in AFI 10-210, Prime Base Emergency Engineer Force (BEEF) Program.

**15.1. Home Station Training (HST).** HST is training that is conducted at the individual's home station for contingency operations.

**15.1.1.** Category I (CAT-I) training consists of knowledge-level training such as Prime BEEF orientation, field sanitation, and expedient methods. CAT-I training is normally accomplished through briefings and the use of videos and other training aids. These various training aids are listed in AFI 10-210, Attachment 2 under the "Optional Source for Training Material" column.

**15.1.1.1.** . The "General Contingency Responsibilities" (GCR), CD-ROM Training Package may be used for Category I contingency training. Successful completion of the lessons in the GCR CD-ROM will satisfy those SORTS requirements indicated in AFI 10-210, Chapter 4 and Attachment 2. It can be used for training and evaluation and is based on successful completion of one or more lessons completed in any order. One, some or all lessons may be completed at a given time. At the end of each lesson, the trainee will successfully complete the Lesson Review Exercise (LRE) and receive a certificate of training generated by the CD-ROM. The trainee must present the certificate or certificates to the Readiness Training Monitor to receive credit for the training.

**15.1.1.2.** Also available are various volumes of Home Station Training CD-ROM packages. These disks contain up to five presentations covering various CAT I topics. These are an additional method of providing required recurring training and topics covered are indicated in the training material column of Attachment 2 by the letters "PBCD".

**15.1.1.3.** For personnel assigned to a unit with a Prime BEEF mission for the first time, the 3-Level General Contingency Responsibilities CD-ROM is to be completed within the first 90 days of assignment. This product contains 17 lessons covering CAT I training topics. CAT I credit can be given for completion of these lessons for the same areas as the previously mentioned General Contingency Responsibilities product as indicated in AFI 10-210. Completion certificates should be presented to the Readiness Training Monitor for documentation of training.

**15.1.1.4.** The Unit should develop procedures to use these products to suit their needs. Remember these are tools to assist you in fulfilling CAT I training requirements. Document this training as outlined in AFI 10-210.

**15.1.2.** Category II (CAT-II) training is primarily task-oriented training such as weapons training, hard-back tent construction, and convoy security and the hands-on portion of various CAT I topics. This training is listed in AFI 10-210, Attachment 3 can be conducted during regularly required field training exercises.

## 15.2. Training References.

### 15.2.1. AFI 10-210, Prime Base Engineer Emergency Force (BEEF) Program.

Chapter four of AFI 10-210 identifies the Prime BEEF recurring training requirements. You can review this document by going to the Air Force publications web site. Attachment 2 is a list of HST CAT-I training requirements and Attachment 3 lists CAT-II training requirements.

### 15.2.2. Prime BEEF Contingency and Wartime Tasks - AFPAM 10-219, Vol 10.

The Contingency Training Guide and Task Standards (AFPAM 10-219, Vol 10) lists basic wartime skills, knowledge, and the major common contingency/wartime tasks that Prime BEEF teams will be required to perform. The Contingency Training Guide and Task Standards identify the AFSs associated with each task, required resources to accomplish the task, and the maximum time (under optimum conditions) expected to complete the task. The document also identifies the lead AFS on each task. This document is located on the Air Force Publications Web site.

**15.2.3. AFPAM 10-219 Series.** These documents assist in home station training and contingency responses. They replaced the AFP 93-12 series of planning documents and are available on the Air Force Electronic Publications Library (AFEPL).

### 15.2.4. Air Force Education and Training Course Announcements (ETCA).

Superseded AFCAT 36-2223. It is located at the following URL:

<http://etca.randolph.af.mil/> lists additional training/educational opportunities available for civil engineer personnel. This catalog contains information on formal education and training courses. The catalog is updated quarterly.

### 15.2.5. Readiness Training Package (RTP).

RTPs are lesson plans for HST lessons. The RTPs are intended for those personnel who teach any area of HST. The index and RTPs are located on the Air Force Civil Engineer Support Agency (AFCESA) home page. The internet address for this information is <https://wwwmil.afcesa.af.mil>.

**15.2.6. Other Documents.** AFH 10-222, Bare Base Development, Bare Base Facility Erection, Force Protection, Mechanical Systems, Bare Base Assets, Bare Base Generators and other volumes in the AFH 10-222 series are used for contingency training and operations. The AFH series are pocket guides providing information on bare base systems for all AFSs. AFH 10-222, Vol 4, Air Force Environmental Handbook for Contingency Operations, was developed to assist the environmental career field (3E4X3) on environmental quality issues during contingency and training operations. The hand-book can be used by any AFS who works closely with environmental issues. Visit the Air Force Publications web site to download this information.

**15.2.7. AFCESA/CEX.** Maintains a comprehensive listing of audiovisual products that support the contingency training program. To view this listing as well as gain information on how to order specific audiovisual products, please consult the AFCESA Contingency Support page.

### **15.3. Ancillary Training.**

**15.3.1. Team Exercise Sites (CAT III).** All CE personnel who fill critical Unit Type Code (UTC) positions will receive team training at Silver Flag Exercise Sites (SFES) with the exception of members on headquarters staff augmentation UTCs, pavement evaluation UTCs, and generator repair and maintenance UTCs. There are currently three active SFES in the world today. They are located at Tyndall AFB, FL; Ramstein AB, Germany; and Kadena AB, Japan. Active duty personnel in critical UTC positions will be qualified at least every 30 months on the elements listed in table 4.3 of AFI 10-210. The Air Reserve Components (ARC) will be qualified at least every 45 months.

**15.3.2. AEF/Spin-up Training.** The AFCESA home page has the worldwide locator for the different types of training, locations, and Points Of Contact (POC) for equipment items that maybe encountered during contingency operations.