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PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR



MASTER



BASIC



SENIOR

CAREER FIELD EDUCATION AND TRAINING PLAN

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**CAREER FIELD EDUCATION AND TRAINING PLAN
PAVEMENT AND CONSTRUCTION EQUIPMENT OPERATOR SPECIALTY
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PREFACE

This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements and training support resources for the pavements and construction equipment operation specialty. The CFETP will provide our people with a clear career path to success and instill rigor in all aspects of our career field training.

Note: *Civilian occupying associated positions may use Part II as a guide to support duty position qualification training.*

The CFETP consists of two parts used by the supervisor to plan, manage, and control training within the career field.

Part I provides information necessary for overall management of the specialty.

- Section A provides general information about how the CFETP will be used.
- Section B identifies career field progression information, duties and responsibilities, training strategies, and the career field path.
- Section C associates each skill-level with specialty qualifications (knowledge, education, and training).
- Section D indicates resource constraints.
- Section E identifies transition training guide requirements for SSgt through MSgt. Part II includes the following:
 - 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.
 - Section B contains the course objective list and training standards supervisors will use to determine if an Airman has satisfied training requirements.
 - Section C identifies available support materials.
 - 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.
 - Section E identifies MAJCOM-unique training requirements supervisors can use to determine additional training required for the associated qualification needs.
 - Section F identifies home station training references and courses material required for this specialty in support of contingency/wartime training.

Note: *At unit level, supervisors and trainers must use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide.*

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 the 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 training toward a technical or supervisor level Air Force Specialty (AFS). Training is for selected career Airmen in the advanced technology level of the AFS. Graduates are not awarded a new AFSC.

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 Enlisted Classification Directory (AFECD) – The Official directory for all military enlisted classification descriptions, codes, and identifiers. The specialty descriptions and codes will be used to identify each Air Force job (valid requirements) and describes the minimum mandatory qualifications of personnel to fill these jobs. The updated AFECD is available at AF Personnel Center's web site located at <http://ask.afpc.randolph.af.mil/> under the military classification menu.

Air Force Civil Engineer Center (AFCEC). Formally, Air Force Civil Engineer Support Agency (AFCESA), the focal point for all Civil Engineer training development. All individual AFSC Force Development Managers (FDM) are located at AFCEC.

Air Force Credentialing Opportunities On-Line (AF COOL) Program. AF COOL replaced the CCAF Credentialing and Education Research Tool (CERT). The AF COOL Program can be accessed through the AF Virtual Education Center (AFVEC). The site provides a research tool designed to increase an Airman's awareness of national professional credentialing and CCAF education opportunities available for all Air Force occupational specialties.

Air Force Institute of Technology (AFIT). Provides vital, relevant, and connected education that enables Airmen to be ready engineers and great leaders who know how to build sustainable installations to last while leading the change for the Civil Engineer career field.

Automated Training Record (ATR). Electronic training data base to document training and access is located at the [Civil Engineer Virtual Learning Center \(CE-VLC\)](#).

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.

Chief, Civil Engineer Force Development (CCEFD). Located at HQ AFCEC, this individual is responsible for all force development education and training associated within the 3E0 to 3E6 AFSCs.

Civil Engineer Virtual Learning Center (CE-VLC). Anytime, anyplace learning within the Civil Engineer Community consisting of instructional modules and skill-level awarding course material specific to the AFSC.

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.

Core Tasks (*). Mandatory tasks which the AFCFM has identified as a minimum qualification requirement within an Air Force specialty or duty position. These tasks exemplify the essence of the career field.

Critical Tasks. 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** training/certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP is all that is required for upgrade and qualification training. Hands-on certification will be accomplished at the first opportunity when equipment is available.

Distance Learning (DL). Includes Video Tele-seminar (VTS), Video Tele-training (VTT), and 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 Tasks. The tasks assigned to an individual for the position currently held. These include as a minimum all core tasks, diamond tasks, critical tasks and any other tasks assigned by the supervisor.

Expeditionary Combat Support-Training Certification Center (ECS-TCC). Total Force training center managed by the Air Force Reserve Command.

Force Development Manager (FDM). An individual assigned to the HQ Air Force Civil Engineer Center (AFCEC) charged with the responsibility for overseeing all training and career field management aspects of a specific Air Force Civil Engineer specialty.

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.

Just-in-Time (JIT) Training – Training required just prior to a selected deployment or tasking that delivers training necessary for mission accomplishment. It is typically predicated on hard-to-obtain contingency skills.

MAJCOM Functional Managers (MFMs). Senior leaders, designated by the appropriate functional authority (FA) who provide day-to-day management and responsibility over specific functional communities at the MAJCOM, FOA, DRU, or ARC level. While they should maintain and institutional focus in regards to resource deployment and distribution, FMs are responsible for ensuring their specialties are equipped, developed, and sustained to meet future needs of the total Air Force mission.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFS. The information collected from this survey is used to make changes to upgrade training and Weighted Airman Promotion Exams.

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.

Proficiency Training. Additional training, either in-residence, advanced/supplemental 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.

Regional Training Site (RTS). Total Force training centers managed by the Air National Guard.

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

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.

Specialty Training Requirements Team (STRT) – Subject Matter Experts from each MAJCOM conduct research prior to Utilization and Training Workshop (U&TW), develops training, recommends delivery methods and determines if a full fledge U&TW is required. The team finalizes the CFETP, specialty description and develops a standard for all courses.

Subject Matter Expert (SME) – An individual with expertise in a particular subject matter, tasked to represent the subject matter to an individual or group for technical accuracy.

Supplemental Training. 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.

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

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). An executive decision meeting to vote on funding for instructor authorizations, equipment and facilities needed to support any new or revised training coming from the STRT. They will also determine which organizations will furnish resources and establish commitment and delivery dates in writing, document equipment availability dates and any problems and establish training delivery dates.

PART I**SECTION A - GENERAL INFORMATION**

A1. Purpose: This CFETP provides information necessary for the AFCFMs, MAJCOM functional managers (MFMs), commanders, education and training managers, supervisors/trainers, and certifiers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training personnel in an AFS require to develop and progress throughout their careers. It identifies initial skills, upgrade, qualification, advanced, and proficiency training.

A1.1. 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. For our career field, this training is provided by AETC at Fort Leonard Wood, MO.

A1.2. Upgrade Training. Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

A1.3. Qualification Training. 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 training required to do the job.

A1.4. Advanced Training. A formal course for training personnel towards a technical or supervisory level in an AFS. Training is for selected career Airmen in the advanced technology of the AFSS. Graduates are not awarded a new AFSC.

A1.5. Proficiency Training. Additional training either in-residence, exportable advanced training courses, or on-the-job training, provided to people to increase their skills and knowledge beyond the minimum required for upgrade.

A1.6. The CFETP has several purposes –some are:

A1.6.1. 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.

A1.6.2. Identifies task and knowledge training requirements for each skill level in this specialty and recommends education/training throughout each phase of an individual's career.

A1.6.3. Lists training courses available in this specialty and identifies sources of training and the delivery methods.

A1.6.4. Identifies major resource constraints that impact full implementation of the desired career field training process.

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A2. Uses. MFMs and supervisors will use the plan at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

A2.1. AETC training personnel will develop/revise formal resident, non-resident, 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 and Air Force Civil Engineer Center Force Development Division (HQ AFCEC/COF) to develop acquisition strategies for obtaining resources needed to provide the identified training.

A2.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, qualification, and proficiency training 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.

A2.3. 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.

A2.4. Each individual will complete mandatory training requirements specified in this plan. The list of courses in Part II of this CFETP will be used as a reference to support training.

A3. 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

B1. Specialty Descriptions. Pavements and Construction Equipment Operator Apprentice, Journeyman, Craftsman and Superintendent.

B1.1. Specialty Summary. Constructs and maintains concrete and asphalt runways, aircraft parking aprons, and roads. Operates and maintains heavy construction equipment, such as loaders, graders, dozers, backhoes, and dump trucks. Operates tractor-trailer combinations, transporting construction equipment, and materials. Ensures compliance with all safety and environmental regulations. Related DoD Occupational Subgroup: 171000.

B1.2. Duties and Responsibilities for Apprentice (3E231), Journeyman (3E251), and Craftsman (3E271).

B1.2.1. Plans, constructs, and repairs airfield pavements, roadways, streets, curbs, surface mats, membranes, and other improved areas using paving and surfacing procedures. Takes soil,

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aggregate, asphalt, and concrete samples for laboratory tests. Interprets construction drawings and surveys using information such as subgrade contours and grade alignment. Inspects pavements for surface, base, and subbase damage or defects. Repairs damaged or defective areas by removing and replacing joint and crack sealant, surface overlays, and seal coats. Determines material and equipment requirements and prepares cost estimates for construction activities. Performs erosion control.

B1.2.2. Determines type and application of equipment to use in various construction, maintenance, and repair operations. Operates construction equipment to finish grade, level, slope, and compact construction materials. Operates snow and ice removal equipment. Applies chemicals and other ice control products.

B1.2.3. Inspects, lubricates, and performs operator maintenance on construction and snow removal equipment. Adjusts and changes attachments on equipment. Connects and repairs wire rope rigging to cable-operated equipment. Schedules and coordinates equipment repair and servicing with the vehicle maintenance activity and other servicing facilities.

B1.2.4. Investigates proposed work sites to determine resource requirements. Applies engineered performance standards to plan and estimate jobs. Coordinates and plans work requirements with other civil engineering and base agencies. Inspects work to ensure quality and compliance with policies, regulations, and other publications.

B1.2.5. Designs demolition projects, places and detonates explosives. Performs quarry demolition, clearing and base denial operations as required. Operates water well drilling, rock crushing equipment, and fixed and mobile concrete and asphalt batch plants.

B1.3. Duties and Responsibilities for Superintendent (3E290).

B1.3.1. Supervises and plans construction and repair of airfield pavements, building and structural repairs, roads, streets, curbs, footings, floors, slabs, foundations, walls, roofs, steps, doors, and windows for prefabricated and permanent structures, surface mats, membranes, improved and unimproved land areas using appropriate structural, paving and surfacing procedures and equipment to include both in-garrison and specialized training requirements. Interprets construction drawings and surveys using information such as sub-grade contours and grade alignment. Inspects pavements for surface, base, and sub-base damage or defects. Identifies damaged or defective areas needing joint removal and replacement, crack sealant, surface overlays, and seal coats. Investigates proposed work sites to determine resource requirements. Prepares cost estimates for in-service work requirements. Applies engineered performance standards in planning and estimating jobs. Coordinates measured and direct schedule work order requirements during approval, processing, and completion stages. Recommends method of accomplishment based on existing capabilities. Develops, monitors, and maintains work order priority program. Monitors work costs to ensure compliance with legal limits or support agreements and recapitalization process. Coordinates Work Order Review Board processes and provides agenda as required.

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B1.3.2. Determines type and application of equipment to use in various construction, maintenance, and repair operations. Manages construction equipment operation to complete a finish grade, level, slope, and compaction of construction materials. Supervises snow and ice removal operations to include chemical application and other ice control products. Prepares and interprets working drawings and schematics for maintaining, altering, and repairing buildings and structures.

B1.3.3. Inspects and manages operator maintenance on horizontal construction and snow removal equipment. Schedules and coordinates equipment repair and servicing with the vehicle maintenance activity and other servicing facilities.

B1.3.4. Performs planning activities and conducts facility surveys. Surveys proposed work to determine resource requirements. Obtains certifications, special tools, and equipment for assigned personnel. Ensures compliance with all safety and environmental regulations to include confined space programs.

B1.3.5. Manages and coordinates demolition projects, placement and detonation of explosives to include quarry demolition, clearing, and base denial operations as required. Supervises construction materials selection, water well drilling, rock crushing, and fixed and mobile concrete and asphalt batch plants operations.

B1.3.6. Coordinates, monitors, and executes contingency and Prime BEEF training requirements and associated deployment preparation programs and duties. Ensures personnel are in a constant ready state to meet deployment commitments.

B1.3.7. Coordinates, monitors, and executes contract quality assurance functions as required.

B2. Skill and Career Progression. Adequate training and timely progression from the apprentice to the superintendent level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training must do his or her part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives viable training at appropriate points in their career.

B2.1. Apprentice (AFSC 3E231 – AB, AMN, A1C).

B2.1.1. 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.

B2.1.2. Utilize the CDC, Air Force Qualification Training Packages (AFQTP) and web-based courses for subject and task fundamentals in the career field.

B2.1.3. Once trained and task certified, a trainee may perform the task unsupervised.

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B2.1.4. After all upgrade training requirements are completed, supervisors and Unit Training Managers (UTMs) coordinate upgrade procedures.

B2.2. Journeyman (AFSC 3E251 – SrA, SSgt).

B2.2.1. A journeyman may be assigned job positions such as team leader, shift supervisor, and task trainer.

B2.2.2. Complete CE 5-Level Common Core Concepts Course located on the [CE-VLC](#) prior to ordering Career Development Courses (CDCs).

B2.2.3. Completion of 5-level CDC's, 100% 5-level core and diamond tasks are basic prerequisites for five skill level award.

B2.2.4. Must complete, as a **minimum**, twelve months OJT before award of the 5-level (nine months for re-trainees that were awarded a five level in a previous AFSC).

B2.2.5. Active duty Air Force personnel must attend the Phase 1 Resident Airman Leadership School (ALS) in their time in service (TIS) window. Air Reserve Component (ARC) personnel may accomplish ALS by using distance learning (DL) and/or the resident or satellite program. Airmen must complete Phase 1 to be eligible to enroll in Phase 2 Enlisted Professional Military Education (EPME).

B2.2.6. Enter into continuation training to broaden technical experience base.

B2.2.7. Use CDCs and other reference material to prepare for Weighted Airman Performance System (WAPS) testing.

B2.2.8. Continue pursuing a Community College of the Air Force (CCAF) degree.

B2.2.9. After all upgrade training requirements are completed, supervisors and UTM's coordinate upgrade procedures.

B2.3. Craftsman (AFSC 3E271 – SSgt, TSgt, and MSgt).

B2.3.1. A craftsman can expect to fill various supervisory and management positions such as shift leader, team chief, supervisor, or task certifier.

B2.3.2. Completion of CE 7-Level Common Core Concepts Course located on the [CE-VLC](#) and 100% core/diamond tasks are basic prerequisites for seven skill level award.

B2.3.3. Must complete, as a **minimum**, twelve months OJT before award of the 7-level (six months for re-trainees that were awarded a seven level in a previous AFSC).

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B2.3.4. Must complete Phase 2 Enlisted Professional Military Education (EPME). All active duty and ARC personnel must enroll within the TIS window.

B2.3.5. Must complete Phase 3 EPME DL. All active duty and ARC personnel must enroll within the TIS window.

B2.3.6. Should take continuation training courses to broaden technical knowledge or management of resources and personnel.

B2.3.7. Use CDCs and other reference material to prepare for Weighted Airman Performance System (WAPS) testing.

B2.3.8. Continue academic education through CCAF and higher degree programs is encouraged.

B2.3.9. After all upgrade training requirements are completed, supervisors and UTM's coordinate upgrade procedures.

B2.4. **Superintendent. (AFSC 3E290 - SMSgt)**

B2.4.1. A superintendent can be expected to fill positions such as Flight Chief, Section Chief, Superintendent, and various staff positions.

B2.4.2. Completion of Civil Engineer Superintendent Course (AFIT WMGT 570) is mandatory for Active Duty and Air Force Reserve SMSgt's. This course is highly encouraged for Air National Guard SMSgts and mandatory to be promoted to CMSgt. **Note:** This is not a skill level awarding course.

B2.4.3. Must complete Phase 3 EPME DL between the 12 to 18 year TIS window. All active duty and ARC personnel must enroll within the TIS window.

B2.4.3.1. Active duty personnel failing to enroll, complete, and pass EPME Phase 3 within one (1) year of enrollment are ineligible to reenlist and compete for promotion until the requirement is met. ARC determines the consequences for their personnel failing to complete the required EPME Phase 3 DL within the established timeframe.

B2.4.4. Should take continuation training course to increase knowledge of budget, manpower, resources, and personnel management.

B2.4.5. Continue academic development through higher education is recommended.

B2.4.6. Must be a SMSgt for award of the 9-skill level.

PART I**B2.5. Chief Enlisted Manager (CEM) (3E000 - CMSgt).**

B2.5.1. CEMs work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.

B2.5.2. Must be selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E290, 3E490, 3E591, or 3E691).

B2.5.3. AFRC CMSgt selects must attend the Reserve component Chief Orientation Course (COC) prior to assuming the higher grade.

B3. 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 by a career field STRT held at Fort Leonard Wood, MO on the 31st of August through the 3rd of September 2015.

B3.1. Initials Skills Training. The initial skill course was reviewed for content. Additions, deletions, and modifications were made to the course. Wartime training tasks were identified and validated.

B3.2. Five Level Upgrade Training Requirements. Existing CDCs were reviewed and updated to ensure only current material remained and new technology information was added.

B3.3. Seven Level Upgrade Training Requirements. Seven-level training requirements were reviewed and validated.

B3.4. Proficiency Training. Any additional knowledge and skill requirements that were not taught through initial skills or upgrade training are assigned as continuation training. Purpose of continuation training is to provide training exceeding minimum upgrade training requirements with emphasis on present and future duty positions. 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. The training program will identify both mandatory and optional training requirements.

B3.5. Supplemental Training. Subject Matter Experts (SMEs) 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.

B4. Community College of the Air Force (CCAF) Academic Programs. Airmen are automatically enrolled in CCAF upon completion of basic military training. CCAF is one of

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several federally chartered degree-granting institutions; however, it's the only 2-year institution exclusively serving military enlisted personnel. The college is regionally accredited through Air University by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award Associate of Applied Science (AAS) degrees designed for specific Air Force occupational specialties and is the largest multi-campus community college in the world. Upon completion of basic military training and assignment to an AF career field, all enlisted personnel are registered in a CCAF degree program and are afforded the opportunity to obtain an AAS degree. In order to be awarded, degree requirements must be successfully completed before the Airman separates/retires from the Air Force or is commissioned as an officer. See the CCAF website: <http://www.au.af.mil/au/barnes/ccaf/> for details regarding the AAS degree programs: In addition to its Associates degree program, CCAF offers the following programs. Complete details can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>. In addition to its degree program, CCAF offers the following:

B4.1. CCAF Instructor Certification (CIC) Program. The CIC is a professional credential that recognizes the instructor's extensive faculty development training, education and qualification required to teach a CCAF course, and formally acknowledges the instructors practical teaching experience. Qualified officer, enlisted, civilian and other service instructors are eligible for this certification. Complete details for the instructor certification program can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>.

B4.2. The Professional Manager Certification (PMC). This professional credential is awarded by CCAF and formally recognizes an individual's advanced level of education and experience in leadership and management, as well as professional accomplishments. The PMC is primarily designed for Air Force SNCO's. However, any enlisted Airmen who meet all program requirements may be nominated and awarded the PMC. Once an individual retires, separates or is commissioned, they are no longer eligible for the PMC. Complete details can be found at <https://augateway.maxwell.af.mil/ccaf/certifications/pmc/>.

B4.3. CCAF offers the Instructional Systems Development (ISD) Certification. The ISD Certification is a professional credential that recognizes the writers or managers' extensive training, education, qualifications and experience required to develop and manage CCAF courses. The certification also recognizes the individuals ISD qualifications and experience in planning, developing, implementing and managing instructional systems. The program is designed to broaden faculty and professional development. Complete details can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>.

B4.4. Air Force Credentialing Opportunities On-Line (AF COOL) Program. AF COOL replaced the CCAF Credentialing and Education Research Tool (CERT). The AF COOL Program can be accessed at <https://afvec.langley.af.mil/afvec/Public/COOL/Default.aspx>. The site provides a research tool designed to increase an Airman's awareness of national professional credentialing and CCAF education opportunities available for all Air Force occupational specialties. The AF COOL Program also provides information on specific occupational

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specialties, civilian occupational equivalencies, CCAF degree programs, and AFSC-related national professional credentials available to enlisted members through credentialing agencies and professional organizations. The AF COOL Program contains a variety of information about credentialing and licensing and can be used to:

B4.4.1. Get background information about civilian licensure and certification in general and specific information on individual credentials including eligibility requirements and resources to prepare for an examination.

B4.4.2. Identify licenses and certifications relevant to an AFSC.

B4.4.3. Learn how to fill gaps between Air Force training and experience and civilian credentialing requirements.

B4.4.4. Get information on Tuition Assistance and GI Bill eligible funding opportunities to pay for credentialing examinations and associated fees.

B4.4.5. Learn about resources available to you that can help gain civilian job credentials.

B4.5. 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 competencybased assessment process for trade skill certification at one of three proficiency levels: Apprentice, Journeyman, Craftsman/Supervisor. All are transcribed on the CCAF transcript.

B4.6. Air University Associate to Baccalaureate Cooperative (AU-ABC). AU-ABC directs Airmen with associate in applied science degrees from the CCAF to a collection of accredited “military friendly” colleges and universities to consider when completing a four-year degree. The program maximizes the application of military career education and training, and provides a multitude of online academic and support services for the enlisted member.

B5. CCAF Degree Completion Requirements (64 Semester Hours). The Construction Technology Associates Degree (4VEB) applies to the 3E2X1 AFSC. Prior to completing a CCAF degree, the individual must be awarded a 5-level and the following requirements must be met:

<u>Course</u>		<u>Semester Hours</u>
Technical Education	24 Leadership, Management, and Military Studies	6
Physical Education		4
General Education		15
Oral Communication	3 Written Communication	3
Mathematics	3 Social Science	3
Humanities		3
Program Elective		15

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Technical Education; Leadership, Management, and Military Studies or General Education

Total 64

B5.1. Technical Education. (24 semester hours) A minimum of 12 semester hours of technical core subjects or courses must be applied and the remaining semester hours applied from technical core or technical elective subjects or courses. Requests to substitute comparable courses or to exceed specified semester hour values in any subject or course must be approved in advance.

<u>Technical Core Requirements</u>	<u>Semester H</u> ^{Maximum} <u>ours</u>
Building Construction and Design	20
Carpentry/Cabinetry	12
CCAF Internship	18
College Algebra/Trigonometry	3
Computer Aided Drafting	3
Construction Inspection/Building Codes	9
Drafting/Engineering Drawing	6
Engineering Assistant	20
Heavy Equipment Operations	20
Metals Fabrication/Characteristics	15
Pavement Construction	12
Project Management/Planning	4
Surveying	12
Welding	9

B5.2. Technical Electives. (0-12 Semester Hours)

<u>Technical Electives</u>	<u>Semester H</u> ^{Maximum} <u>ours</u>
Blueprint Reading	3
Computer Science	6
Construction Material Estimating	3
Enlisted Professional Military Education	6
General Physics	3
Hazardous Materials	3
Industrial/Construction Safety	3

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Properties and Strength of Materials	6
Soil and Foundations	3
Technical Writing	3

B5.3. Leadership, Management, and Military Studies (LMMS) (6 Semester Hours): Professional military education, civilian management courses accepted in transfer and/or by testing credit.

B5.4. Physical Education (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

B5.5. General Education (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the general education requirements and be in agreement with the definitions of applicable general education subjects/courses as provided in the *CCAF General Catalog*.

<u>General Education Subjects/Courses</u>	<u>Semester Hours</u>
Oral Communication	3
Speech	
Written Communication	3
English Composition	
Mathematics	3
Intermediate algebra or a college-level mathematics course satisfying delivering institution's mathematics graduation requirement-if an acceptable mathematics course applies as technical or program elective, you may substitute a natural science course 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, literature, philosophy, and religion.	

B5.6. Program Elective. (15 semester hours) Courses applying to technical education, LMMS or general education requirements; natural science courses meeting general education requirement application criteria; foreign language credit earned at Defense Language Institute or through Defense Language Proficiency Test; maximum 6 semester hours of CCAF degree-applicable technical course credit otherwise not applicable to program of enrollment.

B5.7. Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an AETC Instructor should be actively pursuing an associate degree. A degreed

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faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

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B6. Civil Engineer Career Field Path. The following chart depicts the 3E2X1 specialty career path:



PART I**B7. Enlisted Career Path.**

ENLISTED CAREER PATH				
Education and Training Requirements	GRADE REQUIREMENTS			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
Basic Military Training School				
<u>Upgrade To Apprentice</u> (3-Skill Level) – Complete Technical School	Amn A1C	6 months 16 months		
<u>Upgrade To Journeyman</u> (5-Skill Level) – Complete 5-level CDC – Complete CE 3-Level Common Core Concept web-based course – Complete all 5-level core/duty related tasks – Minimum 12 months OJT (9 months for retrainees)	SrA	3 years	28 months BTZ (22 Months)	8 years
<u>Trainer</u> – Must be qualified and certified to the perform tasks to be trained. – Attend AF Training Course – Recommended by the supervisor				
<u>Upgrade To Craftsman</u> (7-Skill Level) – Minimum rank of SSgt. – Complete CE 7-Level Common Core Concept web-based course – Complete all core/duty related tasks – Minimum 12 months OJT (6 months OJT for retrainees)	SSgt	5 years	3 years	15 years
<u>Certifier</u> – SSgt with 5-skill level or civilian equivalent – Attend AF Training Course – Appointed by commander – Be a person other than the trainer (for core and critical tasks only)				
<u>Upgrade To Superintendent</u> (9-Skill Level) – Minimum rank of SMSgt – CE Superintendents Course (WMGT570) (AD/AFR Only, not skill level awarding)	SMSgt	20 years	11 years	26 years
<u>Chief Enlisted Manager</u> – Chief Orientation Course (AFR Only) – CE Superintendents Course (WMGT 570) (ANG Only)	CMSgt	22 years	14 years	30 years

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B7.1. 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*.

B7.2. 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.

B7.2.1. Basic Badge. The basic badge is awarded upon successful completion of the apprentice course.



B7.2.2. 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.



B7.2.3. Master Badge. The master badge adds a wreath around the star. The Master Badge is awarded to master sergeant or above with 5 years in the specialty from award of the 7skill level.



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B8. Enlisted Professional Military Education (EPME).

B8.1. Basic EPME (Distance Learning). Air Force EPME is a time-in-service (TIS)-based model that ensures targeted delivery of institutional competencies (ICs) throughout the Continuum of Learning across an enlisted Airman's career through distance learning. Basic EPME Requirements will be developed in three phases across an Airman's career. Refer to AFI 36-2301, *Developmental Education*, for the most current guidance and TIS requirements.

B8.1.1. Phase 1. Phase 1 is the resident Airman Leadership School (ALS), which meets all EPME requirements (basic and comprehensive). RegAF Airmen must complete and pass Phase 1 to be eligible to enroll in Phase 2 EPME. Air Reserve Component (ARC) Airmen may accomplish ALS via DL and/or via the resident or satellite program.

B8.1.2. Phase 2. Phase 2 (Course 15) meets the basic requirements for NCOs. All RegAF and ARC Airmen must enroll within the TIS window. Failure to enroll, complete, and pass Phase 2 within one year of enrollment renders Airmen ineligible to reenlist and compete for promotion until this requirement is met. The ARC will determine the consequences for failure to complete required Phase 2 within established timeframes.

B8.1.3. Phase 3. Phase 3 (Course 14, Version 6) meets the basic requirements for SNCOs. RegAF Airmen must complete and pass Phase 2 to be eligible to enroll in Phase 3. See promotion policy for guidance related to course completion and senior rater endorsement.

B8.2. Comprehensive EPME (In-residence). The comprehensive learning experience EPME are in-residence courses that builds upon the Basic EPME requirements to achieve higher proficiency levels and is delivered in three phases. Refer to AFI 36-2301, *Developmental Education*, for the most current guidance and TIS requirements.

B8.2.1. Phase 1 EPME. The ALS resident program delivers both basic and comprehensive learning requirements. The ALS DL course is available for ARC Airmen and meets all basic requirements.

B8.2.2. Phase 2 EPME NCOA Intermediate Learning Experience (ILE) is a resident opportunity that delivers comprehensive learning requirements. This opportunity is available to Airmen, who meet minimum requirements.

B8.2.3. Phase 3 EPME SNCOA Advanced Learning Experience (ALE) is the advanced resident opportunity that delivers comprehensive learning requirements. This opportunity is available to Airmen; who meet minimum requirements.

SECTION C - SKILL LEVEL TRAINING REQUIREMENTS

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C1. Purpose. The various skill levels in this 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 and diamond tasks list has been developed for this specialty because of the diversity of the missions supported and the equipment assigned to meet mission requirements. Core and diamond tasks, knowledge items, and skill requirements are identified in the STS. Completion of the mandatory 3-skill level awarding course and the mandatory completion of the common core concept courses comprise Air Force requirements.

C2. Skill Level Training Requirements.**C2.1. Apprentice (3-Level) Training Requirements. (3E231)**

KNOWLEDGE	Completion of the Pavements and Construction Equipment Operator Apprentice courses, J9AQA3E231 00RB and JCABP3E231 00AC, at Ft Leonard Wood, MO
EDUCATION	For entry into this specialty, completion of high school with courses in general science, shop mechanics, and use of drawings is desirable.
TRAINING	Completion of a basic Pavements and Construction Equipment Operator Apprentice course is mandatory.
EXPERIENCE	None required.
OTHER	For entry, award and retention of AFSC 3E231, must possess a valid state drivers license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i>. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-152, <i>User Responsibilities and Guidance for Information Systems</i> and 33-282, <i>Computer Security</i>.
IMPLEMENTATION	The 3-skill level is awarded upon graduating the apprentice course and submission by the Unit Training Manager at the members unit of assignment.

*Refer to Air Force Enlisted Classification Directory (AFECD) Part I Section II and Attachment 4 for most current requirements.

C2.2. Journeyman (5-Level) Training Qualifications. (3E251)

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KNOWLEDGE	Knowledge is mandatory in the characteristics, capabilities, operation, and maintenance of equipment used in construction and paving; soil types, properties, limitations, and compaction methods; soil stabilization, drainage, and erosion control; construction and maintenance of asphalt and concrete surfaces; roadways; structure erection; landscaping; safety and environmental concerns; pavement maintenance plans; basic surveying; earth leveling, grading, filling, and compaction; strength and characteristics of ropes, wires, and cables; techniques for lifting and moving heavy objects by machine and mechanical advantage; characteristics of pavement surfacing materials; techniques for installing and repairing asphalt and concrete pavements; use, installation, and repair of airfield mats and membranes; aircraft revetments; and environmental concerns and safety precautions required when using and storing hazardous materials.
EDUCATION	For entry into this specialty, completion of high school with courses in general science, shop mechanics, and use of drawings is desirable. The following education is desirable and strongly encouraged: CCAF Construction Technology Associates Degree (4VEB) Higher education through a civilian institution

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TRAINING	Completion of 5-level CDCs. Completion of all the paper-based AFQTPs and their associated web-based courses on the CE VLC for all core (*) and diamond (◆) tasks with a minimum passing score of 80%. Completion of the CE 5-Level Common Core Concept web-based course located on the CE-VLC is mandatory for award of this skill level. Certification of all 5-skill level core tasks identified with an asterisk (*) in the 5-skill level column of the STS. Certification of all 5-skill level diamond tasks identified with a diamond (◆) in the 5-skill level core task column of the STS if the equipment is available. Minimum requirement is the signing off tasks on the AFQTP Documentation Record. Certification of duty position requirements identified by the supervisor. The following training is desirable and strongly encouraged: Completion of the Pavements Maintenance, Inspection, and Repair Mobile Training Team (MTT) course instructed by Fort Leonard Wood, MO Cadre at each requesting base; recommended attendance between 4-10 years' time in service. Completion of the Regional Equipment Operator Training Site (REOTS) course instructed at Fort Indiantown Gap, PA; recommended attendance between 4-10 years' time in service. Completion of courses/training that could lead to the award of a Commercial Driver's License. Check with your state licensing office.
EXPERIENCE	Qualification in and possession of AFSC 3E231. Experience in functions such as operating tools and equipment to prepare areas for construction and to maintain roads, runways, and grounds; and mixing and placing concrete and bituminous materials. Minimum 12 months OJT (9 months for retrainees) before award of 5-skill level.

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OTHER	For entry, award and retention of AFSC 3E251, must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i>. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-115, <i>Air Force Information Technology (IT) Service Management</i>, and 33-282, <i>Computer Security</i>.
IMPLEMENTATION	Entry into 5-level upgrade training is initiated after the individual has completed all 3-level requirements. Qualification training is initiated any time individuals are assigned duties they are not certified to perform. AFQTPs are used concurrently to obtain necessary duty position qualifications.

*Refer to Air Force Enlisted Classification Directory (AFECD) Part I Section II and Attachment 4 for most current requirements.

C2.3. Craftsman (7-Level) Training Requirements. (3E271)

KNOWLEDGE	All 3- and 5-level knowledge requirements apply to 7-level
EDUCATION	For entry into this specialty, completion of high school with courses in science, mathematics, and shop mechanics is desirable. The following education is desirable and strongly encouraged: CCAF Construction Technology Associates Degree (4VEB) Higher education through a civilian institution

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TRAINING	Completion of all the paper-based AFQTPs and their associated web-based courses on the CE VLC for all 5- and 7- skill level core (*) and diamond (♦) tasks with a minimum passing score of 80%. Completion of the CE 7-Level Common Core Concept web-based course located on the CE-VLC is mandatory for award of this skill level. Certification of all 5-and 7- skill level core tasks identified with an asterisk (*) in the 5-skill level column of the STS. Certification of all 5-skill level diamond tasks identified with a diamond (♦) in the 5-skill level core task column of the STS if the equipment is available. Minimum requirement is the signing off tasks on the AFQTP Documentation Record.
	Certification of duty position requirements identified by the supervisor. The following training is desirable and strongly encouraged: Completion of the Pavements Maintenance, Inspection, and Repair Mobile Training Team (MTT) course instructed by Fort Leonard Wood, MO; Cadre at each requesting base; recommended attendance between 4-10 years' time in service. Completion of the Regional Equipment Operator Training Site (REOTS) course instructed at Fort Indiantown Gap, PA; recommended attendance between 4-10 years' time in service. Completion of AFIT Courses: AFIT WENG 555 Course Airfield Pavement Construction and Inspection WMGT 422-Project Management WMGT 436-Operations Support

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EXPERIENCE	Qualification in and possession of AFSC 3E251. Experience performing or supervising functions such as construction equipment operation; special techniques in using construction equipment to prepare areas for constructing and maintaining roads, grounds, and airfield surfaces; or concrete work, soil stabilization, and rigid and flexible pavement construction and maintenance. Must be SSgt with minimum 12 months OJT (6 months for retrainees).
OTHER	For entry, award and retention of AFSC 3E271, must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, Vehicle Operations. Normal color vision as defined in AFI 48-123, Medical Examinations and Standards. Must maintain local network access IAW AFMANs 33-152, User Responsibilities and Guidance for Information Systems and 33-282, Computer Security.
IMPLEMENTATION	Entry into 7-level training is initiated when an individual is selected for SSgt and is fully qualified in the AFSC 5-skill level. Qualification training is initiated anytime individuals are assigned duties they are not qualified to perform. Use OJT, CDCs, AFJQSs, and AFQTPs concurrently to obtain the necessary qualifications.

*Refer to Air Force Enlisted Classification Directory (AFECD) Part I Section II and Attachment 4 for most current requirements.

C2.4. Superintendent (9-Level) Training Requirements.

KNOWLEDGE	Knowledge is mandatory of Air Force and Civil Engineer training programs. Characteristics, capabilities, operation and maintenance of equipment used in construction and paving, soil types, properties, limitations, compaction methods, soil stabilization, drainage, erosion control, construction and maintenance of asphalt and concrete surfaces, roadbeds, structure erection, landscaping, safety and environmental concerns, and pavement and building maintenance plans.
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EDUCATION	Must complete EMPE Phase 3 The following education is desirable and strongly encouraged: CCAF Construction Technology Associates Degree (4VEB) Higher education through a civilian institution
TRAINING	Completion of Civil Engineer Superintendent Course (AFIT WMGT 570) conducted at Air Force Institute of Technology, Wright-Patterson AFB, OH is mandatory for Active Duty and Air Force Reserve SMSgts. This course is highly encouraged for Air National Guard SMSgts and mandatory to be promoted to CMSgt. Note: This is not a skill level awarding course. Completion of duty position training requirements is mandatory.
EXPERIENCE	For award of AFSC 3E290, qualification in and possession of AFSC 3E271 or 3E371 is mandatory. Experience in directing and managing functions such as snow and ice removal, erecting structures, building maintenance, construction equipment operations and pavements for execution of horizontal and vertical construction programs.
OTHER	For entry, award and retention of AFSC 3E290, must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i>. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-115, <i>Air Force Information Technology (IT) Service Management</i>, and 33-282, <i>Computer Security</i>. Heavy Repair Superintendents should pursue any additional knowledge and skill requirements that were not taught through initial skills or upgrade training. The purpose of ongoing training is to exceed minimum upgrade requirements with emphasis on Pavement and Construction Equipment Operator personnel achieving the necessary training and experience at the appropriate point in their career to be more effective in present and future duty positions. Recommended areas of study include but are not limited to: AFIT Training courses such as Project Management courses and Contract Management courses.

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IMPLEMENTATION	Entry into 9-level training is initiated when an individual is selected for SMSgt and is a fully qualified 7-Level. Qualification training is initiated any time an individual is assigned duties they are not certified to perform.
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*Refer to Air Force Enlisted Classification Directory (AFECD) Part I Section II and Attachment 4 for most current requirements.

C2.5. Chief Enlisted Manager.

KNOWLEDGE	Knowledge is mandatory of managing and directing personnel resource activities. Interpreting and enforcing policy and applicable directives. Establishing control procedures to meet work goals and standards. Recommending or initiating actions to improve operational efficiency. Planning and programming work commitments and schedules. Developing plans regarding facilities, supplies, and equipment procurement and maintenance.
TRAINING	Reserve Component Chief Orientation Course (AFRC only).
EXPERIENCE	Possess qualifications in feeder specialty (3E290) prior to award of Civil Engineer Manager code 3E000. Managerial ability to plan, direct, coordinate, implement, and control a wide range of work activity.
OTHER	NA
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, 3E290, 3E490, 3E591, and 3E691).

*Refer to Air Force Enlisted Classification Directory (AFECD) Part I Section II and Attachment 4 for most current requirements.

SECTION D - RESOURCE CONSTRAINTS

D1. Purpose. This section identifies known resource constraints, which preclude optimal and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

D1.1. Constraints:

D1.1.2. Equipment Constraints. None.

D1.1.3. Time/Manpower/Student Man-years Constraints: None.

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D2. Apprentice (3-Level) Training. None.

D3. Journeyman (5-Level) Training. None.

D4. Craftsman (7-Level) Training. None.

D5. Superintendent (9-Level) Training. None.

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SECTION E – TRANSITIONAL TRAINING GUIDE

“There are no transition training requirements for the Pavement and Construction Equipment Specialty. This section is reserved.”

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SECTION A - SPECIALTY TRAINING STANDARD

A1. Implementation. This STS will be used for technical training provided by AETC Army ITRO Pavements and Equipment Apprentice and Air Force Unique Training courses with class beginning 19 October 2016 and graduating on or after 24 January 2017.

A2. Purpose. As prescribed in AFI 36-2201, this STS, *Air Force Training Program*, and in collaboration with the Civil Engineer, Air Force Career Field Manager (AFCFM), it is mandatory for all civil engineers, regardless of duty assignment, to use an automated training record. The automated training record currently being utilized to document upgrade and qualification training is an application located on the [CE-VLC](#).

A2.1. Column 1 (Tasks, Knowledge, and Technical References). Lists the most common tasks, knowledge, and supporting technical references (TR) necessary for Airmen to perform duties in the 3-, 5-, and 7-skill level.

A2.2. Column 2 (Core Tasks). Identifies core tasks (specialty-wide training requirements) by an asterisk (*) in the appropriate skill level sub-column. **As a minimum, trainees must complete hands-on certification on all core, critical and diamond tasks for skill level upgrade.**

A2.2.1. Wartime Tasks. All tasks in the 3-level course column are considered wartime tasks. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment.

A2.2.2. Diamond Tasks. Tasks identified by a diamond (♦) are considered contingency/war task and are critical to the career field. Equipment shortfalls at most locations have created problems with actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the corresponding task AFQTP is all that is required for upgrade/qualification training.

A2.3. Column 3 (Certification for OJT). Used to record completion of tasks and knowledge training requirements. Use the automated training record application to document individual qualifications. **Task certification of core, critical and diamond 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.

A2.4. Column 4 (Proficiency Codes Used to Indicate Training/Information Provided). Indicates formal training and correspondence course requirements. It shows 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 formal courses, web-based training (WBT) and AFQTPs. See CADRE/AFSC/CDC listing maintained by the unit education and training manager for current CDC listings.

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A2.5. Qualitative Requirements. Contains the proficiency code key used to indicate the level of training and knowledge provided by WBT, resident training and career development courses.

A2.6. Job Qualification Standard (JQS). The STS becomes the JQS for OJT when placed in automated training application and used according to AFI 36-2201. For OJT, the tasks in Column 1 are trained and qualified to the go/no go level. “Go” means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct use of procedures. AFQTPs, when available, shall be used to identify Air Force standardized procedures. When used as a JQS, the following requirements apply:

A2.6.1. Documentation. Document and certify completion of training.

A2.6.1.1. Duty position. Duty position requirements will be developed and identified by the workcenter supervisor and loaded into the automated training application. Completion of core, critical and diamond tasks are mandatory for all duty positions. Ensure the correct duty position title is listed under Profile 1 section of the trainee’s automated training record.

A2.6.1.2. AFQTP Training and Documentation. AFQTP or AFQTP assessments have been created for all core (*) and diamond (♦) tasks. Completion is mandatory to fulfill task knowledge requirements for upgrade/qualification training. Each AFQTP provides step-by-step procedures for the trainee, trainer, and certifier in completing each core or diamond task and instructions how to document the training in the automated training record.

A2.6.1.2.1. Training. Documentation of the start and completion of the AFQTP in the *QTP section* located in the automated training record is required for all core and diamond tasks. The automated training record will not allow you to sign off any tasks in the JQS until the completion date has been entered. Diamond tasks require the completion of the web-based course (with the review and post-test located in the program) or completion of the AFQTP assessment located on the [CE-VLC](#) to determine if the trainee has attained the knowledge level required. Once the trainee has completed the web-based course or AFQTP assessment, the course completion certificate must be provided to the trainer/supervisor for documentation of the completion in the automated training record and completion of hands-on training, if the equipment is available.

A2.6.1.2.2. Hands-On Training. *DO NOT sign off the tasks in the JQS until the trainee has completed hands-on/certification training.* For diamond tasks, if the equipment is not available at home station, the completion of the AFQTP or AFQTP assessment is the **ONLY** requirement for upgrade. When the equipment becomes available either at home station or at a TDY location, the trainee can be signed off within the JQS section of the automated training record.

A2.6.2. Transcribing from previous versions to the new CFETP. Most items should transcribe automatically during the update of the new CFETP. The UTM and supervisor must conduct a

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review of the new STS to identify any new core, diamond, or non-core tasks and add those tasks to their duty positions.

A2.6.2.1. Previous training certification not listed If previous training certification is not listed in the individual record, select the parent task to be transcribed, check the task title(s) block, and click on the transcribe button. Enter the date of the original certification and sign off the task(s). The trainee will then sign off the task(s) to finalize the transcription of previous training certification. The automated application will place an entry into the trainee 623a and must be acknowledged by the transcriber and trainee.

A2.6.2.2. Transcribing external training certification. If a trainee attended a formal training course and received appropriate accreditation, select the 623 III section of the user automated training record and locate the course title in the master task list, then enter the completion date. If the course title is not listed, contact the UTM to have it loaded from the master catalog. If it is not listed in the master catalog contact the Force Development Manager at AFCEC to have it loaded in the master catalog.

A2.6.3. Documenting Career Knowledge. When a CDC is not available, the supervisor identifies STS training references that the trainee requires for career knowledge IAW AFI 362201, *Air Force Training Program* and ensures, as a minimum, that trainees cover all mandatory items specified in AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*. For twotime CDC exam failures, the unit commander will take appropriate action IAW AFI 36-2201. **Note:** Career knowledge must be documented prior to submitting a CDC waiver.

A2.6.4. Decertification. When an Airman is found to be unqualified on a task, the supervisor shall identify the task in the JQS and check the box next to the task title. The supervisor shall select the Decertify button on the screen menu and enter a 623a comment explaining why the task was decertified, and then enter the Airman into qualification training. The individual is recertified using the normal certification process.

A2.6.5. Recertification. When an Airman is required to be recertified on a previous task due to annual or bi-annual requirements. The supervisor shall identify the task in the JQS and check the box next to the task title and select the Recertify button on the screen and entry the dates the recertification was completed.

A2.6.6. 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.

A2.7. Specialty Training Standard. The STS is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests are developed at the USAF Airman Advancement Division by senior NCOs with extensive practical experience

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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 Enlisted Promotions References and Requirements Catalog. Individual responsibilities are in AFI 36-2605, *AF Military Testing System*. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

A3. Recommendations. Comments and recommendations are invited concerning the quality of training AETC graduates receive. Reference specific STS paragraphs and address correspondence regarding changes to 782 TRG/TGAV, 620 9th Avenue, Suite 3, Sheppard AFB TX 76311-2268. A customer service information line has been installed for the supervisor's convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response to problems, call our customer service information line at DSN: 736-2574 or email 782csil@sheppard.af.mil anytime day or night.

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SECTION B - COURSE OBJECTIVE LIST (COL)

B1. Measurement. Measurement of each objective is indicated as follows:

B1.1. Written Test (W) indicates task or subject knowledge that is measured using a written test.

B1.2. Performance Test (P) indicates required task performance that is measured with a performance progress check.

B1.3. Progress Check (PC) indicates separate measurement of both knowledge and performance elements using a written test and a performance progress check.

B2. 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 or performance test, and students may be required to repeat all or parts of the behavior until satisfactory performance is attained.

B3. 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.

B4. Course Objective List. These objectives are listed in the sequence taught by Blocks of Instruction. A detailed listing of the initial skills course objectives may be obtained by written request to 364 TRS/DO, 727 Missile Road, Sheppard AFB TX 76311-2254.

SECTION C - SUPPORT MATERIAL

C1. Air Force Qualification Training Packages.

C1.1. The **mandatory** AFQTPs for each skill level are identified on the 3E2X1 AFQTP Documentation Record

C1.1.1. For a complete list of up-to-date AFQTPs applicable to the 3E2X1 AFSC, go to [CE-VLC](#).

C1.2. The UTM or supervisor can download paper-based AFQTPs. Paper-based AFQTPs can be found on the [CE-VLC](#) under the Library link and then by selecting Resources.

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C1.2.1. In addition to the paper-based AFQTPs there are web-based courses or assessments developed for certain tasks that are available on the [CE-VLC](#) under the Course List link and specialty topic area.

C2. AFQTP Assessment for Civil Engineer CDCs.

C2.1. FDMs have developed CDC assessments for their career field and they are located on the [CE-VLC](#) under the topic header Civil Engineer Career Development Courses (CDCs).

C2.2. The CDC assessments are for the sole purpose of providing the Unit Commander, Unit Training Manager (UTM) and the supervisor, a predictive indicator of whether the trainee has studied sufficiently to successfully pass their CDC end of course (EOC) exam.

SECTION D – EDUCATION AND TRAINING COURSE INDEX

D1. Purpose. This section of the CFETP identifies training courses available for the pavement and construction equipment operator specialty. Refer to Education and Training Course Announcements (ETCA) web site for information on the Air Force in-residence courses. The web site address is <https://etca.randolph.af.mil/>.

D2. Air Force In-Residence Courses/Mobile Training Team (MTT) Courses.

<u>Course Number</u>	<u>Title</u>	<u>Location</u>
J9AQA3E231-00AA J9AQA3E231-04RA	Pavements and Equipment Apprentice Graders	364 TRS
JCABP3E231-00AD	Pavement and Equipment Operator Apprentice Course (AFSC 3E231)	
J7AZP3E271-00AA	Pavements Maintenance, Inspection & Repair	364 TRS
AFCEC 3E2X1	Regional Equipment Operator Training (REOTS) Course	Site 201 ST RH

D3. Air Force Career Development Academy (AFCDA).

<u>Course Number</u>	<u>Title</u>	<u>Edit Code (EC)</u>
CDC 3E251	Pavements and Construction Equipment	01

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Operator Journeyman

D4. Exportable Courses/Information.

<u>Course Number</u>	<u>Title</u>	<u>Developer</u>
NA	Civil Engineer 5-Level Common Core Concepts (Previously titled 3-Level Core Concepts)	AFCEC/COF
NA	Civil Engineer 7-Level Common Core Concepts	AFCEC/COF
NA	Airfield Crushed Stone Crater Repair	AFCEC/COF
NA	Airfield Rubber Removal	AFCEC/COF
NA	Airfield Damage Repair (ADR) Overview	AFCEC/COF
NA	Backhoe Operations: Excavate, Load, and Backfill Material	AFCEC/COF
NA	Concrete Construction and Foundation Forms	AFCEC/COF
NA	Crawler Tractor Stockpiling and Leveling	AFCEC/COF
NA	Dump Truck Operator's	AFCEC/COF
NA	Dump Truck Tailgate Removal and Installation	AFCEC/COF
NA	Fall Protection Awareness	AFCEC/COF
NA	Oshkosh H-Series Cat C 13 Regeneration Procedures	AFCEC/COF
NA	Passive Defense Techniques	AFCEC/COF
NA	Paved Surfaces (Rigid & Flexible)	AFCEC/COF
NA	RED HORSE - Concrete Batch Plant/Asphalt Mixing Plant Operations	AFCEC/CXX

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NA	RED HORSE - Explosive Demolition and Quarry Operations	AFCEC/CXX
NA	Revetments	AFCEC/COF
NA	Snow and Ice Control Techniques	AFCEC/COF
NA	Spall Repair	AFCEC/CXX
NA	Spall and Crack Repair	AFCEC/COF
NA	Tractor Trailer Combination	AFCEC/COF
NA	Tractor Trailer Training Overview	AFCEC/COF

D5. Courses Under Development/Revision

<u>Course Number</u>	<u>Title</u>	<u>Date Due</u>
CDC 3E251 EC-02	Pavements and Construction Equipment Operator Journeyman	Feb 17

SECTION E – MAJCOM UNIQUE REQUIREMENTS

“There are currently no MAJCOM unique requirements. This area is reserved.”

SECTION F - HOME STATION TRAINING

F1. Purpose. The purpose of this section is to identify the tasks, training references, and training sources available in support of contingency/wartime training. Civil Engineer forces will train to meet the full range of tasks expected in the contingency environment. 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 10-209, *RED HORSE Program* and AFI 10-210, *Prime Base Emergency Engineer Force (BEEF) Program*.

F2. Home Station Training (HST). HST is knowledge-based and hands-on training that is conducted at the individual's home station for contingency operations. The CE Commander ensures training is provided and documented and arranges for subject matter experts to conduct training as required. AFI 10-209, Attachments 2-6 and AFI 10-210, Attachments 2-6, identifies the personnel to be trained by specialty and frequencies.

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F3. Combat Skills Training (CST). CST must be institutionalized as an integral part of any HST program. Lessons learned from operations, such as IRAQI FREEDOM, have taught us the importance of maintaining a higher level of combat readiness. Although the inclusion of combat skills-focused training into HST does not fully prepare CE personnel to work in a high threat combat environment, the steps taken to enhance training will help elevate units to a readiness level capable of supporting safe and effective operations in low to medium risk combat environments.

F4. Mission Essential Equipment Training (MEET). Wartime or contingency environments often involve the use of specialized and unique mission-essential equipment that civil engineers do not use in their day-to-day operations. Due to the cost and complexity, mission essential contingency equipment and trainer expertise are not commonly found at CONUS installations. Personnel must be hands-on certified and the certification documented in their CFETP. AFI 10210, Attachment 4, identifies minimum number of personnel to be trained, positions by specialty, frequencies and Chapter 2 identifies the locations of training sites. Inadequate training on these key equipment items can negatively impact Air Force contingency operations.

F5. AF Expeditionary (ES) Training Requirement. AETC, as lead MAJCOM for AF ES training, revamped ancillary home-station and advanced (mission specific) expeditionary skills training plans to standardize and synchronize training across the force. Detailed requirements for AF ES training is available in AFI 36-2201, *Air Force Training Program*, Chapter 8.

F6. Training References.

F6.1. AFI 10-209, *RED HORSE Program*, Chapter 3 and Attachments 2-6 identify the RED HORSE recurring training requirements.

F6.2. AFI 10-210, *Prime Base Engineer Emergency Force (BEEF) Program*, Chapter 4 and Attachments 2-6 identify the Prime BEEF recurring training requirements.

F6.3. AFI 36-2201, *Air Force Training Program*, Chapter 8 identify ES training requirements.

F6.4. Web-based Products. Web-based products are available on the CE Virtual Learning Center (VLC) website at <https://afcec.adls.af.mil>. Personnel completing these courses can receive credit for HST. CBT products can be used in a classroom setting to train as many personnel as possible. Attendance must be documented on a sign-in roster. The sign-in roster must be maintained IAW AFI 10-210.

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BY ORDER OF THE SECRETARY OF THE AIR FORCE OFFICIAL

JOHN B. COOPER, Lieutenant General, USAF
DCS/Logistics, Installation and Mission Support

3 Attachments

1. Qualitative Requirements (Proficiency Code Key)
2. 3E2X1 Specialty Training Standard (STS)
3. 3E2X1 AFQTP Documentation Record

Attachment 1
Qualitative Requirement (Proficiency Code Key)

A1. Qualitative Requirements.

Proficiency Code Key		
	Scale Value	Definition: The individual
Task Performance Levels	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 only help 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)
*Task Knowledge Levels	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)
**Subject Knowledge Levels	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)

Attachment 2

3E2X1 Specialty Training Standard (STS)

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. (Example: 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 the course columns to show that training is required but not given due to limitations in resources.

Note 1: BLK #4: Columns (1) & (2) can be relabeled to meet CF Requirements; i.e., 2 phase 3-skill level course, 5 level QTP

Note 2: One item, Grader, located in column 4 of the STS are not taught as part of this course. The supporting knowledge/tasks and the associated behaviors found in the Army ITRO course will meet the needs of training for Air Force personnel. This STS item will not include a proficiency code on this document but will be trained in the resident J9AQA3E231 04RA. Pavements and Equipment initial ITRO course taught by the Army at Fort Leonard Wood, MO to a level that meets the requirements of the Air Force. **Note 2 is referenced as 2b/I in the STS in place of a proficiency code.**

Note 3: All tasks and knowledge items shown with a proficiency code are trained during wartime.

A2. Specialty Training Standard

A2.1. Identification. In the automated training record User Profile section the UTM will assign individuals to the correct workcenter upon in processing into the unit.

A2.1.1. For new trainee the UTM will assist them in creating a training record on the [CE-VLC](#) and placing them in the correct workcenter and specialty within their unit. Additional information will need to be entered into the following areas:

A2.1.1.1. User Administrators:

A2.1.1.1.1. Individual UTM

A2.1.1.1.2. Workcenter Supervisor

A2.1.1.1.3. Immediate Supervisor

A2.1.1.2. User Training Information.

A2.1.1.2..1 Duty Position

Attachment 2

3E2X1 Specialty Training Standard (STS)

A2.1.1.2.2. Date Entered Duty Positions

A2.1.1.2.3. Training Status Code

A2.1.1.2.4. Date Entered Upgrade Training (UGT)

A2.1.2. For all other the UTM will need to place the individual into the correct workcenter and specialty. If the individual record is not available contact the losing unit to have the record transferred. If this fails contact the [AFCEC-VLC](#) helpdesk for assisting. Additional information will need to be entered into the following areas:

A2.1.2.1. User Administrators:

A2.1.2.1.1. Individual UTM

A2.1.2.1.2. Workcenter Supervisor

A2.1.2.1.3. Immediate Supervisor

A2.1.2.2. User Training Information.

A2.1.2.2..1 Duty Position

A2.1.2.2.2. Date Entered Duty Positions

A2.1.2.2.3. Training Status Code

A2.2. Specialty Tasks. The following are tasks the workcenter supervisor will use to create the duty task list for each duty position created for their workcenter.

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill		B 5 Skill		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
1. Civil Engineer (CE) Common Core Concepts Courses TR: CE Virtual Learning Center (CE-VLC)													
1.1. Accomplish CE 5-Level Core Concepts Course Note: Must Complete WBT	*							-	-	-	B	-	-

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3E2X1 Specialty Training Standard (STS)

1.2. Accomplish CE 7-Level Core Concepts Course Note: Must Complete WBT		*							-	-	-		-	B
1.3. Career Progression									A	-	-	-	-	-
1.4. Duties & Responsibilities														
1.4.1. Peacetime									A	-	-	-	-	-
1.4.2. Contingency									A	-	-	-	-	-
1.5. Functions of														
1.5.1. BCE									A	-	-	-	-	-
1.5.2. Prime BEEF									A	-	-	-	-	-
1.5.3. RED HORSE									A	-	-	-	-	-
1.5.4. HQ ANG/AFRC									A	-	-	-	-	-
1.5.5. Training Overview									A	-	-	-	-	-
2. AFS Specific Safety TR: AFIs 91-202/ 203/207, AFOSH STDs 48-137, 48-20, 29 CFR 1910 subpart I														
2.1. Use protective equipment such as:														
2.1.1. Eye protectors									2b	-	B	-	-	-
2.1.2. Ear protectors									2b	-	B	-	-	-
2.1.3. Safety helmets									2b	-	B	-	-	-
2.1.4. Respirators									-	-	B	-	-	-
2.1.5. Gloves									2b	-	B	-	-	-
2.1.6. Safety shoes									2b	-	B	-	-	-
2.1.7. Seat belts									2b	-	B	-	-	-
2.2. Cardiopulmonary Resuscitation (CPR)									-	-	-	-	-	-
2.3. Safety principles of:														
2.3.1. Getting on/off equipment									2b	-	B	-	-	-
2.3.2. Starting/stopping engines									2b	-	B	-	-	-
2.3.3. Placing equipment in motion									2b	-	B	-	-	-
2.3.4. Operating in hazardous conditions									A	-	B	-	-	-
2.3.5. Pavement repair health hazards									A	-	B	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A	B	C				
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill	5 Skill	7 Skill Level				
	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	(1) CDC	(2) DL
2.3.6. Servicing equipment								2b	-	B	-	-	-	-
2.4. Electrical hazards and precautions								A	-	B	-	-	-	-
2.5. Initial Federal Hazard Communication Training Program (FHCTP) TR: DoD 6050.5; AFI 90-821								A	-	-	-	-	-	-

Attachment 2
3E2X1 Specialty Training Standard (STS)

2.6. Construction Area Management															
2.6.1. Traffic control									A	-	B	-	-	-	-
2.6.2. Worksite safety									A	-	B	-	-	-	-
3. AFS Specific Publications TR: TO 32-1-101, AFI 24-301															
3.1. Use technical orders/ commercial manuals and/or AF Form 1800 to:															
3.1.1. Perform operational checks									2b	-	B	-	-	-	-
3.1.2. Perform operator maintenance									2b	-	B	-	-	-	-
3.1.3. Locate part numbers in illustrated parts breakdown									1a	-	B	-	-	-	-
3.1.4. Find vehicle/equipment capacities, capabilities, parameters									1a	-	B	-	-	-	-
3.2. Unified Facilities Criteria (UFC)									A	-	B	-	-	-	-
3.3. Preventive Maintenance Task Lists (PMTLs)									A	-	B	-	-	-	-
4. Communications TR: AFIs 13-204 V3, 13-213, 33-106 and AFVA 13-221 Note: QTP required for UGT															
4.1. Use radios	*								2b	-	-	-	-	-	-
4.2. Use hand signals	*								2b	-	-	-	-	-	-
4.3. Principles of airdrome signals									B	-	-	-	-	-	-
5. Project Planning/Management Fundamentals TR: NTRP 4-04.2.5, TM 3-34.62, AFI 32-1023, USAF Project Managers' Guide for Design and Construction (AFCEC), UFC 3-740-05 Note: QTP required for UGT															
5.1. Establish resource requirements															
5.1.1. Equipment									A	-	B	-	-	-	-
5.1.2. Materials									A	-	B	-	-	-	-
5.1.3. Interpret construction drawings		*							-	-	B	-	-	-	-
5.1.4. Construction Stake Markings									-	-	B	-	-	-	-
5.2. Soil fundamentals TR: UFC 3-220-10N and 3-250-11; TM 3-34.64															
5.2.1. Soil types		*							A	-	B	-	-	-	-
5.2.2. Soil construction properties		*							A	-	B	-	-	-	-
5.2.3. Soil stabilization techniques		*							A	-	B	-	-	-	-
5.3. Compute material requirements for:															
5.3.1. Fill	*								2b	-	B	-	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks	3. Certification For OJT	4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)
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3E2X1 Specialty Training Standard (STS)

	A	B	A	B	C	D	E	A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
5.3.2. Subgrade/Base course	*							2b	-	B	-	-	-
5.3.3. Asphalt (hot and cold mix)	*							2b	-	B	-	-	-
5.3.4. Concrete	*							2b	-	B	-	-	-
6. Powered Equipment TR: TM 3-34.62; TO 34Y series and applicable owner's manuals Note: QTP required for UGT													
6.1. Gasoline Engines													
6.1.1. Components & Theory of Operations								A	-	-	-	-	-
6.1.2. Perform operator checks								A	-	B	-	-	-
6.2. Small engine malfunctions								A	-	-	-	-	-
6.3. Troubleshoot small engine malfunctions								1a	-	b	-	-	-
6.4. Use powered equipment													
6.4.1. Chain saw								-	-	B	-	-	-
6.4.2. Generator								1a	-	B	-	-	-
6.4.3. Air Compressor													
6.4.3.1. Perform Operational Checks	*							2b	-	B	-	-	-
6.4.3.2. Perform operator maintenance	*							2b	-	B	-	-	-
6.4.3.3. Operate	*							2b	-	B	-	-	-
6.4.4. Use air compressor accessories													
6.4.4.1. Pneumatic drill								-	-	B	-	-	-
6.4.4.2. Pneumatic hammer with attachments	*							2b	-	B	-	-	-
6.4.4.3. Pneumatic tamper								-	-	B	-	-	-
6.5. Pump Fundamentals													
6.5.1. Centrifugal								A	-	B	-	-	-
6.5.2. Diaphragm								A	-	B	-	-	-
7. Earth Moving and Excavation Equipment TR: TM 3-34.62, STP 5-62J12, TC 21-305-20, [AFMAN 24-306(I)] Note: QTP required for UGT													
7.1. Regeneration systems								A	-	B	-	-	-
7.2. Dump truck													
7.2.1. Perform operational checks	*							2b	-	B	-	-	-
7.2.2. Perform operator maintenance	*							2b	-	B	-	-	-
7.2.3. Operate													
7.2.3.1. Haul material	*							2b	-	B	-	-	-
7.2.3.2. Dump material	*							2b	-	B	-	-	-
7.2.3.3. Spread material	*							2b	-	B	-	-	-
7.2.3.4. Tow equipment								2b	-	B	-	-	-

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3E2X1 Specialty Training Standard (STS)

7.2.3.5. Tailgate															
7.2.3.5.1. Removal									2b	-	B	-	-	-	-
7.2.3.5.2. Installation									2b	-	B	-	-	-	-
7.3. Wheel mounted front-end loader															

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
7.3.1. Perform operational checks	*							2b	-	B	-	-	-
7.3.2. Perform operator's maintenance	*							2b	-	B	-	-	-
7.3.3. Operate													
7.3.3.1. Load material into dump truck	*							2b	-	B	-	-	-
7.3.3.2. Level area (spread)	*							2b	-	B	-	-	-
7.3.3.3. Stockpile material	*							2b	-	B	-	-	-
7.3.3.4. Backfill	*							2b	-	B	-	-	-
7.3.3.5. Clamshell bucket	*							2b	-	B	-	-	-
7.3.3.6. Excavate	*							2b	-	B	-	-	-
7.3.4. Operate with forklift attachment:													
7.3.4.1. Load/unload material	*							2b	-	B	-	-	-
7.3.4.2. Transport material	*							2b	-	B	-	-	-
7.3.5. Move material using:													
7.3.5.1. Boom								-	-	A	-	-	-
7.3.5.2. Blade								-	-	A	-	-	-
7.3.6. Change attachments on loader	*							2b	-	B	-	-	-
7.4. Compact Track Loader (CTL)													
7.4.1. Perform operational checks	*							2b	-	B	-	-	-
7.4.2. Perform operator’s maintenance	*							2b	-	B	-	-	-
7.4.3. Operate using attachments such as:													
7.4.3.1. Bucket													
7.4.3.1.1. Excavating	*							2b	-	B	-	-	-
7.4.3.1.2. Backfilling	*							2b	-	B	-	-	-
7.4.3.1.3. Leveling	*							2b	-	B	-	-	-
7.4.3.1.4. Load Material	*							2b	-	B	-	-	-
7.4.3.2. Impactor								2b	-	B	-	-	-
7.4.3.3. Forklift								2b	-	B	-	-	-
7.4.3.4. Earth Auger								a	-	B	-	-	-
7.4.3.5. Sweeper								a	-	B	-	-	-
7.4.3.6. Wheel saw								a	-	B	-	-	-

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7.4.3.7. Cold planer								a	-	B	-	-	-
7.4.3.8. Asphalt burner								a	-	B	-	-	-
7.4.3.9. Concrete mixer								a	-	B	-	-	-
7.4.4. Change attachments on CTL	*							2b	-	B	-	-	-
7.4.5. Tow equipment								a	-	B	-	-	-
7.5. Motorized Scrapers TR: 36C22-2/3 Series													
7.5.1. Operational checks								-	-	A	-	-	-
7.5.2. Operator maintenance								-	-	A	-	-	-
7.5.3. Operate													
7.5.3.1. Excavate								-	-	A	-	-	-
7.5.3.2. Haul material								-	-	A	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
7.5.3.3. Dump material								-	-	A	-	-	-
7.5.3.4. Spread material								-	-	A	-	-	-
7.6. Graders													
7.6.1. Perform operational checks	*							2b/I	-	B	-	-	-
7.6.2. Perform operator maintenance	*							2b/I	-	B	-	-	-
7.6.3. Perform grader operations such as:													
7.6.3.1. Ditching								2b/I	-	B	-	-	-
7.6.3.2. Sloping banks								-	-	B	-	-	-
7.6.3.3. Spreading material	*							-	-	B	-	-	-
7.6.3.4. Leveling materials	*							2b/I	-	B	-	-	-
7.6.3.5. Maintaining unpaved surfaces	*							2b/I	-	B	-	-	-
7.6.3.6. Finish grading		*						2b/I	-	B	-	-	-
7.6.3.7. Scarifying materials								2b/I	-	B	-	-	-
7.6.3.8. Mixing materials								2b/I	-	B	-	-	-
7.6.4. Blade control devices								-	-	B	-	-	-
7.7. Crawler tractor													
7.7.1. Perform operational checks		◆						2b	-	B	-	-	-
7.7.2. Perform operator's maintenance		◆						2b	-	B	-	-	-
7.7.3. Perform crawler tractor operations such as:													
7.7.3.1. Stockpiling		◆						1a	-	B	-	-	-
7.7.3.2. Leveling		◆						1a	-	B	-	-	-
7.7.3.3. Ditching								-	-	B	-	-	-

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7.7.3.4. Ripping								-	-	B	-	-	-
7.7.3.5. Winching								-	-	B	-	-	-
7.7.3.6. Clearing								-	-	B	-	-	-
7.7.3.7. Bank sloping								-	-	B	-	-	-
7.7.3.8. Tow equipment								-	-	B	-	-	-
7.7.4. Blade control devices								-	-	-	B	-	-
8. Material Handling Equipment Note: QTP required for UGT													
8.1. Tractor trailer combinations TR: Title 49 CFR, Federal Motor Carrier Safety Administration, AFI 24-301, TC 21-305-20, [AFMAN 24-306(I)], TC 21-305-100, STP 5-62J12													
8.1.1. Perform operational checks		*						-	-	B	-	-	-
8.1.2. Perform operator maintenance		*						-	-	B	-	-	-
8.1.3. Operate													
8.1.3.1. Couple/uncouple trailer		*						-	-	B	-	-	-
8.1.3.2. Backing		*						-	-	B	-	-	-
8.1.3.3. Over the road		*						-	-	B	-	-	-
8.1.4. Secure and Transport equipment/materials													
8.1.4.1. Load/unload construction equipment	*							1a	-	B	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)							
	A	B	A	B	C	D	E	A		B		C				
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill	(1) Course	(2) DL	5 Skill	(1) CDC	(2) DL	7 Skill Level	(1) Course	(2) DL
8.1.4.2. Secure construction equipment using chains and binders	*								1a	-	B	-	-	-		
8.1.4.3. Load/unload construction material	*								1a	-	B	-	-	-		
8.1.4.4. Secure construction materials using cargo straps	*								1a	-	B	-	-	-		
8.1.4.5. Utilize dunnage									1a	-	B	-	-	-		
8.1.4.6. Employ safety principles of:																
8.1.4.6.1. Loading equipment									1a	-	B	-	-	-		
8.1.4.6.2. Unloading equipment									1a	-	B	-	-	-		
8.1.4.6.3. Hauling equipment									1a	-	B	-	-	-		
8.1.4.6.4. Adjusting equipment									1a	-	B	-	-	-		
8.1.4.6.5. Loading material									1a	-	B	-	-	-		
8.1.4.6.6. Unloading material									1a	-	B	-	-	-		
8.1.4.6.7. Hauling material									1a	-	B	-	-	-		
8.2. Forklift (FL) TR: AFI 91-203, AFQTP (Forklift)																

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8.2.1. Perform operational checks								-	-	B	-	-	-
8.2.2. Perform operator's maintenance								-	-	B	-	-	-
8.2.3. Move material/equipment using:													
8.2.3.1. All Terrain (AT) FL								-	-	B	-	-	-
8.2.3.2. Telehandler								-	-	B	-	-	-
8.2.3.3. Under 10K FL								-	-	B	-	-	-
8.2.3.4. 10K and over FL								-	-	B	-	-	-
8.2.3.5. 463L capable								-	-	B	-	-	-
9. Hydraulic Mobile Crane TR: TM 3-34.62, AFI 91-203 Note: QTP required for UGT													
9.1. Rigging and Lifting TR: TM 3-34.62 & 3-34.86, AFI 91-203													
9.1.1. Principles of rigging													
9.1.1.1. Perform load estimation	♦							1a	-	B	B	-	-
9.1.1.2. Determine center of gravity	♦							1a	-	B	B	-	-
9.1.1.3. Calculate sling requirements (weight, length, angle)	♦							1a	-	B	B	-	-
9.1.2. Identify the handling characteristics and inspection requirements of:													
9.1.2.1. Chains	♦							A	-	B	B	-	-
9.1.2.2. Wire rope	♦							A	-	B	B	-	-
9.1.2.3. Nylon slings	♦							A	-	B	B	-	-
9.1.2.4. Shackles	♦							A	-	B	B	-	-
9.1.2.5. Hooks	♦							A	-	B	B	-	-
9.1.3. Rig loads to be lifted using:													
9.1.3.1. Chains	♦							a	-	B	B	-	-
9.1.3.2. Wire ropes	♦							a	-	B	B	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A		B		C		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill	5 Skill	7 Skill Level				
								(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
9.1.3.3. Nylon slings	◆							a	-	B	B	-	-	
9.1.3.4. Spreader bars	◆							a	-	B	B	-	-	
9.1.3.5. Lifting beams								-	-	B	B	-	-	
9.1.3.6. Taglines	◆							-	-	B	B	-	-	
9.2. Crane Operations														
9.2.1. General														
9.2.1.1. Perform operational checks								-	-	B	B	-	-	
9.2.1.2. Perform operator maintenance								-	-	B	B	-	-	

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9.2.1.3. Operate crane carrier								-	-	B	B	-	-
9.2.1.4. Interpret load charts	♦							1a	-	B	B	-	-
9.2.1.5. Setup and maneuver								-	-	B	B	-	-
9.2.1.6. Crane hand signals	♦							b	-	B	B	-	-
9.2.1.7. Safety requirements	♦							-	-	B	B	-	-
9.2.2. Operate with:													
9.2.2.1. Multi-parts-line hook block								-	-	B	B	-	-
9.2.2.2. Boom extension (jib)								-	-	B	B	-	-
9.2.2.3. Single-line hook (headache ball)								-	-	B	B	-	-
9.2.3. Install and remove wire rope								-	-	B	B	-	-
10. Support Equipment Note: QTP required for UGT													
10.1. Industrial tractor													
10.1.1. Operational checks								-	-	B	-	-	-
10.1.2. Operator maintenance								-	-	B	-	-	-
10.1.3. Operate with attachments such as:											-		
10.1.3.1. Dragbox								-	-	B	-	-	-
10.1.3.2. Earth auger								-	-	B	-	-	-
10.1.4. Tow equipment								-	-	B	-	-	-
10.1.5. Front Mounted Broom								-	-	B	-	-	-
10.2. Asphalt pavers													
10.2.1. Perform operational checks								-	-	B	-	-	-
10.2.2. Perform operator maintenance								-	-	B	-	-	-
10.2.3. Plan paving operations								-	-	B	-	-	-
10.2.4. Operate self-propelled paver								-	-	B	-	-	-
10.2.5. Screed control devices								-	-	B	-	-	-
10.3. Liquid Material Distributors TR: TO 36C5 and 36C20 Series, STP 5-62J12 & applicable owner's manuals													
10.3.1. Water distributor													
10.3.1.1. Perform operational checks	♦							2b	-	B	-	-	-
10.3.1.2. Perform operator maintenance	♦							2b	-	B	-	-	-
10.3.1.3. Perform operations such as:													
10.3.1.3.1. Gravity feed	♦							2b	-	B	-	-	-
10.3.1.3.2. Pressure spray	♦							2b	-	B	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT							4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E			A		B		C	
	3 Skill		5 Skill		7 Skill Level										
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials			(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL

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10.3.1.3.3. Fill from hydrant	♦							2b	-	B	-	-	-
10.3.1.3.4. Fill from stand	♦							2b	-	B	-	-	-
10.3.1.3.5. Suction fill								-	-	B	-	-	-
10.4. Sweepers TR: TO 36C25 Series, 36C25-2-63-1 and 2 & applicable owner's manuals													
10.4.1. Multi-purpose Sweepers													
10.4.1.1. Perform operational checks	*							2b	-	B	-	-	-
10.4.1.2. Perform operator maintenance													
10.4.1.2.1. Adjust hood	*							2b	-	B	-	-	-
10.4.1.2.2. Adjust broom	*							2b	-	B	-	-	-
10.4.1.2.3. Clean sweeper	*							2b	-	B	-	-	-
10.4.1.2.4. Change wearing surfaces													
10.4.1.2.4.1. Brooms	*							2b	-	B	-	-	-
10.4.1.2.4.2. Skid plates	*							2b	-	B	-	-	-
10.4.1.2.4.3. Curtains	*							2b	-	B	-	-	-
10.4.2. Operate on:													
10.4.2.1. Airfield TR: AFI 13-213	♦							2b	-	B	-	-	-
10.4.2.2. Street	*							2b	-	B	-	-	-
10.4.3. Operate suction hose attachment	*							2b	-	B	-	-	-
10.5. Compaction Equipment TR: TO 36C10 Series & applicable owner's manuals													
10.5.1. Perform operational checks	*							2b	-	B	-	-	-
10.5.2. Perform operator maintenance	*							2b	-	B	-	-	-
10.5.3. Compact earthen materials using:													
10.5.3.1. Pneumatic tired roller								A	-	B	-	-	-
10.5.3.2. Sheepsfoot roller								A	-	B	-	-	-
10.5.3.3. Steel wheel vibratory roller	*							2b	-	B	-	-	-
10.5.3.4. Vibratory tamper								2b	-	B	-	-	-
11. Excavating/Trenching Machines TR: TM 3-34.62, STP 5-62J12, AFI 91-203, 29 CFR 1926.650-652 Note: QTP required for UGT													
11.1. Shoring applications								A	-	B	-	-	-
11.2. Backhoe													
11.2.1. Perform operational checks	*							2b	-	B	-	-	-
11.2.2. Perform operator maintenance	*							2b	-	B	-	-	-
11.2.3. Perform backhoe operations such as:													
11.2.3.1. Excavate with front bucket								-	-	B	-	-	-
11.2.3.2. Excavate with rear bucket	*							2b	-	B	-	-	-
11.2.3.3. Load with front bucket								2b	-	B	-	-	-

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11.2.3.4. Load with rear bucket	*							2b	-	B	-	-	-
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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
11.2.3.5. Backfill with front bucket	*							2b	-	B	-	-	-
11.2.3.6. Backfill with rear bucket	*							2b	-	B	-	-	-
11.2.3.7. Break material with Impactor								-	-	B	-	-	-
11.3. Hydraulic excavator													
11.3.1. Perform operational checks		*						2b	-	B	-	-	-
11.3.2. Perform operator's maintenance		*						2b	-	B	-	-	-
11.3.3. Perform excavator operations such as:													
11.3.3.1. Excavate with bucket		*						2b	-	B	-	-	-
11.3.3.2. Load with bucket		*						-	-	B	-	-	-
11.3.3.3. Backfill with bucket		*						2b	-	B	-	-	-
11.3.3.4. Compact materials								-	-	B	-	-	-
11.3.3.5. Break materials with impactor		*						-	-	B	-	-	-
11.3.3.6. Lift/position loads								-	-	B	-	-	-
11.3.4. Change excavator attachments		*						-	-	B	-	-	-
11.4. Trenching machines													
11.4.1. Perform operational checks								-	-	B	-	-	-
11.4.2. Perform operator's maintenance								-	-	B	-	-	-
11.4.3. Trenching								-	-	B	-	-	-
11.4.4. Backfilling								-	-	B	-	-	-
12. Snow and Ice Control TR: AFI 32-1002 & 13-204 V3													
12.1. Snow and ice control procedures:													
12.1.1. Snow and Ice Control Plan								A	-	B	-	-	-
12.1.2. Airfield paved surfaces								A	-	B	-	-	-
12.1.3. Non-airfield surfaces								A	-	B	-	-	-
12.1.4. Snow blower								-	-	B	-	-	-
12.1.5. Snow plow								-	-	B	-	-	-
12.1.6. Snow sweeper								-	-	B	-	-	-
12.1.7. Multi-purpose snow removal unit								-	-	B	-	-	-
12.2. Ice control operations													
12.2.1. Mechanical equipment								-	-	B	-	-	-
12.2.2. Chemicals								-	-	B	-	-	-
12.2.3. Abrasives								-	-	B	-	-	-

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12.3. Runway Ice Detection System								-	-	B	-	-	-
12.4. Snow & Ice Control System (SNIC)								-	-	B	-	-	-
12.5. Snow blower													
12.5.1. Operational checks								-	-	B	-	-	-
12.5.2. Operator maintenance								-	-	B	-	-	-
12.5.3. Operations								-	-	B	-	-	-
12.6. Snow plows													
12.6.1. Perform operational checks								-	-	B	-	-	-
12.6.2. Operator maintenance								-	-	B	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A		B		C		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
12.6.3. Operations								-	-	B	-	-	-	
12.7. Snow sweepers														
12.7.1. Operational checks								-	-	B	-	-	-	
12.7.2. Operator maintenance								-	-	B	-	-	-	
12.7.3. Operations								-	-	B	-	-	-	
12.8. Multi-purpose snow removal unit														
12.8.1. Operational checks								-	-	B	-	-	-	
12.8.2. Operator's maintenance								-	-	B	-	-	-	
12.8.3. Operations								-	-	B	-	-	-	
12.8.4. Change attachments								-	-	B	-	-	-	
12.8.5. Regeneration system								-	-	B	-	-	-	
12.9. Environmental concerns														
12.9.1. Chemicals								-	-	B	-	-	-	
12.9.2. Abrasives								-	-	B	-	-	-	
13. Construct Paved Surfaces TR: UFCs 3-250-01/03/04, 3-270-08, TM 3-34.44 & 3-34.63 ETL 11-26, Asphalt Institute, <i>The Asphalt Handbook</i> , Portland Cement Association, <i>Design and Control of Concrete Mixtures</i> Note: QTP required for UGT														
13.1. Layout the area using														
13.1.1. Line level	*							2b	-	B	-	-	-	
13.1.2. Laser level								1a	-	B	-	-	-	
13.1.3. Carpenter hand level	*							2b	-	B	-	-	-	
13.1.4. Engineer level								1a	-	B	-	-	-	
13.1.5. GPS								-	-	B	-	-	-	

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13.2. Prepare area															
13.2.1. Clear the area using hand tools	*								2b	-	B	-	-	-	-
13.2.2. Clear the area using construction equipment	*								2b	-	B	-	-	-	-
13.2.3. Stabilize subgrade using chemical means		◆							A	-	B	-	-	-	-
13.2.4. Stabilize subgrade using mechanical means	*								2b	-	B	-	-	-	-
13.2.5. Prepare base course															
13.2.5.1. Place materials	*								2b	-	B	-	-	-	-
13.2.5.2. Compact materials	*								2b	-	B	-	-	-	-
13.2.6. Construct concrete slab															
13.2.6.1. Install forms	*								2b	-	B	-	-	-	-
13.2.6.2. Lubricate forms before use									2b	-	B	-	-	-	-
13.2.7. Install reinforcing materials															
13.2.7.1. Wire mesh									1a	-	B	-	-	-	-
13.2.7.2. Rebar									A	-	B	-	-	-	-
13.2.8. Install load transfer devices															
13.2.8.1. Keyways									A	-	B	-	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT							4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E			A	B	C			
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials			3 Skill	5 Skill	7 Skill Level			
										(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
13.2.8.2. Dowels										A	-	B	-	-	-
13.3. Rigid pavement/Portland Cement Concrete (PCC)															
13.3.1. Types of concrete materials										A	-	B	-	-	-
13.3.2. Standard concrete mix										A	-	B	-	-	-
13.3.3. Perform concrete test															
13.3.3.1. Perform slump test		*								1a	-	B	-	-	-
13.3.3.2. Prepare cylinders for testing											A	-			
13.3.4. Place concrete	*									2b	-	B	-	-	-
13.3.5. Finish concrete															
13.3.5.1. Power screed	*									2b	-	B	-	-	-
13.3.5.2. Float/Trowel	*									2b	-	B	-	-	-
13.3.5.3. Edge	*									2b	-	B	-	-	-
13.3.5.4. Fabricate joints	*									2b	-	B	-	-	-
13.3.5.5. Non-Skid	*									2b	-	B	-	-	-
13.3.5.6. Cure concrete	*									2b	-	B	-	-	-
13.3.5.7. Remove/clean/oil forms										2b	-	B	-	-	-
13.3.5.8. Landscape site										1a	-	B	-	-	-

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13.3.5.9. Seal joints	*							2b	-	B	-	-	-
13.4. Repair Defective Rigid Pavement TR: UFC 3-250-06, 3-270-04													
13.4.1. Rigid pavement inspection													
13.4.1.1. Identify pavement defects	*							2b	-	B	-	-	-
13.4.1.2. Perform Pavement Condition Index (PCI)		*						b	-	B	-	-	-
13.4.1.3. Perform full depth pavement repair													
13.4.1.3.1. Cut pavement using concrete saw	*							2b	-	B	-	-	-
13.4.1.3.2. Safety procedures using saw								A	-	B	-	-	-
13.4.1.3.3. Asphalt blade								A	-	B	-	-	-
13.4.1.3.4. Concrete (cured/green) blade								A	-	B	-	-	-
13.4.1.3.5. Wet/dry blade								A	-	B	-	-	-
13.4.1.3.6. Break pavement using air compressor with jack-hammer		♦						2b	-	B	-	-	-
13.4.1.3.7. Remove pavement		♦						2b	-	B	-	-	-
13.4.1.4. Prepare the area													
13.4.1.4.1. Remove/replace base course								2b	-	B	-	-	-
13.4.1.4.2. Remove/replace subgrade								2b	-	B	-	-	-
13.4.1.4.3. Load transfer device replacement								A	-	B	-	-	-
13.4.1.5. Replace concrete													
13.4.1.5.1. Mix concrete using portable concrete mixer								1a	-	B	-	-	-
13.4.1.5.2. Expansion material								1a	-	B	-	-	-
13.4.1.5.3. Place concrete								1a	-	B	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E		A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials		3 Skill		5 Skill		7 Skill Level	
									(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
13.4.1.5.4. Finish concrete									1a	-	B	-	-	-
13.4.1.5.5. Cure concrete									1a	-	B	-	-	-
13.4.2. Perform partial depth repair TR: UFC 3-270-03														
13.4.2.1. Cut pavement using concrete saw	♦								b	-	B	-	-	-
13.4.2.2. Break pavement using air compressor with jack hammer	♦								b	-	B	-	-	-
13.4.2.3. Remove pavement	♦								b	-	B	-	-	-
13.4.2.4. Mix concrete	♦								b	-	B	-	-	-
13.4.2.5. Place concrete	♦								b	-	-	-	-	-
13.4.2.6. Finish concrete	♦								b	-	-	-	-	-
13.4.2.7. Cure concrete	♦								b	-	B	-	-	-

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13.4.3. Repair defective sealing material TR: UFC 3-250-08FA														
13.4.3.1. Prepare joints/cracks for sealing														
13.4.3.1.1. Remove existing sealant using powered equipment	♦							2b	-	B	-	-	-	-
13.4.3.1.2. Clean joints/cracks with:														
13.4.3.1.2.1. High pressure water								b	-	B	-	-	-	-
13.4.3.1.2.2. High pressure air								2b	-	B	-	-	-	-
13.4.3.1.3. Reseal joints/cracks														
13.4.3.1.3.1. Install backer material	♦							2b	-	B	-	-	-	-
13.4.3.1.3.2. Apply cold sealant	♦							2b	-	B	-	-	-	-
13.4.3.1.3.3. Apply hot sealant	♦							b	-	B	-	-	-	-
13.5. Flexible Pavements/Asphalt Cement Concrete (ACC)														
13.5.1. Construct with bituminous materials (new construction)														
13.5.1.1. Types								A	-	B	-	-	-	-
13.5.1.2. Uses								A	-	B	-	-	-	-
13.5.1.3. Environmental concerns								A	-	B	-	-	-	-
13.5.1.4. Apply prime coat								b	-	B	-	-	-	-
13.5.1.5. Determine asphalt temperatures	*							-	-	B	-	-	-	-
13.5.1.6. Place asphalt	*							b	-	B	-	-	-	-
13.5.1.7. Asphalt concrete lifts														
13.5.1.7.1. Determine binder course requirements	♦							-	-	B	-	-	-	-
13.5.1.7.2. Determine wear course requirements	♦							-	-	B	-	-	-	-
13.5.1.8. Compact asphalt	*							b	-	B	-	-	-	-
13.5.2. Flexible pavement inspection														
13.5.2.1. Identify pavement defects	*							2b	-	B	-	-	-	-
13.5.2.2. Repair defective pavement TR: UFC 3-270-01														
13.5.2.2.1. Cut area	♦							2b	-	B	-	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT							4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E			A		B		C	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials			3 Skill		5 Skill		7 Skill Level	
										(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
13.5.2.2.2. Remove pavement	♦									2b	-	B	-	-	-
13.5.2.2.3. Prepare subgrade	♦									2b	-	B	-	-	-
13.5.2.2.4. Prepare base	♦									2b	-	B	-	-	-
13.5.2.2.5. Apply prime/tack coat	♦									1a	-	B	-	-	-
13.5.2.2.6. Place asphalt	♦									2b	-	B	-	-	-

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13.5.2.2.7. Compact asphalt	♦							2b	-	B	-	-	-
13.5.3. Repair cracks in flexible pavements TR: UFC 3-250-08FA, 3-270-02													
13.5.3.1. Remove existing sealant using powered equipment	♦							b	-	-	-	-	-
13.5.3.2. Seal cracks using:													
13.5.3.2.1. Hot applied sealant machine	♦							b	-	B	-	-	-
13.5.3.3. Apply surface treatments													
13.5.3.3.1. Fog seal								-	-	B	-	-	-
13.5.3.3.2. Slurry seal								-	-	B	-	-	-
13.5.3.3.3. Chip seal								-	-	B	-	-	-
14. Drainage Systems TR: ETL 04-6, UFC 3-260-02 & 3-230-17FA													
14.1. Surface drainage													
14.1.1. Construct								A	-	B	-	-	-
14.1.2. Inspect								A	-	B	-	-	-
14.1.3. Repair								A	-	B	-	-	-
14.2. Sub-surface drainage													
14.2.1. Install								A	-	B	-	-	-
14.2.2. Inspect (operational)								A	-	B	-	-	-
14.2.3. Repair								A	-	B	-	-	-
14.3. Storm Water Pollution Prevention Plan								A	-	B	-	-	-
15. Fences TR: AFMAN 32-1084, AFI 31-101													
15.1. Install													
15.1.1. Chain link													
15.1.1.1. Posts								A	-	B	-	-	-
15.1.1.2. Fabric								2b	-	B	-	-	-
15.1.2. Barbed wire								A	-	A	-	-	-
15.1.3. Snow Fence								-	-	A	-	-	-
15.2. Inspect													
15.2.1. Chain link								A	-	B	-	-	-
15.2.2. Barbed wire								A	-	A	-	-	-
15.3. Repair													
15.3.1. Chain link								1a	-	B	-	-	-
15.3.2. Barbed wire								A	-	A	-	-	-

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A	B	C				
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Skill (1)	5 Skill (2) DL	7 Skill Level (1) Course	(2) DL	(1) Course	(2) DL	

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									Course					
16. AFSC Specific Contingency Responsibilities TR: AFPAM 10-219, AFIs 10-209, 10-210, 10-211, 10-2503, WMP-1, AFH 10-222, UFC 3-270-07, ETL 07-2 Note: QTP required for UGT														
16.1. Airfield Damage Repair (ADR)														
16.1.1. ADR philosophy									A	-	B	-	-	-
16.1.2. ADR organization									A	-	B	-	-	-
16.1.3. AFS Specific UTCs									-	-	B	-	-	-
16.1.4. Repair procedures														
16.1.4.1. Crater repair/RQC									B	-	B	-	-	-
16.1.4.2. Foreign Object Damage (FOD) Covers									B	-	B	-	-	-
16.2. SuPR kit									B	-	B	-	-	-
16.3. Contingency oxyacetylene cutting										-		-	-	-
16.3.1. Oxyacetylene cutting applications														
16.3.1.1. Set up									-	-	B	-	-	-
16.3.1.2. Cutting operations									-	-	B	-	-	-
16.3.1.3. Disassemble									-	-	B	-	-	-
16.4. Passive defense measures/splinter protection construction TR: AFPAM 10-219														
16.4.1. Primary revetment materials									-	-	B	-	-	-
16.4.2. Expedient revetment materials									-	-	B	-	-	-
16.4.3. Construct kit-type revetments														
16.4.3.1. Expandable bin type revetment	♦								2b	-	B	-	-	-
16.4.3.2. Pre-cast modular concrete	♦								A	-	B	-	-	-
16.5. Expedient field construction TR: UFC 3-240-10A														
16.5.1. Sanitary landfill									-	-	A	-	-	-
16.5.2. Berms and dikes														
16.5.2.1. Construct berm	♦								2b	-	B	-	-	-
16.5.2.2. Ammunition pads									A	-	B	-	-	-
16.5.2.3. Construct dike									b	-	B	-	-	-
16.5.2.4. Fuel bladders									A	-	B	-	-	-
16.5.2.5. Maintain									b	-	B	-	-	-
16.5.3. Waste water disposal TR: UFC 3-240-02														
16.5.3.1. Oxidation lagoon									A	-	B	-	-	-
16.5.3.2. Evaporation lagoon									A	-	B	-	-	-
16.5.3.3. Storm water control									-	-	B	-	-	-

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E		A		B		C	
	3 Skill		5 Skill		7 Skill Level									
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials		(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
16.5.4. Roadwork														
16.5.4.1. Drainage structures									-	-	A	-	-	-
16.5.4.2. Soil cement road									A	-	B	-	-	-
16.6. Expedient bed down methods														
16.6.1. Small Shelter System (SSS)														
16.6.1.1. Assemble									-	-	B	-	-	-
16.6.1.2. Disassemble									-	-	B	-	-	-
16.6.2. Medium Shelter System (MSS)														
16.6.2.1. Assemble									-	-	B	-	-	-
16.6.2.2. Disassemble									-	-	B	-	-	-
16.6.3. Reconstitute shelter systems									-	-	B	-	-	-

Attachment 3 3E2X1 Air Force Qualification Package (AFQTP) Documentation Record

A3. AFQTP Documentation Record.

A3.1. To ensure each Pavements and Construction Equipment Operator trainee is trained to the correct standard a AFQTP has been developed for each core and diamond tasks identified in their STS. These AFQTPs **are mandated** to be used by the trainee, trainer, and certifier in their on-the-job-training program for upgrade to the 5- or 7-level.

A3.2. These AFQTPs ensures all aspects of the task is covered sufficiently and provide additional task knowledge in preparation for hands-on training. AFQTPs summarize procedures on a task performance checklist for use by trainers, certifiers, and trainees.

A3.2.1. The UTM or supervisor can download AFQTP's from the [AFCEC – Air Force Civil Engineer Center Force Development \(COF\)](#) portal page.

A3.2.2. In additional to the paper-based AFQTPs there are web-based courses or assessments developed for certain tasks that are available on the [CE-VLC](#) under the specialty topic area.

A3.3. **Documentation.** Before a core or diamond task can be signed off in the JQS section of the individual automated training record the task must be signed off in the QTP section first.

A3.3.1. **Core/Diamond Tasks.** To document the completion the supervisor or trainer opens the individual automated training record, navigates to the QTP section, enter the start, and completed date with signatures.

A3.3.2. **Diamond (♦) Tasks.** Supervisors/Trainers **DO NOT** sign off the corresponding JQS task until the trainee has completed hands-on training. If the required equipment is not available at your location, completion of the task's AFQTP web-based course or assessment with a passing score of 80% is all that is required for upgrade training. Hands-on certification shall be accomplished at the first opportunity when equipment is available and then can be signed off on the JQS.

A3.4. 3E2X1 AFQTPs for Core and Diamond Tasks Requirements.

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
1.	CIVIL ENGINEER (CE) COMMON CORE CONCEPTS COURSE						
1.1.	Accomplish CE 5-Level Core Concepts Course	*					
1.2.	Accomplish CE 7-Level Core Concepts Course		*				

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3E2X1 Air Force Qualification Package (AFQTP) Documentation Record

4.	COMMUNICATIONS Accomplish the following AFQTPs: Paper-based: COMMUNICATION Web-based: CE RADIO COMMUNICATIONS AND CE MOTOROLA XTS 5000 RADIO COMMUNICATION						
4.1.	Use radios	*					
4.2.	Use hand signals	*					
5.	PROJECT PLANNING/MANAGEMENT FUNDAMENTALS Accomplish the following AFQTPs: Paper-based: PROJECT PLANNING/MANAGEMENT FUNDAMENTALS						
5.1.	Establish resource requirements						
5.1.3.	Interpret Construction Drawings		*				
5.2.	Soil Fundamentals						
5.2.1.	Soil types		*				
5.2.2.	Soil construction properties		*				
5.2.3.	Soil stabilization techniques		*				
5.3.	Compute material requirements for:						
5.3.1.	Fill	*					
5.3.2.	Subgrade/Base course	*					
5.3.3.	Asphalt (hot/cold mix)	*					
5.3.4.	Concrete	*					
6.	POWERED EQUIPMENT Accomplish the following AFQTPs: Paper-based: POWERED EQUIPMENT						
6.4.	Use powered equipment						
6.4.3.	Air compressor						
6.4.3.1.	Perform operational checks	*					
6.4.3.2.	Perform operator maintenance	*					
6.4.3.3.	Operate	*					
6.4.4.	Use air compressor accessories						
6.4.4.2.	Pneumatic hammer with attachments	*					
7.	EARTH MOVING AND EXCAVATION EQUIPMENT Accomplish the following AFQTPs: Paper-based: EARTH MOVING AND EXCAVATION EQUIPMENT Web-based: CRAWLER TRACTOR STOCKPILING AND LEVELING AND DUMP TRUCK OPERATOR'S						
7.2.	Dump truck						
7.2.1.	Perform operational checks	*					
7.2.2.	Perform operator maintenance	*					
7.2.3.	Operate						

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials

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3E2X1 Air Force Qualification Package (AFQTP) Documentation Record

7.2.3.1.	Haul Material	*					
7.2.3.2.	Dump material	*					
7.2.3.3.	Spread material	*					
7.3.	Wheel mounted front-end loaders						
7.3.1.	Perform operational checks	*					
7.3.2.	Perform operator maintenance	*					
7.3.3.	Operate						
7.3.3.1.	Load material into dump truck	*					
7.3.3.2.	Level area (spread)	*					
7.3.3.3.	Stockpile material	*					
7.3.3.4.	Backfill	*					
7.3.3.5.	Clamshell bucket	*					
7.3.3.6.	Excavate	*					
7.3.4.	Operate with forklift attachment:						
7.3.4.1.	Load and unload material	*					
7.3.4.2.	Transport material	*					
7.3.6.	Change attachments on loader	*					
7.4.	Compact Track Loader (CTL)						
7.4.1.	Perform operational checks	*					
7.4.2.	Perform operator maintenance	*					
7.4.3.	Operate using attachments such as:						
7.4.3.1.	Bucket						
7.4.3.1.1.	Excavating	*					
7.4.3.1.2.	Backfilling	*					
7.4.3.1.3.	Leveling	*					
7.4.3.1.4.	Load material	*					
7.4.4.	Change attachments on CTL	*					
7.6.	Graders						
7.6.1.	Perform operational checks	*					
7.6.2.	Perform operator maintenance	*					
7.6.3.	Perform grader operations such as:						
7.6.3.3.	Spreading material	*					
7.6.3.4.	Leveling material	*					
7.6.3.5.	Maintaining unpaved surfaces	*					
7.6.3.6.	Finish grading		*				
7.7.	Crawler Tractors						
7.7.1.	Perform operational checks		♦				
7.7.2.	Perform operator maintenance		♦				
7.7.3.	Perform crawler tractor operations such as:						
7.7.3.1.	Stockpiling		♦				
7.7.3.2.	Leveling		♦				

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3E2X1 Air Force Qualification Package (AFQTP) Documentation Record

8.	MATERIAL HANDLING EQUIPMENT Accomplish the following AFQTPs: Paper-based: MATERIAL HANDLING EQUIPMENT Web-based: TRACTOR TRAILER COMBINATION, AND TRACTOR TRAILER TRAINING OVERVIEW
8.1.	Tractor trailer combinations

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
8.1.1.	Perform operational checks		*				
8.1.2.	Perform operator maintenance		*				
8.1.3.	Operate						
8.1.3.1.	Couple/uncouple trailer		*				
8.1.3.2.	Backing		*				
8.1.3.3.	Over the road		*				
8.1.4.	Secure and Transport equipment/materials						
8.1.4.1.	Load/unload construction equipment	*					
8.1.4.2.	Secure construction equipment using chains and binders	*					
8.1.4.3.	Load/unload construction material	*					
8.1.4.4.	Secure construction materials using cargo straps	*					
9.	HYDRAULIC MOBILE CRANE Accomplish the following AFQTPs: Paper-based: HYDRAULIC MOBIL CRANE						
9.1.	Rigging and Lifting						
9.1.1.	Principles of rigging						
9.1.1.1.	Perform load estimation	♦					
9.1.1.2.	Determine center of gravity	♦					
9.1.1.3.	Calculate sling requirements (weight, length, angle)	♦					
9.1.2.	Identify the handling characteristics and inspection requirements of:						
9.1.2.1.	Chains	♦					
9.1.2.2.	Wire ropes	♦					
9.1.2.3.	Nylon slings	♦					
9.1.2.4.	Shackles	♦					
9.1.2.5.	Hooks	♦					
9.1.3.	Rig loads to be lifted using:						
9.1.3.1.	Chains	♦					
9.1.3.2.	Wire ropes	♦					
9.1.3.3.	Nylon Slings	♦					
9.1.3.4.	Spreader Bars	♦					
9.1.3.5.	Taglines	♦					

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9.2.	Crane operations						
9.2.1.	General						
9.2.1.4.	Interpret load charts	♦					
9.2.1.6.	Crane hand signals	♦					
9.2.1.7.	Safety requirements	♦					
10.	SUPPORT EQUIPMENT Accomplish the following AFQTPs: Paper-based: SUPPORT EQUIPMENT						
10.3.	Liquid material distributor						
10.3.1.	Water distributor						

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
10.3.1.1.	Perform operational checks	♦					
10.3.1.2.	Perform operator maintenance	♦					
10.3.1.3.	Perform operations such as:						
10.3.1.3.1.	Gravity feed	♦					
10.3.1.3.2.	Pressure spray	♦					
10.3.1.3.3.	Fill from hydrant	♦					
10.3.1.3.4.	Fill from stand	♦					
10.4.	Sweepers						
10.4.1.	Multi-purpose Sweepers						
10.4.1.1.	Perform operational checks	*					
10.4.1.2.	Perform operator maintenance						
10.4.1.2.1.	Adjust hood	*					
10.4.1.2.2.	Adjust broom	*					
10.4.1.2.3.	Clean sweeper	*					
10.4.1.2.4.	Change wearing surfaces:						
10.4.1.2.4.1.	Brooms	*					
10.4.1.2.4.2.	Skid plates	*					
10.4.1.2.4.3.	Curtains	*					
	Operate on:						
10.4.2.	Airfield	♦					
10.4.2.1.							
10.4.2.2.	Street	*					
10.4.3.	Operate suction hose attachment	*					
10.5.	Compaction Equipment						
10.5.1.	Perform operational checks	*					
10.5.2.	Perform operator maintenance	*					
10.5.3.	Compact earthen materials using:						
10.5.3.3.	Steel wheel vibratory roller	*					

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11.	EXCAVATING/TRENCHING MACHINES Accomplish the following AFQTPs: Paper-based: EXCAVATING/TRENCHING MACHINES Web-based: BACKHOE OPERATIONS EXCAVATE, LOAD, AND BACKFILL MATERIAL						
11.2	Backhoe						
11.2.1.	Perform operational checks	*					
11.2.2.	Perform operator maintenance	*					
11.2.3.	Perform backhoe operations such as:						
11.2.3.2.	Excavate with rear bucket	*					
11.2.3.4.	Load with rear bucket	*					
11.2.3.5.	Backfill with front bucket	*					
11.2.3.6.	Backfill with rear bucket	*					
11.3.	Hydraulic excavator						
11.3.1.	Perform operational checks		*				
11.3.2.	Perform operator maintenance		*				
11.3.3.	Perform excavator operations such as:						
11.3.3.1.	Excavate with bucket		*				

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
11.3.3.2.	Load with bucket		*				
11.3.3.3.	Backfill with bucket		*				
11.3.3.5.	Break materials with impactor		*				
11.3.4.	Change excavator attachments		*				
13.	CONSTRUCT PAVED SURFACES Accomplish the following AFQTPs: Paper-based: CONSTRUCT PAVED SURFACES Web-based: PAVED SURFACES (RIGID & FLEXIBLE)						
13.1.	Layout area using:						
13.1.1.	Line level	*					
13.1.3.	Carpenter level	*					
13.2.	Prepare area						
13.2.1.	Clear area using hand tools	*					
13.2.2.	Clear area using construction equipment	*					
13.2.3.	Stabilize subgrade using chemical means		◆				
13.2.4.	Stabilize subgrade using mechanical means	*					
13.2.5.	Prepare base course						
13.2.5.1.	Place material	*					
13.2.5.2.	Compact material	*					

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13.2.6.	Construct concrete slab						
13.2.6.1.	Install forms	*					
13.3.3.	Perform concrete tests						
13.3.3.1.	Perform slump test		*				
13.3.4.	Place concrete	*					
13.3.5.	Finish concrete						
13.3.5.1.	Power screed	*					
13.3.5.2.	Float/Trowel	*					
13.3.5.3.	Edge	*					
13.3.5.4.	Fabricate joints	*					
13.3.5.5.	Non-Skid	*					
13.3.6.	Cure concrete	*					
13.3.9.	Seal joints	*					
13.4.	Repair Defective Rigid Pavement						
13.4.1.	Rigid pavement inspection						
13.4.1.1.	Identify pavement defects	*					
13.4.1.2.	Perform Pavement Condition Index (PCI)		*				
13.4.1.3.	Perform full depth pavement repair						
13.4.1.3.1.	Cut pavement using concrete saw	*					
13.4.1.3.6.	Break pavement using air compressor with jack-hammer		♦				
13.4.1.3.7.	Remove pavement		♦				
13.4.2	Perform partial depth repair						
13.4.2.1.	Cut pavement using concrete saw	♦					

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
13.4.2.2.	Break pavement using air compressor with jack-hammer	♦					
13.4.2.3.	Remove pavement	♦					
13.4.2.4.	Mix concrete	♦					
13.4.2.5.	Place concrete	♦					
13.4.2.6.	Finish concrete	♦					
13.4.2.7.	Cure concrete	♦					
13.4.3.	Repair defective sealing material						
13.4.3.1.	Prepare joints/cracks for sealing						

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13.4.3.1.1.	Remove existing sealant using powered equipment	♦					
13.4.3.1.3.	Reseal joints/cracks						
13.4.3.1.3.1.	Install backer material		♦				
13.4.3.1.3.2.	Apply cold sealant		♦				
13.4.3.1.3.3.	Apply hot sealant		♦				
13.5.	Flexible Pavements/Asphalt Cement Concrete						
13.5.1.	Construct with bituminous materials (new construction)						
13.5.1.5.	Determine asphalt temperature	*					
13.5.1.6.	Place asphalt	*					
13.5.1.7.	Asphalt concrete lifts						
13.5.1.7.1.	Determine binder course requirements		♦				
13.5.1.7.2.	Determine wear course requirements		♦				
13.5.1.8.	Compact asphalt	*					
13.5.2.	Flexible pavement inspection						
13.5.2.1.	Identify pavement defects	*					
13.5.2.2.	Repair defective pavement						
13.5.2.2.1.	Cut area	♦					
13.5.2.2.2.	Remove pavement	♦					
13.5.2.2.3.	Prepare subgrade	♦					
13.5.2.2.4.	Prepare base	♦					
13.5.2.2.5.	Apply prime/tack coat	♦					
13.5.2.2.6.	Place asphalt	♦					
13.5.2.2.7.	Compact asphalt	♦					
13.5.3.	Repair cracks in flexible pavements						
13.5.3.1.	Remove existing sealant using powered equipment	♦					
13.5.3.2.	Seal cracks using:						
13.5.3.2.1.	Hot applied sealant machine	♦					
16.	AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES Accomplish the following AFQTPs: Paper-based: AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES Web-based: AIR FORCE CIVIL ENGINEER BERMS AND DIKES, PASSIVE DEFENSE TECHNIQUE, AND REVETMENTS						
16.1.	Passive defense measures/splinter protection construction						
16.4.3.	Construct kit-type revetments						
Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
16.4.3.1	Expandable bin type revetment	♦					
16.4.3.2.	Pre-cast modular concrete	♦					

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16.5.2.	Berms and dikes					
16.5.2.1.	Construct berm	♦				

Attachment 4
3E2X1 Career Field Education and Training Plan Change 1

DEPARTMENT OF THE AIR FORCE
 Headquarters US Air Force
 Washington DC 20330-1030

CHANGE 1
 CFETP 3E2X1
 1 June 2017

ENGINEERING
 CAREER FIELD EDUCATION AND TRAINING PLAN

The following changes to CFETP 3E2X1, 12 October 2016, are effective immediately:

1. Write in Changes:

Page(s)	Section	Task	Action
50	STS	7.7.1.	Column 4A(1): Add “2b”
50	STS	7.7.2.	Column 4A(1): Add “2b”
50	STS	7.7.3.1.	Column 4A(1): Add “1a”
50	STS	7.7.3.2.	Column 4A(1): Add “1a”
54	STS	11.3.1.	Column 4A(1): Add “2b”
54	STS	11.3.2.	Column 4A(1): Add “2b”
54	STS	11.3.3.1.	Column 4A(1): Add “2b”
54	STS	11.3.3.3.	Column 4A(1): Add “2b”
56	STS	13.4.1.2.	Column 4A(1): Change “2b” to “b”
57	STS	13.4.3.1.3.1.	Column 4A(1): Change “b” to “2b”
57	STS	13.4.3.1.3.2.	Column 4A(1): Change “b” to “2b”
59	STS	16.1.4.2.	Column 1: Change “AM-2 Matting” to “FOD Covers”
59	STS	16.1.4.3.	Delete entire row
59	STS	16.1.4.4.	Delete entire row

2. After necessary actions, file this change in back of CFETP.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

JOHN A. WILDE, CMSgt, USAF

Career Field Manager

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