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Air Force Specialty Code (AFSC) 3E2X1 PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR



Master



Basic



Senior

CAREER FIELD EDUCATION AND TRAINING PLAN

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**CAREER FIELD EDUCATION AND TRAINING PLAN
PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR (AFSC 3E2X1)**

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PREFACE

This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies lifecycle education, training requirements, training support resources, and minimum core task requirements for the Pavements and Construction Equipment Operator specialty. The CFETP will provide our personnel with a clear career path to success and instill rigor in all aspects of our career field training.

The CFETP consists of two parts; the supervisors use it to plan, manage, and control training within the career field.

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

- Section A provides general information on how to use the CFETP.
- Section B identifies information on career field progression, 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 guidance 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, contingency courses, 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 that supervisors can use to determine resources available to support training. Included here are the exportable courseware, mandatory, and supplemental courses.
- 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 course materials required for this specialty to support of contingency/wartime training.

Using the 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 workforce for tomorrow's jobs.

ABBREVIATIONS/TERMS EXPLAINED

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 Civil Engineer Center (AFCEC). The focal point for all Civil Engineer (CE) training development. Assigned to AFCEC are all the CE AFSC Force Development Managers (FDMs).

Air Force Credentialing Opportunities Online (AF COOL) Program. AF COOL replaced the CCAF Credentialing and Education Research Tool (CERT). Access the AF COOL Program through the [Air Force 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 Enlisted Classification Directory (AFECD). The official directory for all military enlisted classification descriptions, codes, and identifiers. The specialty descriptions and codes used to identify each Air Force job; the AFECD describes the minimum mandatory qualifications for personnel to fill these jobs. The updated AFECD is available at the AF Personnel Center's website located at [myFSS](#) under the military classification menu.

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. Access the AFIT course list in the [AFIT Civil Engineer School Course Catalog](#).

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). An AFJQS is a comprehensive task list that describes a particular job type or duty position; supervisors use it 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). A required instructional package designed for use at the unit to qualify, or aid qualification, in a duty position, program, or on a piece of equipment. AFQTPs identify the Air Force's standardized method for performing the task. The AFQTP are paper-based, computer-based, in other audiovisual media formats, or all three. Each Airman must use AFQTPs to satisfy a particular training requirement. AFQTPs for the 3E2X1 AFSC are located on [myLearning](#) and in [CE DASH](#).

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 designed to make career field training identifiable, eliminate duplication, and ensure this training is budget defensible.

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

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

Core Tasks (5[^] or 7[^]). 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 the work center supervisor identifies as detrimental to 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 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, completing the AFQTP is required for upgrade and qualification training. Airmen must accomplish hands-on certification 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, the Air Force Institute of Technology, Air University, and Air Education Training Command offer online courses.

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

Enlisted Professional Military Education (EPME). Introduces Airmen to appropriate institutional competencies at specific milestones throughout their career and includes two phases, Basic and Resident. Basic EPME requirements are via distance learning courses to establish a foundation for continued development. Resident attendance is not duplicative of the basic EPME requirements but builds upon the competencies obtained to achieve higher proficiency levels.

Enlisted Promotions Requirements Course Catalog (EPRRC). The EPRRC lists all enlisted promotion tests authorized for administration and the study references associated with these tests. Every question on a promotion test comes from one of the publications listed in the catalog. The site only lists publications that support questions on a given promotion test. The catalog also contains administrative and special instructions for test control officers. The EPRRC is available at [Airman Promotion Tools Testing](#).

Education and Training Course Announcement (ETCA). Contains specific MAJCOM procedures, fund cite instructions, reporting instructions, and listings for those formal courses conducted or managed by the MAJCOMs or field operating agencies (FOAs).

Expeditionary Combat Support-Training Certification Center (ECS-TCC). The Air Force Reserve Command manages the training center.

Force Development Manager (FDM). An individual assigned to the Air Force Civil Engineer Center (AFCEC) who serves as the HAF/A4C execution agent for all training and some career field management aspects of a specific Air Force Civil Engineer specialty.

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

Major Command (MAJCOM) Functional Manager (MFM). Senior leaders designated by the appropriate functional authority provide day-to-day management and responsibility over specific functional communities at the MAJCOM, Field Operating Agency (FOA), Direct Reporting Unit (DRU), or Air Reserve Component (ARC) level. While they should maintain an institutional focus regarding resource deployment and distribution, MFMs are responsible for ensuring their specialties are equipped, developed, and sustained to meet the future needs of the total Air Force mission.

[myLearning](#). Anytime, anywhere, learning for the Civil Engineer Community consisting of instructional and skill-level awarding course material specific to an AFSC.

[myTraining](#). The Total Force Training Record for Airmen that provides the capability through 21st-century learning tools to manage the training lifecycle for Total Force personnel.

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

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

Regional Training Site (RTS). The Air National Guard manages Total Force training centers.

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, or equipment, preclude desired training delivery.

Specialty Training Requirements Team (STRT). Before a Utilization and Training Workshop (U&TW), the AFCEC and a team of Subject Matter Experts from each MAJCOM meet to determine education and training requirements (formal and on-the-job training) for an Air Force Specialty. They use the STRT to create or revise training standards for all types of training. The team finalizes the CFETP and specialty description and develops a course standard.

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 AETC and the user to show the overall training course requirements for an AFS taught in resident or non-resident.

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 that provides individuals 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.

Task Qualification Training (TQT). Training conducted after Chemical, Biological, Radiological, and Nuclear Defense classroom training in which individuals perform wartime mission essential tasks in a simulated wartime environment while wearing full ground crew individual protective equipment or aircrew individual protective equipment.

Total Force. Organizations, units, and individuals that comprise the Air Forces' resources for meeting its mission. This includes civilian personnel, Active Duty, Air National Guard, and Air Force Reserve Command military personnel.

Training Planning Team (TPT). A working group tasked to identify training requirements that will normally result in major changes to one or more courses that support an AFS. The decisions, taskings, and associated suspense dates are recorded in the meeting. Minutes may include appropriate taskings for the Training Group (TRG) to begin the course development process.

Upgrade Training (UGT). The CFETP identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for awarding the 5-, 7-, and 9-skill levels.

Utilization and Training Workshop (U&TW). An executive decision meeting to vote on funding (Course Resource Estimates) 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, establish commitment and delivery dates in writing, document equipment availability dates, identify any problems and establish training delivery dates.

Vectored Positions. Key SNCO positions in your career field. To learn more about vectored positions, go to [MyVECTOR](#).

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

SECTION A - GENERAL INFORMATION

A1. Purpose. This CFETP provides the necessary information for the AFCFM, MFMs, commanders, Unit Training Managers (UTMs), 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, and advanced proficiency training.

A1.1. Initial Skills Training. The AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for the award of the 3-skill level. AETC provides our career field training at the 368 TRS, Fort Leonard Wood, MO.

A1.2. Upgrade Training. The CFETP identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for awarding 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. Qualification training provides additional performance skills/knowledge training required for the job.

A1.4. Advanced Training. A formal specialty training course used for selected Airmen.

A1.5. Proficiency Training. Additional training, either in-residence, exportable advanced training courses, or on-the-job training. This training increases their skills and knowledge beyond the minimum required upgrade requirements.

A1.6. CFETP. 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. Supervisors use the CFETP to 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 delivery methods.

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

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

A2.1. AETC training personnel will develop and 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 AFCEC Force Development Division (AFCEC/COF) to develop acquisition strategies for obtaining the resources needed to provide the identified training.

A2.2. MFMs ensure their training programs complement the CFETP mandatory initial, upgrade, qualification, and proficiency. OJT, resident training, contract training, or exportable courses can satisfy identified requirements. MAJCOM developed training to support this AFS; the AFCFM ensures the training is in the plan.

A2.3. Unit Training Managers and supervisors must ensure everyone completes this plan's mandatory upgrade training requirements (including MAJCOM supplemental requirements).

A2.4. Everyone will complete the mandatory training requirements specified in this plan. The list of courses in Part II of this CFETP is a reference to support training.

A3. Coordination and Approval. The AFCFM is the approval authority. Also, the AFCFM will initiate an annual review of this document to ensure currency and accuracy. Major Command representatives and AETC training personnel will identify and coordinate the career field training requirements. They will eliminate duplicate training using the list of courses in Part II.

SECTION B - CAREER FIELD PROGRESSION AND INFORMATION

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

B1.1. 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.

B1.1.1. Duties and Responsibilities for Apprentice (3E231), Journeyman (3E251), and Craftsman (3E271).

B1.1.2. Plans, constructs, and repairs airfield pavements, roadways, streets, curbs, surface mats, membranes, and other improved areas using paving and surfacing procedures. Takes soil aggregate, asphalt, and concrete samples for laboratory tests. Interprets construction drawings and surveys using information such as subgrade contours and grade alignment. Inspect pavements for surface, base, and subbase damage or defects. Repairs damaged or defective areas by removing and replacing joint and crack sealant. Determines material and equipment requirements and prepares cost estimates for construction activities. Performs erosion control.

B1.1.3. 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.

B1.1.4. 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.

B1.1.5. 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.

B1.1.6. 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.

B1.2. Duties and Responsibilities for Superintendents (3E290).

B1.2.1. 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.

B1.2.2. 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.

B1.2.3. 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.

B1.2.4. 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.

B1.2.5. Coordinates, monitors, and executes contingency and Prime Base Engineer Emergency Force (BEEF) training requirements and associated deployment preparation programs and duties. Ensures personnel are in a constant ready state to meet deployment commitments.

B1.2.6. 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. Everyone involved in training must do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure everyone 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 Career Development Course (CDC), Air Force Qualification Training Packages (AFQTPs), and web-based courses for subject and task fundamentals progress in the career field.

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

B2.1.4. After completing all upgrade training requirements, supervisors and 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. Completing the 5-level CDC and all 5-level core and diamond tasks are basic prerequisites for the five-skill level award.

B2.2.3. Complete the Civil Engineer (CE) 5-Level Core Concepts Course on [myLearning](#) before ordering their CDC.

B2.2.4. Must complete the appropriate Basic Enlisted Professional Military Education (EPME) and Resident EPME as outlined in Department of the Air Force Instruction (DAFI) 36-2670, *Total Force Development*.

B2.2.5. Enter continuation training to broaden technical experience base.

B2.2.6. Use CDC and other reference materials to prepare for Weighted Airman Performance System (WAPS) testing. Review the [EPRRC](#) for the complete list of testing materials.

B2.2.7. Pursue academic education through CCAF, nationally or regionally accredited institutions, or other degree-awarding institutions.

B2.2.8. Complete Air Force Institute of Technology (AFIT) WMGT 301, Introduction to Asset Management courses. This course is mandatory for Active Duty and highly encouraged for the Air Reserve Component.

B2.2.9. After completing all upgrade training requirements, supervisors and UTMs 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 [myLearning](#) and all core and diamond tasks are basic prerequisites for the seven-skill level award.

B2.3.3. Must complete Basic EPME and Resident EPME as outlined in DAFI 36-2670, *Total Force Development*.

B2.3.4. Should take additional training courses to broaden technical knowledge or management of resources and personnel.

B2.3.5. Use CDC and other reference materials to prepare for WAPS testing. Review the [EPRRC](#).

B2.3.6. Completing the AFIT WMGT 322 Intro to Project Management Course is mandatory for Active Duty and highly encouraged for the Air Reserve Component.

B2.3.7. Completing the Troop Construction Project Management Course (AFIT WMGT 437) is mandatory for Active Duty personnel and required for promotion to MSgt. This course is highly encouraged for Air Reserve Component MSGts. **Note:** This is not a skill level-awarding course.

B2.3.8. Starting with the FY24 SSgt promotion cycle, Airmen must complete the 3E2X1 Craftsman Course (JCACP3E271 00AA) for 7-skill level award. Members attending this course must have completed all OJT 7-skill level upgrade requirements before attending this course.

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

B2.3.10. Pavements and Construction Equipment Operator Airmen are encouraged to continue academic education through CCAF, nationally or regionally accredited institutions, or other degree-awarding institutions. **Note:** Airmen eligible for promotion to SMSgt must have a conferred (awarded) associate or higher-level degree from any nationally or regionally accredited institution on or before the promotion eligibility cutoff date to be eligible for promotion to SMSgt (DAFI 36-2502, *Enlisted Airman Promotion and Demotion Programs*).

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

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

B2.4.2. Completing the Civil Engineer Superintendent Course (AFIT WMGT 570) is mandatory for Active Duty. This course is highly encouraged for Air National Guard and Air Force Reserve SMSgts and mandatory for promotion to CMSgt.

Note: This is not a skill-level-awarding course.

B2.4.3. Must complete Basic EPME as required and Resident EPME as outlined in DAFI 36-2670, *Total Force Development*.

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

B2.4.5. Continuing academic education through higher degree programs is encouraged.

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

B2.5. Senior Enlisted Leader (SEL) (3E000 - CMSgt).

B2.5.1. SELs work in multiple leadership positions and functional areas that challenge them and effectively use their general managerial and supervisory abilities.

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

B2.5.3. Must complete the appropriate Basic EPME and Resident EPME as outlined in DAFI 36-2670, *Total Force Development*.

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 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. A career field STRT held virtually from 17 through 19 November 2020 made the following decisions.

B3.1. Initials Skills Training. The STRT members reviewed and updated the initial skills course content. See the STS for the additions, deletions, and modifications made to the course. They identified and validated the Wartime training tasks.

B3.2. Five Level Upgrade Training Requirements. The members reviewed the existing CDC and updated it to ensure only current material remained and they added new technology information.

B3.3. Seven Level Upgrade Training Requirements. The STRT members reviewed, validated, and updated STS line items. In addition, they approved training for the new 7-level course.

B3.4. Proficiency Training. Assign additional knowledge and skill requirements not taught through initial skills or upgrade training as continuation training. The Purpose of continuation training is to provide training exceeding minimum upgrade training requirements with an emphasis on present and future duty positions. MAJCOMs must develop a continuation-training program that ensures personnel in the Pavements and Construction Equipment 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. SMEs and the STRT members reviewed the supplemental training course for technical accuracy.

B4. Community College of the Air Force (CCAF) Academic Programs. Enrollment in the Community College of the Air Force occurs upon completing Basic Military Training. Community College of the Air Force provides the opportunity to obtain an Associate of Applied Sciences Degree. In addition to its associate degree program, CCAF offers the following:

B4.1. Occupational Instructor Certification. Upon completion of instructor qualification training, consisting of the instructor methods course and supervised practice teaching, Community College of the Air Force instructors who possess an associate degree or higher may be nominated by their school commander and commandant for certification as an occupational instructor.

B4.2. Trade Skill Certification. When a CCAF student separates or retires, CCAF awards a trade skill certification for the primary occupational specialty. The college uses a competency-based assessment process for trade skill certification at one of four proficiency levels: Apprentice, Journeyman, Craftsman, or Master Craftsman.

B5. CCAF Degree Completion Requirements (60 Semester Hours). The Construction Technology Associates Degree (4VEB) applies to the 3E2X1 AFSC. Before receiving a CCAF degree, the individual must have a 5-level and meet the following requirements:

<u>Degree Requirements</u>	<u>Semester Hours</u>
Technical Education	24
Program Electives	15
Leadership, Management, and Military Studies (PME)	6
General Education (Civilian)	15
- Oral / Written Communication (6)	
- Mathematics (3)	
- Social Science (3)	
- Humanities (3)	
Total	60

B5.1. Technical Education. (24 semester hours). Apply a minimum of nine semester hours of CCAF institutional credit awarded from specialty-related formal training towards Technical Core subject requirements. Satisfy Technical Electives CCAF credit from other sources in-transfer.

<u>Technical Core Requirements</u>	<u>Semester Hours</u>
Building Construction 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.

<u>Technical Electives</u>	<u>Semester Hours</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
Properties and Strength of Materials	6
Soil and Foundations	3
Technical Writing	3

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

B5.4. General Education (15 Semester Hours). Applicable courses must meet the General Education Requirement (GER) subject criteria and in-transfer requirements.

<u>General Education Subjects/Courses</u>	<u>Semester Hours</u>
Communications:	
Written Communication (English Composition)	3
Oral Communication (Speech)	3
Mathematics	3
Social Science	3
Humanities	3

B5.5. Program Elective (15 semester hours). Courses applying to technical education, Leadership, Management, and Military Studies or General Education requirements; natural science courses meeting General Education requirement application criteria; foreign language credit earned at Defense Language Institute; maximum nine semester hours of CCAF degree-applicable technical course credit otherwise not applicable to the program.

B5.6. Additional off-duty education is a personal choice encouraged for all. Individuals desiring to become an AETC Instructor should actively pursue an associate degree. A degreed faculty is required to maintain accreditation through the Southern Association of Colleges and Schools.

B5.7. Instructional Systems Development (ISD) Certification. CCAF offers the ISD Certification for qualified course/curriculum developers, writers, and managers formally assigned to an off-campus instructional site to develop/write and manage CCAF collegiate-level credit

awarding courses. The ISD Certification is a professional credential recognizing the course/curriculum developer/writer's or manager's extensive training, education, qualifications, and experience required to develop/write and manage CCAF courses.

B5.8. Air Force Credentialing Opportunities Online (AF COOL) Program. CCAF manages the AF COOL Program, which provides a research tool designed to increase an enlisted Airman and Guardian's awareness of national professional credentialing and funding opportunities available for all Air Force enlisted occupational specialties. AF COOL also provides information on specific occupational specialties, civilian occupational equivalencies, specialty-related national professional credentials, credentialing agencies, and professional organizations. AF COOL includes information such as:

B5.8.1. Get background information about civilian credentials, including eligibility requirements and resources to prepare for an exam.

B5.8.2. Identify credentials relevant to an AFSC, Special Duty Identifier (SDI), and Reporting Identifier (RI).

B5.8.3. Learn how to fill gaps between Air Force training and experience and civilian credentialing requirements.

B5.8.4. Information on AF COOL funding opportunities to pay for credentialing coursework, textbooks, exams, associated fees, and recertification.

B5.8.5. Resources available to enlisted Airmen and Guardians that can help them gain civilian job credentials.

B5.9. Air University Associate to Baccalaureate Cooperative (AU-ABC). The AU-ABC program connects CCAF graduates with online 4-year programs. The AU-ABC program includes postsecondary institutions with institutional accreditation.

B5.9.1. CAT I: For CCAF Graduates. Guarantees CCAF AAS graduates need no more than 64 semester hours to complete an AU-ABC degree program.

B5.9.2. CAT II: For CCAF AAS Students. Students complete up to nine semester hours with a partner school to complete the CCAF AAS degree through dual tracking, simultaneously fulfilling the CCAF AAS degree requirements and some of the AU-ABC degree program requirements.

B5.9.3. CAT III: For CCAF AAS Graduates. Must complete over 60 semester hours of credit beyond the CCAF AAS and meet all other AU-ABC degree program requirements.

B5.9.4. CCAF students and graduates can search for degree programs from a list of military-friendly civilian institutions via the Air Force Virtual Education Center (AFVEC). From there, students can view their education record and CCAF credits earned, apply for Military TA, and shop for baccalaureate degree programs. For more information, refer to the AU-ABC [fact page](#).

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



B7. Enlisted Career Path.

ENLISTED CAREER PATH				
	GRADE REQUIREMENTS			
Education and Training 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 10 months		8 years
<u>Upgrade To Journeyman</u> (5-Skill Level) – Complete 5-level CDC – Complete CE 5-Level Core Concepts WBT – Complete AFIT WMGT 301 Course. Mandatory for Active Duty and highly encouraged for the ARC – Complete all 5-level core/duty-related tasks – In-residence ALS for SSgt sew-on (AD only)	SrA	3 years	28 months Below the Zone (BTZ) (22 Months)	10 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 Core Concepts WBT – Complete all core/duty related tasks – Complete AFIT WMGT 322 Course. Mandatory for Active Duty and highly encouraged for the ARC – Complete 3E2X1 Craftsman Course (FY24)	SSgt TSgt MSgt	5 years 9 years 16 years	3 years 5 years 8 years	20 years 22 years 24 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>MSGT</u> Completion of Troop Construction Project Management Course (AFIT WMGT 437) is mandatory for Active Duty and required for promotion to MSgt. This course is highly encouraged for Air Reserve Component MSgts. Note: this is not a skill level-awarding course.				
<u>Upgrade To Superintendent</u> (9-Skill Level) – Minimum rank of SMSgt – Complete AFIT WMGT 570, CE Superintendents Course (AD Only) – In-residence USAF SNCOA, or sister service equivalent, graduation is required for SMSgt sew-on (AD only)	SMSgt	20 years	11 years	26 years
<u>Chief Enlisted Manager</u> – Chief Orientation Course (AFR Only) – CE Superintendents Course (WMGT 570) (ANG and AFRC only) – In-residence Chief Leadership Course is required for all CMSgt selects and CMSgts prior to 1-year time in grade	CMSgt	22 years	14 years	30 years

B7.1. CE Occupational Badge. The Civil Engineer badge reflects a great history and tradition. When worn, Airmen will recognize you 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 the award and wear of AF occupational badges are in AFMAN 36-2100, *Military Utilization and Classification*, and DAFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*.

B7.2. CE Badge Heraldry. The gear wheel and compass represent the engineering profession in the military and private sectors. The gear represents the essence of engineering: applying scientific principles and technology to practical ends. To AF engineers, the gear symbolizes an element (representing the built environment) that meshes with others (weapon systems and trained personnel) to enable the AF 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 symbolize all the diverse specialties of Air Force civil engineers. Finally, the wings help portray the fundamental linkage between the engineering and aviation components, and the built environment is the foundation supporting the Air Force mission and people. 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. Awarded upon completion of the apprentice course.



B7.2.2. 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. Adds a wreath around the star. Awarded to master sergeant or above with 5 years in the specialty from award of the 7-skill level.



B8. Enlisted Professional Military Education (EPME).

B8.1. Basic EPME (Distance Learning). Basic EPME requirements are completed via distance learning (DL) courses to establish a foundation for continued development and include the Noncommissioned Officer (NCO) DL and Senior Noncommissioned Officer (SNCO) DL courses. NCO DL and SNCO DL courses are no longer prerequisites to attending resident NCO Academy and SNCO Academy.

B8.2. Resident EPME (In-residence). Resident EPME requirements include Airman Leadership School (ALS), NCOA, SNCOA, and the Chief Leadership (CL) course. Resident EPME completion is required for promotion to SSgt, MSgt, and CMSgt grades.

B8.2.1. Resident EPME Eligibility Chart.

EPME Course	Selection Process
ALS	<ol style="list-style-type: none"> 1. SSgts 2. SSgt-selects 3. SrA with 36 months, Time in Service (TIS) or greater
NCOA	<ol style="list-style-type: none"> 1. MSgts 2. MSgt selects 3. TSgts 4. TSgt-selects
SNCOA	<ol style="list-style-type: none"> 1. SMSgts 2. SMSgt-selects 3. Non-selects to SMSgt based on promotion board score (highest to lowest)
CLC	<ol style="list-style-type: none"> 1. CMSgts 2. CMSgt selects

SECTION C - SKILL LEVEL TRAINING REQUIREMENTS

C1. Purpose. This section outlines the 3E2X1 specialty qualification requirements for each skill level and establishes the mandatory requirements for each skill level's entry, award, and retention. The STS in Attachment 2 identifies the core tasks, diamond tasks, knowledge items, and skill level requirements.

C2. Specialty Qualification. Refer to [myFSS](#) for the most current minimum requirements for entry into the Pavements and Construction Equipment Operator career field. See AFECDC Attachment 4 for additional entry physical requirements.

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

KNOWLEDGE	Completion of: - Pavements and Equipment Course of Initial Entry (JCAQP3E231 00AB) - Pavements and Equipment Awarding Course (JCABP3E31 00AE)
EDUCATION	For entry into this specialty, completion of high school with courses in mathematics mechanical drawing, and use of metal, masonry and woodworking tools is desirable.
TRAINING	Completion of the Pavements and Equipment Apprentice courses are mandatory.
EXPERIENCE	None required.
OTHER	For entry, award, and retention of AFSC 3E231: Normal color vision as defined in DAFMAN 48-123, <i>Medical Examinations and Standards</i> . Must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Ground Transportation</i> . Must maintain local network access IAW AFI 17-130, <i>Cybersecurity Program Management</i> , and AFMAN 17-1301, <i>Computer Security (COMPUSEC)</i> .
IMPLEMENTATION	The 3-skill level is awarded upon graduating from the apprentice course and submission by the Unit Training Manager at the member's unit of assignment.
TRAINING SOURCES AND RESOURCES	Reference PART II, SECTIONS: B - COURSE OBJECTIVE LIST (COL); C - SUPPORT MATERIAL; D - EDUCATION AND TRAINING COURSE INDEX; E - MAJCOM UNIQUE REQUIREMENTS; F - HOME STATION TRAINING

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

<p>KNOWLEDGE</p>	<p>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.</p>
<p>EDUCATION</p>	<p>Completion of AFIT WMGT 301, Introduction to Project Management. This course is mandatory for Active Duty and highly encouraged for the ARC.</p> <p>The following are strongly encouraged:</p> <ul style="list-style-type: none"> - CCAF Construction Technology Associates Degree (4VEB) or equivalent degree - Higher education through a civilian institution
<p>TRAINING</p>	<p>Completion of 5-level CDC.</p> <p>Completion of all the paper-based AFQTPs and their associated web-based courses on myLearning on all core (5^) and diamond (◆) tasks with a passing score of 80%.</p> <p>Completion of the CE 5-Level Common Core Concepts web-based course located on myLearning is mandatory for award of this skill level.</p> <p>Certification of all 5-skill level core tasks identified with an asterisk (5^) in the core task column of the STS.</p> <p>Certification of all 5-skill level diamond tasks identified with a diamond (◆) in the task column of the STS if the equipment is available. The minimum requirement is the signing off tasks on the AFQTP Documentation Record.</p> <p>Certification of duty position requirements identified by the supervisor.</p> <p>Complete certification of all CBRN TQT requirements identified with (TQT) after the line item in the STS in MOPP 4. Annotate the training on the DAF Form 623A or DAF Form 797.</p> <p>The following training is desirable and strongly encouraged:</p> <p>Completing the Regional Equipment Operator Training School (REOTS) course instructed at Fort Indiantown Gap, PA; recommended attendance between 4-10 years in service.</p>

EXPERIENCE	<p>Qualification in and possession of AFSC 3E231.</p> <p>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.</p>
OTHER	<p>Normal color vision as defined in DAFMAN 48-123, <i>Medical Examinations and Standards</i>.</p> <p>For award and retention of AFSC 3E251, Airmen must possess a valid state driver's license to operate GMV in accordance with AFI 24-301, <i>Vehicle Operations</i>.</p> <p>Maintain local network access IAW AFI 17-130, <i>Cybersecurity Program Management</i>, and AFMAN 17-1301, <i>Computer Security (COMPUSEC)</i>.</p>
IMPLEMENTATION	<p>Initiate entry into 5-level upgrade training after the individual has completed all 3-level requirements. Initiate qualification training any time individuals are assigned duties they are not certified to perform. Use OJT, CDCs, AFJQs, and AFQTPs concurrently to obtain the necessary qualifications.</p>
TRAINING SOURCES AND RESOURCES	<p>Reference PART II, SECTIONS: B - COURSE OBJECTIVE LIST (COL); C - SUPPORT MATERIAL; D - EDUCATION AND TRAINING COURSE INDEX; E - MAJCOM UNIQUE REQUIREMENTS; F - HOME STATION TRAINING</p>

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

KNOWLEDGE	<p>All 3- and 5-level knowledge requirements apply to 7-level.</p>
EDUCATION	<p>Completion of AFIT 322, Introduction to Project Management. This course is mandatory for Active Duty and highly encouraged for ARC.</p> <p>Completion of the grade-appropriate EPME is mandatory.</p> <p>Complete the 10-day Pavements and Construction Equipment Craftsman Course (JCACP3E271 00AA) for award of the 7-skill level is required. Members attending this course must have completed all OJT requirements for upgrade to the seven-skill level before attending this course.</p> <p>The following are strongly encouraged:</p> <ul style="list-style-type: none"> - CCAF Construction Technology Associate Degree (4VEB) - WENG 555 Airfield Pavement and Construction - WMGT 436 Requirements and Optimization - Higher education through a civilian institution

<p>TRAINING</p>	<p>Completion of all the paper-based AFQTPs and their associated web-based courses on myLearning for all 5- and 7- skill level core (*) and diamond (◆) tasks with a minimum passing score of 80%.</p> <p>Completion of the CE 7-Level Common Core Concepts web-based course located on myLearning is mandatory for award of this skill level.</p> <p>Certification of all 5- and 7- skill level, core tasks identified within the STS.</p> <p>Certification of all 5- and 7-level diamond tasks identified with a diamond (◆) in the task column of the STS if the equipment is available. The minimum requirement is the signing off tasks on the AFQTP Documentation Record.</p> <p>Certification of duty position requirements identified by the supervisor.</p> <p>The following training is desirable and strongly encouraged: Completing the Regional Equipment Operator Training School (REOTS) course instructed at Fort Indiantown Gap, PA; recommended attendance between 4-10 years in service.</p>
<p>EXPERIENCE</p>	<p>Qualification in and possession of AFSC 3E251.</p> <p>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.</p>
<p>OTHER</p>	<p>For entry, award, and retention of AFSC 3E271:</p> <p>Normal color vision as defined in DAFMAN 48-123, <i>Medical Examinations and Standards</i>.</p> <p>Must possess a valid state driver’s license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Ground Transportation</i>.</p> <p>Must maintain local network access IAW AFI 17-130, <i>Cybersecurity Program Management</i>, and AFMAN 17-1301, <i>Computer Security (COMPUSEC)</i>.</p>
<p>MSGT</p>	<p>Completing the Troop Construction Project Management Course (AFIT WMGT 437) is mandatory for Active Duty and required for promotion to MSgt. This course is highly encouraged for Air Reserve Component MSgts. Note: this is not a skill-level-awarding course.</p>
<p>IMPLEMENTATION</p>	<p>Initiate entry into 7-level upgrade training after the individual has completed all 5-level requirements and selected for SSgt. Initiate qualification training any time individuals cannot perform their new duties. Use OJT, CDCs, AFJQs, and AFQTPs concurrently to obtain the necessary qualifications.</p>

C2.4. Superintendent (9-Level) Training Requirements. (3E090)

KNOWLEDGE	<p>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.</p>
EDUCATION	<p>The following education is desirable and strongly encouraged:</p> <p>CCAF Construction Technology Associates Degree (4VEB).</p> <p>Higher education through a civilian institution.</p> <p>Completion of the grade appropriate EPME is mandatory.</p>
TRAINING	<p>Completing Civil Engineer Superintendent Course AFIT WMGT 570 is mandatory for Active Duty SMSgts. This course is highly recommended for Air National Guard and Air Force Reserve SMSgts and mandatory for promotion to CMSgt. Note: This is not a skill-level awarding course.</p>
EXPERIENCE	<p>For award of AFSC 3E290, qualification in and possession of AFSC 3E371 or 3E271 is mandatory. Must be a SMSgt. 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.</p>
OTHER	<p>Heavy Repair Superintendents should pursue any additional knowledge and skill requirements 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.</p> <p>Must maintain local network access IAW AFI 17-130, <i>Cybersecurity Program Management</i> and AFMAN 17-1301, <i>Computer Security</i>.</p> <p>For award and retention of AFSC 3E290, must possess a valid state driver's license to operate government motor vehicles (GMV) IAW AFI 24-301, <i>Vehicle Operations</i>.</p> <p>Normal color vision as defined in DAFMAN 48-123, <i>Medical Examinations and Standards</i>.</p>
IMPLEMENTATION	<p>Initiate entry into 9-level upgrade training after the individual has completed all 7-level requirements and selected for SMSgt. Initiate qualification training any time individuals cannot perform their new duties.</p>

C2.5. Senior Enlisted Leader. (3E000)

KNOWLEDGE	Knowledge is mandatory of Air Force training programs. CE policies, practices, and procedures of base maintenance and operations, crafts, facilities, equipment, and systems. Interpretations and applications of maintenance and work force management. General construction, and repair methods and procedures, including use and capacity of construction equipment.
TRAINING	In-residence Chief Leadership Course (within 1 year of CMSgt date of rank). Reserve Component Chief Orientation Course (AFRC only).
EXPERIENCE	Possess qualifications in feeder specialty (i.e., 3E290) prior to award of Civil Engineer Manager Code 3E000. Managerial ability to plan, direct, coordinate, implement, and control a wide range of work activities.
OTHER	N/A
IMPLEMENTATION	Selection to CMSgt enters an individual into the Civil Engineer Manager Code 3E000. They must possess the qualifications from a feeder specialty (3E090, 3E290, 3E490, 3E591, and 3E691).

SECTION D - RESOURCE CONSTRAINTS

D1. Purpose: This section identifies known resource constraints that preclude optimal training at the schoolhouse, 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 (OPR) and target completion dates. If applicable, resource constraints will be, at a minimum, reviewed and updated annually.

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

D2.1. Constraints.

D2.1.1 Impact.

D2.1.2. Resources Required.

D2.1.3. Action Required.

D2.2. OPR/Target Completion Date.

D3. Journeyman (5-Level) Training: Minimal.

D3.1. Constraints: Apprentice course graduates will use the current paper-based CDC for upgrade training until the new web-based CDC is on-line.

D3.1.1. Impact.

D3.1.2. Resources Required.

D3.1.3. Action Required.

D3.2. OPR/Target Completion Date.

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

D4.1. Constraints.

D4.1.1. Impact.

D4.1.2. Resources Required.

D4.1.3. Action Required.

D4.2. OPR/Target Completion Date.

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

SECTION E – TRANSITIONAL TRAINING GUIDE

E1. Starting with the FY24 SSgt promotion cycle, Airmen must complete the 3E2X1 Craftsman Course (JCACP3E271 00AA) for 7-skill level award. Members attending this course must have completed all OJT 7-skill level upgrade requirements prior to attending this course.

SECTION A - SPECIALTY TRAINING STANDARD

A1. Implementation. This STS identifies the technical training provided by AETC Army ITRO Pavements and Equipment Apprentice and Air Force Unique Training courses with classes beginning 17 October 2022 and graduating on or after 01 February 2023, and for the Craftsman course with classes beginning in FY25.

A2. Purpose. As prescribed in DAFMAN 36-2689, *Training Program* and in collaboration with the Air Force CFM, it is mandatory for all civil engineers, regardless of duty assignment, to use the paper-based STS or an automated training record, when available.

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

A2.1.1. Task Qualification Tasks (TQT). In accordance with DAFI 10-2503, *Chemical, Biological, Radiological, Nuclear (CBRN) Defense Program*. TQT requirements identified by (TQT) after the line item of the STS are mandatory wartime skills that Airmen will perform while wearing Individual Protective Equipment.

A2.2. Column 2 (*Core Tasks*). Column 2 identifies core tasks (specialty-wide training requirements) by a number (5[^] or 7[^]) in the skill level column. **As a minimum, trainees must complete all core and critical tasks for skill-level upgrades.**

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

A2.2.2. Diamond Tasks. Tasks (column 1) identified by a diamond (◆) after the task item are considered contingency/war tasks and are critical to the career field. Equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. When required equipment is unavailable for instruction, completion of the corresponding task AFQTP is required for upgrade/qualification training.

A2.3. Column 3 (*Certification for OJT*). Used to record completion of tasks and knowledge training requirements. Use paper or automated training management applications to document technician qualifications. **Task certification of core and critical tasks** requires a training completion date and the initials of the trainee, trainer, and certifier. All non-core tasks require the 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 because of training on the task, knowledge, and career knowledge provided by formal courses and correspondence courses. See CADRE/AFSC/CDC listing maintained by the UTM for current CDC listings.

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

A2.6. Job Qualification Standard (JQS). The STS becomes an AFJQS for OJT in an automated training application and used according to DAFMAN 36-2689, *Training Program*. Supervisors and trainers use AFQTPs to ensure Air Force-wide standardized procedures for training Core tasks. 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 work center supervisor, maintained in the shop, or loaded into the automated training management application when available. Completing core, critical, and diamond tasks is mandatory for all duty positions. Work center supervisors assign Airmen to the correct duty position.

A2.6.1.2. AFQTP Training and Documentation. AFQTPs or AFQTP assessments for all core (5[^] or 7[^]) tasks and their completion are mandatory to fulfill task knowledge requirements for upgrade/qualification training. Each AFQTP provides the step-by-step procedures for the trainee, trainer, and certifier in completing each core or diamond task and instructions on how to document the training in the individual automated training record.

A2.6.1.2.1. Training. Required documentation of the start and completion of the AFQTP in the QTP tracker (Attachment 3) or the automated training record for all core tasks. Diamond tasks require the completion of the web-based course (with the review and post-test located in the program) or completing the AFQTP assessment on [myLearning](#) to determine if the trainee has attained the required knowledge level. Once the trainee has completed the web-based course or AFQTP assessment, Airmen provide the course completion certificate to the trainer/supervisor for annotation of the QTP tracker or into the automated training record.

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, completing the AFQTP or AFQTP assessment is the ONLY requirement for upgrade. Sign off the paper JQS or in the automated training record when the trainee receives training on the equipment at home station or at a TDY location.

A2.6.2. Transcribing from previous versions to new CFETP. Transcribing documentation to a new CFETP is an administrative function, not a re-evaluation of training. Therefore, supervisor and trainer are considered synonymous with documentation. Transcribe within 120 calendar days (240 calendar days for ARC) of the CFETP revision date or from the date revision is posted to the automated training records system.

A2.6.2.1. Previous training certification not listed. Place an entry into the trainee DAF Form 623A; the transcriber and trainee must acknowledge entry.

A2.6.2.2. Transcribing external training certification. If a trainee attended a formal training course and received appropriate accreditation, place an entry into the trainee's DAF Form 623A.

A2.6.3. Documenting Career Knowledge. When a CDC course is not available, the supervisor identifies STS training references that the trainee requires for career knowledge IAW DAFMAN 36-2689, *Training Program* and ensures, as a minimum, that trainees cover all mandatory items specified in AFM 36-2100, *Military Utilization and Classification*. For two-time CDC/DL course

exam failures, the unit commander will take appropriate action IAW DAFMAN 36-2689, *Training Program*. Document career knowledge to submit a CDC course waiver.

A2.6.4. Decertification. When a supervisor determines an Airman is unqualified on a task previously certified for their duty position, the supervisor erases the previous certification or deletes the certification when using an automated system. Enter appropriate remarks pertaining to the reason for decertification on the DAF Form 623A or the automated version. Once an Airman has shown proficiency, the trainer and certifier can sign off the task(s).

A2.6.5. Recertification. Supervisors use the DAF Form 1098 to document tasks requiring recurring training or evaluation. Air Force directives may identify tasks in the CFETP requiring special certification or evaluation. This form may be overprinted and filed in the DAF Form 623. This form will remain in the training record for tasks requiring certification until superseded or no longer required.

A2.6.6. Training Standard. Train and certify Airman 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 standard of training equates to a 3c in the proficiency code key. Use available AFQTPs to train tasks.

A2.7. Specialty Training Standard. The STS is a guide for developing promotion tests used in the Weighted Airman Promotion System (WAPS). Senior NCOs with extensive practical experience in their career fields develop Specialty Knowledge Tests (SKTs) at the AETC Airman Advancement Division. Subject matter experts authenticate WAPS material and reference AF Specialty-specific occupational analysis data to develop SKTs. They develop questions based on the study references listed in the Enlisted Promotions References and Requirements catalog. Individual responsibilities are in AFM 36-2664, *Personnel Assessment Program*. WAPS does not apply to the Air National Guard or Air Reserve Forces.

A3. Recommendations. Report unsatisfactory performance of individual course graduates to the 782 TRG/TGE, 917 Missile Road, Rm 1A300, Sheppard AFB TX 76311-2368 or E-mail 782csil@us.af.mil. Call the Customer Service Information Line (CSIL) at DSN 736-2574 for a quicker response anytime, day or night.

SECTION B - COURSE OBJECTIVE LIST (COL)

B1. Measurement. Measure each learning objective as follows:

B1.1. Written Test (W). Used to sample each knowledge objective and the knowledge components of performance objectives.

B1.2. Performance Test (P). Used under specified conditions in a formal testing mode to measure student accomplishment of performance objectives after completing the teaching-learning activity.

B1.3. Progress Check (PC). Administered by the instructor during classroom or laboratory instruction time to assess the student's accomplishment of knowledge or performance objectives.

B2. Standard. Standards for measurement indicate the course objectives and delineate the individual progress checklist and rubrics. The minimum standard is 70% on knowledge progress checks. Instructors assist students as the standard for performance progress checks and as warranted during the progress check. Students may be required to repeat all or parts of the learning outcomes until the student attains satisfactory performance.

B3. Proficiency Level. Most task performance is taught to the "2b" proficiency level, meaning the student can do most parts of the task but needs assistance on the hardest parts (partially proficient). The student can also determine step-by-step procedures for doing the task.

B4. Course Objective List. The COL lists the objectives in the sequence taught by Blocks of Instruction. Per AETCI 36 - 2651, *Basic Military and Technical Training*, Supervisors can request a detailed listing of the initial skills course objectives by written request through the requesting organizations MAJCOM to the 368th Training Squadron, 3E2X1 Training Manager, 6007 Cooley Ave Fort Leonard Wood, MO 65473.

SECTION C - SUPPORT MATERIAL

C1. Air Force Qualification Training Packages.

C1.1. The 3E2X1 AFQTP Tracker identifies the **mandatory AFQTPs** for each skill level.

C1.2. For a complete list of up-to-date AFQTPs applicable to the 3E2X1 AFSC, go to [myLearning](#) or [CE DASH](#) under the documents tab in the AFSC AFQTP folder.

C1.2.1. In addition to the paper-based AFQTPs there are web-based courses or assessments developed, for specific tasks available on [myLearning](#) under Civil Engineering in their specialty topic area.

C2. Career Development Course (CDC) Assessment for Civil Engineer CDC/DL Course.

C2.1. FDMs have developed CDC assessments for their career field, and they are located on the [myLearning](#) under Civil Engineering in their specialty Career Development Courses (CDC) Assessments.

C2.2. The sole purpose of CDC assessments is to provide 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(s).

SECTION D – EDUCATION AND TRAINING COURSE INDEX

D1. Purpose. This section of the CFETP identifies training courses available for the Pavements and Construction Equipment specialty. Refer to Education and Training Course Announcements ([ETCA](#)) web site for information on the Air Force in-residence courses.

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

<u>Course Number</u>	<u>Title</u>	<u>Developer</u>
JCAQP3E231 00AB	Pavements and Construction Equipment Apprentice (COIE)	368 TRS
J9AQA3E231 04RA	Pavements and Construction Equipment Operator (ITRO – Graders)	368 TRS
JCABP3E231 00AE	Pavements and Construction Equipment Operator Apprentice Course (AFSC Awarding)	368 TRS
JCACP3E271 00AA	Pavements and Equipment Craftsman Course	368 TRS
AFCEC 3E2X1	Regional Equipment Operator Training School (REOTS)	201 RTS
J5AZA3E251 00RA	Sling Load Inspector Certification (860-F4)	368 TRS

D3. Air Force Career Development Academy (AFCDA).

<u>Course Number</u>	<u>Title</u>	<u>Edit Code</u>
CDC 3E251	Pavements and Construction Equipment Operator Journeyman	01

D4. Exportable/Web-based Courses/Information.

<u>Course Number</u>	<u>Title</u>	<u>Developer</u>
Web based	Civil Engineer 5-Level Core Concepts Course	AFCEC/COF
Web based	Civil Engineer 7-Level Core Concepts Course	AFCEC/COF
Web based	Airfield Crushed Stone Crater Repair	AFCEC/COF
Web based	Airfield Rubber Removal	AFCEC/COF
Web based	RADR Overview	AFCEC/COF
Web based	RADR Course	AFCEC/COF
Web based	RADR Program Mangers Course	AFCEC/COF
Web based	Passive Defense Techniques	AFCEC/COF
Web based	RED HORSE Concrete Batch Plant Operations	AFCEC/CXXT
Web based	RED HORSE Asphalt Mixing Plant Operations	AFCEC/CXXT
Web based	RED HORSE Explosive Demolition Operations	AFCEC/CXXT
Web based	RED HORSE Quarry Operations	AFCEC/CXXT
Web based	Revetments	AFCEC/COF
Web based	Paved Surfaces (Rigid & Flexible)	AFCEC/COF
Web based	Snow and Ice Control Techniques	AFCEC/COF
Web based	Snow and Ice Control Management	AFCEC/COF
Web based	Spall and Crack Repair	AFCEC/COF

Web based	Dump Truck Operator’s Course	AFCEC/COF
Web based	Fall Protection Awareness	AFCEC/COF
Web based	Tractor Trailer Combination	AFCEC/COF
Web based	Tractor Trailer Overview	AFCEC/COF
Web based	Air Brake Testing	AFCEC/COF
Web based	Oshkosh H Series Cat C 13 Regeneration Procedures	AFCEC/COF
WENG 200	Scoping and Estimating	AFIT
WMGT 322	Introduction to Project Management	AFIT
WMGT 301	Intro to Asset Management	AFIT
WMGT 436	Requirements and Optimization	AFIT
WMGT 437	Troop Construction Project Management	AFIT

D5. Courses/CDCs under Development/Revision.

<u>Course Number</u>	<u>Title</u>	<u>Date Due</u>
CDC 3E2X1	Pavements and Construction Equipment Operator Journeyman	ECD 2024

SECTION E – MAJCOM UNIQUE REQUIREMENTS

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

SECTION F - HOME STATION TRAINING

F1. Purpose. This section aims to identify the tasks, training references, and 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.

F2. Foundational Training (FT). FT is knowledge-based and hands-on training conducted at the individual's home station for contingency operations. The CE Commander ensures training is provided, documented, and appoints subject matter experts to conduct training as required.

F3. Combat Skills Training (CST). CST is an integral part of any FT program. Lessons learned from past and current contingency operations have taught us the importance of maintaining a higher level of combat readiness. Although the inclusion of combat skills-focused training into FT 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. Skills And Knowledge Training (SKT). Wartime or contingency environments often involve specialized and unique mission-essential equipment that civil engineers do not use daily. Mission essential contingency equipment and trainer expertise are unavailable at most CONUS installations due to the cost and complexity. Personnel must be hands-on certified, and the certification must be documented in their CFETP. AFI 10-210, *Prime Base Engineer Emergency Force (BEEF) Program*, Attachment 4, identifies the minimum number of trained personnel (positions) by specialty and the frequency requirements. Inadequate training on these key equipment items can negatively affect Air Force contingency operations.

F5. AF Expeditionary (ES) Training Requirement. The AF must train as it fights and continually assess expeditionary readiness training across the AF continuum of learning to produce Airmen ready to support all combatant commands. Expeditionary readiness training must be relevant, timely, synchronized, standardized, and integrated to ensure combatant commands provide a standard presentation of forces to support specified mission requirements while maximizing efficiency. Expeditionary readiness training divides training into three categories to ensure Airmen receive the right training at the right time: Basic Airman Readiness, Basic Deployment Readiness, and Advanced Deployment Readiness. For additional information, refer to AFI 10-405, *Ready Airmen Training*.

F6. Expeditionary Training References.

F6.1. AFI 10-209, *RED HORSE Program*, Chapter 3 and Attachments 4-9 identify RED HORSE training requirements.

F6.2. AFI 10-210, *Prime Base Engineer Emergency Force (BEEF) Program*, Chapter 4 and Attachments 2-8 identify the Prime BEEF training requirements.

F6.3. DAFMAN 36-2689, *Training Program*, and AFI 10-405, *Ready Airmen Training*, identifies expeditionary readiness training requirements.

F6.4. Web-based Training (WBT) products are available on [myLearning](#). Airmen completing these courses can receive credit for FT. Use group WBT products in a classroom setting to train as many personnel as possible. Document group training attendance on a sign-in roster IAW AFI 10-210.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

TOM D. MILLER, Lieutenant General, USAF
DCS/Logistics, Engineering and Force Protection

3 Attachments:

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

**Attachment 1
Qualitative Requirements (Proficiency Code Key)**

<i>This Block Is For Identification Purposes Only.</i>		
Name Of Trainee		
Printed Name (Last, First, Middle Initial)	Initials (Written	SSAN (Last four)
Printed Name Of Trainer, Certifying Official And Written Initials		
N/I	N/I	

Note: Place a continuation sheet behind the CFETP when additional space is required.

Proficiency Code Key		
	Scale Value	Definition: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs instruction 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 to do the task 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)

Explanations	
5	This symbol in the core task column indicates that it is a 5-level core task.
7	This symbol in the core task column indicates that it is a 7-level core task.
9	This symbol in the core task column indicates that it is a 9-level core task.
^	This symbol in the core task column indicates that 3 rd party task certification is required.
*	This symbol in the deployment/SEI column indicates that the task is a deployment task.
+	This symbol in the deployment/SEI column indicates that the task is a Special Experience Identifier.
~	This symbol in the deployment/SEI/TQT column indicates that the task is CBRN Qualification Task (TQT)
2b/b	This mark in the course columns shows that training is required but not given due to resource limitations.
(I)	Use this mark in the course columns to show that training is multi-service.
◆	A diamond in the task column indicates it is a core task, however due to equipment or funding constraint at some units, the completion of the AFQTP and/or web-based training course is all that is required for upgrade. Accomplish hands-on certification at the first opportunity when equipment or funding is available.
TQT	TQT in the task column indicates the task is a CBRN Qualification Task. IAW AFI 10-2503, these tasks will also be accomplished in MOPP 4 and annotated on the DAF Form 623A or DAF Form 797.
▲	A black triangle in the task column indicates a AFQTP is available for use
△	A white triangle in the task column indicates an AFQTP is under development.
Specific tasks not identified with a symbol or proficiency code key indicate no provided training in the course. Major commands and/or units may establish scale values and combat training as mission requirements dictate.	
Use a task-knowledge scale value alone or with a task-performance scale value to define a level of knowledge for a specific task.	
Use a subject knowledge scale value 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.	

Attachment 2
3E2X1 Specialty Training Standard (STS)

A2. Specialty Training Standard.

A2.1. Identification. In the automated training record or paper-based record, the User Profile section the UTM will assign individuals to the correct work center upon in processing into the unit.

Attachment 2
3E2X1 Specialty Training Standard (STS)

A2.2. Pavements and Construction Equipment Operator Specialty Tasks. The following are tasks the work center supervisor will use to create the duty task list for each duty position created for their work center.

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
1.0. CIVIL ENGINEER (CE) CORE CONCEPTS COURSES TR: myLearning											
1.1. Complete CE 5-Level Core Concepts Course	5										
1.2. Complete CE 7-Level Core Concepts Course	7										
1.3. CE Core Concepts Overview								A			
1.4. Asset Management											
1.4.1. Complete AFIT WMGT 301 Intro to Asset Management (AD Only)	5										
1.4.2. Complete AFIT WMGT 436 Requirements and Optimization (AD Only)											
2.0. AFS-Specific Safety TR: DAFMAN 91-203; DAFIs 91-202/207; AFIs 48-137, 48-127; 29 CFR 1910 subpart I; DoDI 6055.04											
2.1. Demonstrate the Proper use of protective equipment such as:											
2.1.1. Eye protectors								2b	c		
2.1.2. Ear protectors								2b	c		
2.1.3. Safety helmets								2b	c		
2.1.4. Respirators									c		
2.1.5. Gloves								2b	c		
2.1.6. Safety boots								2b	c		
2.1.7. Seat Belts								2b	c		
2.2. Cardiopulmonary Resuscitation											
2.3. Safety principle application											
2.3.1. Mount/Dismount equipment								2b			
2.3.2. Start engine								2b			
2.3.3. Shutoff engine								2b			
2.3.4. Place equipment in motion								2b			
2.3.5. Service Equipment								2b	b		

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
2.4. Safety principles											
2.4.1. Hazardous condition operations								A	B		
2.4.2. Pavement repair health hazards								A	B	C	
2.4.3. Confined spaces								A	B	C	
2.4.4. Excavation shoring								A	B		
2.4.5. Electrical hazards								A	B		
2.5. Initial Federal Hazard Communication Training Program TR: DoD 6050.5; AFI 90-821								A	B		
2.6. Construction area management											
2.6.1. Traffic control								A	B	C	
2.6.2. Worksite safety								A	B	C	
3.0. AFS-Specific Publications TR: TO 32-1-101; AFI 24-301											
3.1. Technical orders/ commercial manuals and/or AF Form 1800											
3.1.1. Use to perform operational checks								2b	b		
3.1.2. Use to perform operator maintenance								2b	b		
3.1.3. Illustrated parts breakdown/part numbers									B		
3.1.4. Find vehicle or equipment capacities								2b	b		
3.1.5. Find vehicle or equipment capabilities								2b	b		
3.2. Unified Facilities Criteria (UFC)									B	C	
3.3. Preventative Maintenance Task Lists (PMTL)									B	C	
4.0. Communications											
4.1. Demonstrate proper use of radios	5^							2b			

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
4.2. Demonstrate proper use of hand signals	5^							2b			
4.3. Principles of airdrome signals								B			
5.0. Project Planning/ Management Fundamentals TR: NTRP 4-04.2.5; TM 3-34.64, AFI 32-1023; USAF Project Managers' Guide for Design and Construction (AFCEC); UFC 3-740-05 Note: QTP required for UGT											
5.1. Resource requirements establishment											
5.1.1. Equipment								A	B	C	
5.1.2. Materials								A	B	C	
5.1.3. Demonstrate proper use of construction drawings	7^							a	b	3c	
5.1.4. Construction stake markings									B		
5.2. Soil fundamentals TR: UFC 3-220-10N, 3-250-11; TM 3-34.64											
5.2.1. Soil types	7^							A	B	C	
5.2.2. Soil construction properties	7^							A	B	C	
5.2.3. Soil stabilization techniques	7^							A	B	C	
5.2.4. Soil classification								A	B	C	
5.2.5. Base course requirements								A	B	C	
5.2.6. Perform field identification tests									b	3c	
5.3. Compute material requirements for											
5.3.1. Fill	5^							2b	b		
5.3.2. Base course	5^							2b	b		
5.3.3. Asphalt (hot and cold mix)	5^							2b	b		
5.3.4. Concrete	5^							2b	b		
5.4. Project management web based courses											

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
5.4.1. Complete AFIT WMGT 322 Intro to Project Management (AD Only)	7^										
5.4.2. Complete AFIT WMGT 437 Troop Construction Project Management Course (AD Only)											
6.0. Powered Equipment/Tools/ Units of Measure TR: TM 3-34.62; TO 34Y series; Applicable owners manuals Note: QTP required for UGT											
6.1. Gasoline engines											
6.1.1. Theory of operations								A	B		
6.1.2. Perform operational checks								1a			
6.2. Small engine malfunctions								A			
6.3. Troubleshoot small engine malfunctions								1a	b		
6.4. Demonstrate the proper use of powered equipment											
6.4.1. Chainsaw									b		
6.4.2. Generator								1a	b		
6.4.3. Centrifugal water pump								1a	b		
6.4.4. Air Compressor											
6.4.4.1. Operational checks	5^							2b	b		
6.4.4.2. Operator maintenance	5^							2b	b		
6.4.4.3. Operate	5^							2b	b		
6.4.5. Demonstrate proper use of air compressor accessories											
6.4.5.1. Pneumatic drill									b		
6.4.5.2. Pneumatic hammer with attachments	5^							2b	b		
6.4.5.3. Pneumatic tamper									b		
6.5. Demonstrate proper use of tools											
6.5.1. Hand								1a			
6.5.2. Powered								1a			

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TQT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
6.6. Units of measure											
6.6.1. Imperial								A	B		
6.6.2. Metric								A	B		
7.0. Earth-Moving and Excavation Equipment TR: TM 3-34.62; STP 5-62J12; TC 21-305-20; AFMAN 24-306 Note: QTP required for UGT											
7.1. Regeneration systems								A	B		
7.2. Dump Truck											
7.2.1. Perform operational checks	5^							2b	b		
7.2.2. Perform operator maintenance	5^							2b	b		
7.2.3. Operate to											
7.2.3.1. Haul Material (TQT)	5^							2b	b		
7.2.3.2. Dump material (TQT)	5^							2b	b		
7.2.3.3. Spread material	5^							1a	b		
7.2.3.4. Tow equipment								2b	b		
7.2.4. Tailgate											
7.2.4.1. Remove								2b	b		
7.2.4.2. Install								2b	b		
7.3. Wheel-mounted front-end loader											
7.3.1. Perform operational checks	5^							2b	b		
7.3.2. Perform operator maintenance	5^							2b	b		
7.3.3. Operate to											
7.3.3.1. Load material into dump truck (TQT)	5^							2b	b		
7.3.3.2. Level area (spread)	5^							2b	b		
7.3.3.3. Stockpile material (TQT)	5^							2b	b		
7.3.3.4. Backfill (TQT)	5^							2b	b		
7.3.3.5. Utilize clamshell bucket	5^							1a	b		
7.3.3.6. Excavate	5^							a	b		
7.3.4. Operate with forklift attachment to:											
7.3.4.1. Load/unload material	5^							2b	b		

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
7.3.4.2. Transport material	5^							2b	b		
7.3.5. Move material using:											
7.3.5.1. Boom									a		
7.3.5.2. Blade									a		
7.3.6. Change loader attachments	5^							2b	b		
7.4. Compact Track Loader (CTL)											
7.4.1. Perform operational checks	5^							2b	b		
7.4.2. Perform operator maintenance	5^							2b	b		
7.4.3. Operate using attachments:											
7.4.3.1. Bucket											
7.4.3.1.1. To excavate	5^							2b	b		
7.4.3.1.2. To backfill	5^							2b	b		
7.4.3.1.3. To level	5^							2b	b		
7.4.3.1.4. To load material	5^							2b	b		
7.4.3.2. Impactor								2b	b		
7.4.3.3. Forklift								2b	b		
7.4.3.4. Earth auger								a	a		
7.4.3.5. Sweeper								a	a		
7.4.3.6. Wheel saw									a		
7.4.3.7. Cold planer									a		
7.4.3.8. Asphalt burner									a		
7.4.3.9. Concrete mixer									a		
7.4.4. Change CTL attachments	5^							2b	b		
7.4.5. Tow Equipment									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 to:											
7.5.3.1. Excavate									a		
7.5.3.2. Haul material									a		
7.5.3.3. Dump material									a		
7.5.3.4. Spread material									a		
7.6. Graders											

**Attachment 2
3E2X1 Specialty Training Standard (STS)**

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
7.6.1. Perform operational checks	5^							2b(I)	b		
7.6.2. Perform operator maintenance	5^							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	5^								b		
7.6.3.4. Leveling material	5^							2b(I)	b		
7.6.3.5. Maintaining unpaved surfaces	5^							2b(I)	b		
7.6.3.6. Finish grading	7^							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 ♦	7^							2b	b		
7.7.2. Perform operator maintenance ♦	7^							2b	b		
7.7.3. Perform crawler tractor operations such as:											
7.7.3.1. Stockpiling ♦	7^							2b	b		
7.7.3.2. Leveling ♦	7^							2b	b		
7.7.3.3. Ditching									b		
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											
8.0. Material-Handling Equipment Note: QTP required for UGT											
8.1. Tractor-Trailer combinations TR: Title 49 CFR, Federal Motor Carrier Safety Administration; TC 21-305-20, 21-305-100; AFMAN 24-306; AFI 24-301; STP 5-62J12											

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
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. Equipment/materials securement and transportation											
8.1.4.1. Load construction equipment	5^							1a	b		
8.1.4.2. Unload construction equipment	5^							1a	b		
8.1.4.3. Secure construction equipment using chains and binders	5^							1a	b		
8.1.4.4. Load construction material	5^							1a	b		
8.1.4.5. Unload construction material	5^							1a	b		
8.1.4.6. Secure construction material using cargo straps	5^							1a	b		
8.1.4.7. Utilize dunnage								1a	b		
8.1.5. Employ safety principles of:											
8.1.5.1. Loading equipment								1a	b		
8.1.5.2. Unloading equipment								1a	b		
8.1.5.3. Hauling equipment								1a	b		
8.1.5.4. Positioning equipment								1a	b		
8.1.5.5. Loading material								1a	b		
8.1.5.6. Unloading material								1a	b		
8.1.5.7. Hauling material									b		
8.2. Forklift (FL) TR: DAFMAN 91-203; AFQTP (Forklift)											
8.2.1. Perform operational checks									b		
8.2.2. Perform operator maintenance									b		
8.2.3. Move material and equipment using:											
8.2.3.1. All Terrain (AT) forklift									b		

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
8.2.3.2. Telehandler									b		
8.2.3.3. Under 10K forklift									b		
8.2.3.4. Over 10K forklift									b		
8.2.3.5. 463L-capable forklift									b		
9.0. Hydraulic Mobile Crane TR: TM 3-34.62; DAFMAN 91-203 Note: QTP required for UGT											
9.1. Rigging and lifting TR: TM 3-34.62, 3-34.86; DAFMAN 91-203											
9.1.1. Principles of rigging											
9.1.1.1. Perform load estimation ♦	5^								b		
9.1.1.2. Determine center of gravity ♦	5^								b		
9.1.1.3. Calculate sling requirements (weight, length, angle) ♦	5^								b		
9.1.2. Handling characteristics and inspection requirements of:											
9.1.2.1. Chains ♦	5^								B		
9.1.2.2. Wire ropes ♦	5^								B		
9.1.2.3. Nylon slings ♦	5^								B		
9.1.2.4. Shackles ♦	5^								B		
9.1.2.5. Hooks ♦	5^								B		
9.1.3. Rig loads to be lifted using:											
9.1.3.1. Chains ♦	5^								b		
9.1.3.2. Wire ropes ♦	5^								b		
9.1.3.3. Nylon slings ♦	5^								b		
9.1.3.4. Spreader bars ♦	5^								b		
9.1.3.5. Lifting beams									b		
9.1.3.6. Taglines ♦	5^								b		
9.2. Crane operations											
9.2.1. General											
9.2.1.1. Perform operational checks									b		
9.2.1.2. Perform operator maintenance									b		
9.2.1.3. Operate crane carrier									b		
9.2.1.4. Interpret load charts ♦	5^								b		

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
9.2.1.5. Setup									b		
9.2.1.6. Maneuver									b		
9.2.1.7. Perform crane hand signals ♦	5^								b		
9.2.1.8. Perform safety requirements ♦	5^								b		
9.2.2. Operate with:											
9.2.2.1. Multi-parts-line hook block									b		
9.2.2.2. Boom extension (jib)									b		
9.2.2.3. Single-line hook (headache ball)									b		
9.2.3. Install wire rope									b		
9.2.4. Remove wire rope									b		
10.0. 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, 36C20 Series; STP 5-62J12; Applicable owner's manuals											
10.3.1. Water distributor											

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
10.3.1.1. Perform operational checks ♦	5^							2b	b		
10.3.1.2. Perform operator maintenance ♦	5^							2b	b		
10.3.1.3. Perform operations such as:											
10.3.1.3.1. Gravity feed ♦	5^							2b	b		
10.3.1.3.2. Pressure spray ♦	5^							2b	b		
10.3.1.3.3. Fill from hydrant ♦	5^							1a	b		
10.3.1.3.4. Fill from stand ♦	5^							1a	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	5^							2b	b		
10.4.1.2. Operator maintenance											
10.4.1.2.1. Adjust hood	5^							2b	b		
10.4.1.2.2. Adjust broom	5^							2b	b		
10.4.1.2.3. Clean sweeper	5^							2b	b		
10.4.1.2.4. Change wearing surfaces											
10.4.1.2.4.1. Brooms	5^							2b	b		
10.4.1.2.4.2. Skid plates	5^							2b	b		
10.4.1.2.4.3. Curtains	5^							2b	b		
10.4.2. Operate on:											
10.4.2.1. Airfield ♦ TR: DAFI 13-213	5^							2b	b		
10.4.2.2. Street	5^							2b	b		
10.4.3. Operate suction hose attachment	5^							2b	b		
10.5. Compaction equipment TR: TO 36C10 Series; Applicable owner's manuals											
10.5.1. Perform operational checks	5^							2b	b		

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
10.5.2. Perform operator maintenance	5^							2b	b		
10.5.3. Compact earthen materials using:											
10.5.3.1. Pneumatic tire roller								a	b		
10.5.3.2. Sheepsfoot roller								a	b		
10.5.3.3. Steel wheel vibratory roller	5^							2b	b		
10.5.3.4. Vibratory tamper								2b	b		
11.0. Excavating/Trenching Machines Note: QTP required for UGT											
11.1. Backhoe											
11.1.1. Perform operational checks	5^							2b	b		
11.1.2. Perform operator maintenance	5^							2b	b		
11.1.3. Perform backhoe operations such as:											
11.1.3.1. Excavating with front bucket									b		
11.1.3.2. Excavating with rear bucket	5^							2b	b		
11.1.3.3. Loading with front bucket									b		
11.1.3.4. Loading with rear bucket	5^							2b	b		
11.1.3.5. Backfilling with front bucket	5^							2b	b		
11.1.3.6. Backfilling with rear bucket	5^							2b	b		
11.1.3.7. Breaking material with impactor									b		
11.2. Hydraulic excavator											
11.2.1. Perform operational checks	5^							2b	b		
11.2.2. Perform operator maintenance	5^							2b	b		
11.2.3. Perform excavator operations such as:											
11.2.3.1. Excavating with bucket	5^							2b	b		
11.2.3.2. Loading with bucket	5^							1a	b		

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
11.2.3.3. Backfilling with bucket	5^							2b	b		
11.2.3.4. Compacting materials									b		
11.2.3.5. Breaking materials with impactor	5^							a	b		
11.2.3.6. Lifting loads									b		
11.2.3.7. Positioning loads									b		
11.2.4. Change excavator attachments	5^							a	b		
11.3. Trenching machine											
11.3.1. Perform operational checks									b		
11.3.2. Perform operator maintenance									b		
11.3.3. Trenching									B		
11.3.4. Backfilling									B		
12.0. Snow and Ice Control TR: AFMAN 13-204V2, V3; AFI 32-1001											
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. Snowplow									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		
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		

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
12.6. Snowplows											
12.6.1. Operational checks									B		
12.6.2. Operator maintenance									B		
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 maintenance									B		
12.8.3. Operations									B		
12.8.4. Change attachments											
12.8.5. Regeneration system									B		
12.9. Environmental concerns											
12.9.1. Chemicals									B		
12.9.2. Abrasives									B		
13.0. Paved Surfaces Construction TR: UFCs 3-250-01/03/04, 3-270-08; TM 3-34.44, 3-34.63; ETL 11-26; Asphalt Institute; The Asphalt Handbook; Portland Cement Association; Design and Control of Concrete Mixtures Note: QTP required for UGT											
13.1. Lay out area using:											
13.1.1. Line level	5^								2b	b	
13.1.2. Laser level									1a	b	
13.1.3. Carpenter hand level	5^								2b	b	
13.1.4. Auto level									1a	b	
13.1.5. GPS										b	
13.2. Area preparation											
13.2.1. Clear the area using hand tools	5^								2b	b	
13.2.2. Clear the area using construction equipment	5^								2b	b	

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
13.2.3. Stabilize subgrade using chemical means	7^							a	b	c	
13.2.4. Stabilize subgrade using mechanical means	5^							2b	b		
13.2.5. Base course preparation											
13.2.5.1. Place materials	5^							2b	b		
13.2.5.2. Compact materials	5^							2b	b		
13.2.6. Concrete slab construction											
13.2.6.1. Install forms	5^							2b	b		
13.2.6.2. Lubricate forms before use								2b	b		
13.2.7. Reinforcing materials											
13.2.7.1. Install wire mesh								1a	b		
13.2.7.2. Install rebar								a	b		
13.2.7.3. Install load-transfer devices (dowels)								a	b	c	
13.3. Rigid pavement/Portland Cement Concrete (PCC)											
13.3.1. Types of concrete materials								A	B	C	
13.3.2. Standard concrete mix								A	B	C	
13.3.3. Perform concrete test (slump test)	7^							1a	b	3c	
13.3.4. Place concrete	5^							2b	b		
13.3.5. Finish concrete:											
13.3.5.1. Using power screed	5^							2b	b		
13.3.5.2. Using float/trowel	5^							2b	b		
13.3.5.3. By edging	5^							2b	b		
13.3.5.4. By fabricating joints	5^							2b	b		
13.3.5.5. By creating a non-skid surface	5^							2b	b		
13.3.5.6. By curing concrete	5^							2b	b		
13.3.5.7. By removing forms								2b	b		
13.3.5.8. By cleaning forms								2b	b		
13.3.5.9. By landscaping site								1a	b		
13.3.5.10. By sealing joints	5^							2b	b		
13.4. Defective rigid pavement repair											
TR: UFC 3-250-06, 3-270-01											

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
13.4.1. Rigid pavement inspection											
13.4.1.1. Identify pavement defects	5^							1a	b		
13.4.1.2. Pavement Condition Index (PCI)	7^								B	C	
13.4.1.3. Full-depth pavement repair											
13.4.1.3.1. Execute full-depth pavement repair										3c	
13.4.1.3.2. Cut pavement using concrete saw	5^							2b	b		
13.4.1.3.3. Apply saw safety procedures								A	b		
13.4.1.3.4. Asphalt blade								A	B		
13.4.1.3.5. Concrete (cured/green) blade								A	B		
13.4.1.3.6. Wet/dry blade								A	B		
13.4.1.3.7. Break pavement using air compressor with jackhammer ♦	5^							2b	b		
13.4.1.3.8. Remove pavement ♦	5^							2b	b		
13.4.1.4. Area preparation											
13.4.1.4.1. Remove base course								2b	b		
13.4.1.4.2. Replace base course								2b	b		
13.4.1.4.3. Remove subgrade								2b	b		
13.4.1.4.4. Replace subgrade								2b	b		
13.4.1.4.5. Replace load-transfer device								a	b	c	
13.4.1.5. Concrete replacement											
13.4.1.5.1. Mix concrete using portable concrete mixer								1a	b		
13.4.1.5.2. Install expansion material								1a	b		
13.4.1.5.3. Place concrete								1a	b		
13.4.1.5.4. Re-establish joints								a	b	c	
13.4.1.5.5. Finish concrete								1a	b		
13.4.1.5.6. Cure concrete								1a	b		
13.4.2. Perform partial-depth repair											
TR: UFC 3-270-01											

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
13.4.2.1. Execute partial-depth repair										3c	
13.4.2.2. Cut pavement using concrete saw								1a	b		
13.4.2.3. Break pavement using air compressor with jack hammer								1a	b		
13.4.2.4. Remove pavement								1a	b		
13.4.2.5. Mix concrete								1a	b		
13.4.2.6. Place concrete								1a	b		
13.4.2.7. Re-establish joints								2b	b		
13.4.2.8. Finish concrete								1a	b		
13.4.2.9. Cure concrete								1a	b		
13.4.3. Defective sealing material repair TR: UFC 3-250-08FA											
13.4.3.1. Prepare joints/cracks for sealing											
13.4.3.1.1. Joint/crack sealant repair procedures									B	C	
13.4.3.1.2. Remove existing sealant using powered equipment ♦	5^							2b	b		
13.4.3.2. Clean joints/cracks with:											
13.4.3.2.1. High-pressure water								b	b		
13.4.3.2.2. High-pressure air								2b	b		
13.4.3.3. Joints/cracks resealing											
13.4.3.3.1. Install backer material♦	7^							2b	b		
13.4.3.3.2. Apply cold sealant ♦	7^							2b	b		
13.4.3.3.3. Apply hot sealant ♦	7^							b	b		
13.5. Flexible pavements/Asphalt Cement Concrete (ACC)											
13.5.1. Construction with bituminous materials (new construction)											
13.5.1.1. Types								A	B	C	
13.5.1.2. Uses								A	B		
13.5.1.3. Environmental concerns								A	B		

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13.5.1.4. Hazardous material/waste disposal										C	
13.5.1.5. Apply prime coat								b	b	c	
13.5.1.6. Determine asphalt temperatures	5^							b	b		
13.5.1.7. Place asphalt	5^							b	b		
13.5.1.8. Asphalt concrete lifts											
13.5.1.8.1. Determine binder course requirements♦	7^								b	c	
13.5.1.8.2. Determine wear course requirements♦	7^								b	c	
13.5.1.9. Compact asphalt	5^							b	b	c	
13.5.2. Flexible pavement inspection											
13.5.2.1. Identify pavement defects	5^							1a	b		
13.5.2.2. Defective pavement repair TR: UFC 3-270-01											
13.5.2.2.1. Perform defective pavement repair									b	3c	
13.5.2.2.2. Cut area ♦	5^							2b	b		
13.5.2.2.3. Remove pavement ♦	5^							2b	b		
13.5.2.2.4. Prepare subgrade ♦	5^							2b	b		
13.5.2.2.5. Prepare base ♦	5^							2b	b		
13.5.2.2.6. Apply prime/tack coat♦	5^							1a	b		
13.5.2.2.7. Place asphalt ♦	5^							2b	b		
13.5.2.2.8. Compact asphalt ♦	5^							2b	b		
13.5.3. Cracks in flexible pavement repair TR: UFC 3-250-08FA, 3-270-01											
13.5.3.1. Remove existing sealant using powered equipment								b			
13.5.3.2. Apply hot sealant using sealant machine♦	5^							b	b		
14.0. Drainage Systems TR: ETL 04-6; UFC 3-260-02, 3-201-01 Change 4											
14.1. Surface drainage											

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	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
14.1.1. Construction								A	B		
14.1.2. Inspection								A	B		
14.1.3. Repairs								A	B		
14.2. Sub-surface drainage											
14.2.1. Install								A	b		
14.2.2. Inspection (operational)								A	B		
14.2.3. Repair								a	b		
14.3. Storm water pollution prevention plan								A	B		
15.0. Fences TR: DAFMAN 32-1084; DAFI 31-101											
15.1. Install											
15.1.1. Chain link											
15.1.1.1. Posts								a	b		
15.1.1.2. Fabric								1a	b		
15.1.2. Barbed wire								1a	b		
15.1.3. Snow Fence									a		
15.2. Inspection											
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	b		
16.0. AFS-Specific Contingency Responsibilities TR: AFPAM 10-219; AFIs 10-209, 10-210; DAFI 10-2503; WMP-1; AFH 10-222; TSPWG Manual 3-270-01.3-270-07; ETL 07-2 Note: QTP required for UGT											
16.1. Rapid Airfield Damage Recovery (RADR) TR: AFTTP 3-32.10; Interim RDR TTP Rev 17.0											
16.1.1. Philosophy								A	B		
16.1.2. Organization								A	B		

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
16.1.3. Tactics, Techniques, and Procedures (TTP)								A	B		
16.1.4. AFS-Specific Unit Type Codes (UTC)									B		
16.1.5. Airfield Damage Repair (ADR)											
16.1.5.1. Crushed stone crater repair								A	B		
16.1.5.2. Foreign Object Damage (FOD) Covers								A	B		
16.2. Rapid Damage Repair (RDR)											
16.2.1. Volumetric mixer fundamentals								A	B		
16.2.2. Concrete crater repair operations								A	B		
16.2.3. Batch plant fundamentals								A	B		
16.2.4. Asphalt crater repair operations								A	B		
16.3. Passive defense measures/splinter protection construction TR: AFPAM 10-219											
16.3.1. Primary revetment materials									B		
16.3.2. Expedient revetment materials									B		
16.3.3. Construct kit-type revetments											
16.3.3.1. Expandable bin-type revetment ♦	5^							2b	b		
16.3.3.2. Precast modular concrete♦	5^							A	B		
16.4. Expedient field construction											
16.4.1. Sanitary landfill									A		
16.4.2. Berms and dikes											
16.4.2.1. Construct berm ♦	5^							2b	b		
16.4.2.2. Ammunition pads								A	B		

Attachment 2
3E2X1 Specialty Training Standard (STS)

1. Tasks, Knowledge, and Technical References	2. Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided via DL and/or Course			
	A	B	A	B	C	D	E	A	B	C	D
	Core Cert ^	Deployment * SEI + TOT ~	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	3 Lvl	5 Lvl	7 Lvl	9 Lvl
16.4.2.3. Construct dike								a	b		
16.4.2.4. Fuel bladders								A	B		
16.4.2.5. Perform maintenance								a	b		
16.4.3. Wastewater disposal											
16.4.3.1. Oxidation lagoon								A	B		
16.4.3.2. Evaporation lagoon								A	B		
16.4.3.3. Storm water control									B		
16.4.4. Roadwork											
16.4.4.1. Drainage structures									B		
16.4.4.2. Soil cement road								A	B		
16.5. Expedient bed-down methods											
16.5.1. Small Shelter System (SSS) TR: T.O. 35E5-6-11											
16.5.1.1. Assemble								1a	b		
16.5.1.2. Disassemble								1a	b		
16.5.2. Medium Shelter System (MSS) TR: T.O. 35E5-6-21, 35E4-245-1											
16.5.2.1. Assemble									b		
16.5.2.2. Disassemble									b		
16.5.3. Reconstitute shelter systems									b		

Attachment 3

3E2X1 Air Force Qualification Training Package Documentation Record

A3. AFQTP Documentation Record.

A3.1. To ensure each Pavements and Construction Equipment Operator Airman trains to the correct standard, an AFQTP for each core task. Trainees, trainers, and certifiers use these **mandated** AFQTPs in their on-the-job-training program for upgrade to the 5- or 7-level.

A3.2. These AFQTPs cover all aspects of the task 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 paper-based AFQTPs. Paper-based AFQTPs are on [myLearning](#) in the Civil Engineer library.

A3.2.2. In addition to the paper-based AFQTPs, there are web-based courses that are available on [myLearning](#) in the Civil Engineer library.

A3.3. **Documentation.** Before signing off a core or diamond task in the JQS section of the individual automated training record, signed off the task first in the AFQTP section.

A3.3.1. **Core Tasks (5[^] or 7[^]).** To document the completion, the supervisor or trainer opens the individual's training record, navigates to the QTP section, and enters 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, completing the task's AFQTP web-based course or assessment with a passing score of 80% is all required for upgrade training. Accomplish hands-on certification at the first opportunity when equipment or funding is available.

**Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record**

A3.4. 3E2X1 AFQTP's 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
1.0.	CIVIL ENGINEER (CE) CORE CONCEPTS Note: QTP required for UGT						
1.1.	Complete CE 5-Level Core Concepts Course	5					
1.2.	Complete CE 7-Level Core Concepts Course	5					
1.4.	Asset Management						
1.4.1.	Complete AFIT WMGT 301 Intro to Asset Management (AD Only)	5					
4.0.	Communications Note: QTP required for UGT						
4.1.	Demonstrate proper use of radios	5					
4.2.	Demonstrate proper use of hand signals	5					
5.0.	Project Planning / Management Fundamentals Note: QTP required for UGT						
5.1.	Resource requirements establishment						
5.1.3.	Demonstrate proper use of construction drawings		7				
5.2.	Soil Fundamentals						
5.2.1.	Soil types		7				
5.2.2.	Soil construction properties		7				
5.2.3.	Soil stabilization techniques		7				
5.3.	Compute material requirements for						
5.3.1.	Fill	5					
5.3.2.	Base course	5					
5.3.3.	Asphalt (hot and cold mix)	5					
5.3.4.	Concrete	5					
5.4.	Project management web based courses						
5.4.1.	Complete AFIT WMGT 322 Intro to Project Management (AD Only)		7				
6.0.	Powered Equipment / Tools/ Units of Measure Note: QTP required for UGT						
6.4.4.	Air Compressor						
6.4.4.1.	Operational checks	5					
6.4.4.2.	Operator maintenance	5					
6.4.4.3.	Operate	5					
6.4.5.	Demonstrate proper use of air compressor accessories						
6.4.5.2.	Pneumatic hammer with attachments	5					
7.0.	Earth-Moving and Excavation Equipment Note: QTP required for UGT						
7.2.	Dump Truck						
7.2.1.	Perform operational checks	5					
7.2.2.	Perform operator maintenance	5					
7.2.3.	Operate to						
7.2.3.1.	Haul Material	5					

**Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record**

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
7.2.3.2.	Dump material	5					
7.2.3.3.	Spread material	5					
7.3.	Wheel-mounted front-end loader						
7.3.1.	Perform operational checks	5					
7.3.2.	Perform operator maintenance	5					
7.3.3.	Operate to						
7.3.3.1.	Load material into dump truck	5					
7.3.3.2.	Level area (spread)	5					
7.3.3.3.	Stockpile material	5					
7.3.3.4	Backfill	5					
7.3.3.5.	Utilize clamshell bucket	5					
7.3.3.6.	Excavate	5					
7.3.4.	Operate with forklift attachment to:						
7.3.4.1.	Load/unload material	5					
7.3.4.2.	Transport material	5					
7.3.6.	Change loader attachments	5					
7.4.	Compact Track Loader (CTL)						
7.4.1.	Perform operational checks	5					
7.4.2.	Perform operator maintenance	5					
7.4.3.	Operate using attachments:						
7.4.3.1.	Bucket						
7.4.3.1.1.	To excavate	5					
7.4.3.1.2.	To backfill	5					
7.4.3.1.3.	To level	5					
7.4.3.1.4.	To load material	5					
7.4.4.	Change CTL attachments	5					
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	5					
7.6.3.4.	Leveling material	5					
7.6.3.5.	Maintaining unpaved surfaces	5					
7.6.3.6.	Finish grading		7				
7.7.	Crawler tractor						
7.7.1.	Perform operational checks ♦		7				
7.7.2.	Perform operator maintenance ♦		7				
7.7.3.	Perform crawler tractor operations such as:						
7.7.3.1.	Stockpiling ♦		7				
7.7.3.2.	Leveling ♦		7				
8.0.	Material-Handling Equipment Note: QTP required for UGT						
8.1.4.	Equipment/materials securement and transportation						
8.1.4.1.	Load construction equipment	5					
8.1.4.2.	Unload construction equipment	5					

**Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record**

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	
8.1.4.3.	Secure construction equipment using chains and binders	5						
8.1.4.4.	Load construction material	5						
8.1.4.5.	Unload construction material	5						
8.1.4.6.	Secure construction material using cargo straps	5						
9.0.	Hydraulic Mobile Crane Note: QTP required for UGT							
9.1.	Rigging and lifting							
9.1.1.	Principles of rigging							
9.1.1.1.	Perform load estimation ♦	5						
9.1.1.2.	Determine center of gravity ♦	5						
9.1.1.3.	Calculate sling requirements (weight, length, angle) ♦	5						
9.1.2.	Handling characteristics and inspection requirements of:							
9.1.2.1.	Chains ♦	5						
9.1.2.2.	Wire ropes ♦	5						
9.1.2.3.	Nylon slings ♦	5						
9.1.2.4.	Shackles ♦	5						
9.1.2.5.	Hooks ♦	5						
9.1.3.	Rig loads to be lifted using							
9.1.3.1.	Chains ♦	5						
9.1.3.2.	Wire ropes ♦	5						
9.1.3.3.	Nylon slings ♦	5						
9.1.3.4.	Spreader bars ♦	5						
9.1.3.6.	Taglines ♦	5						
9.2.	Crane operations							
9.2.1.	General							
9.2.1.4.	Interpret load charts ♦	5						
9.2.1.7.	Perform crane hand signals ♦	5						
9.2.1.8.	Perform safety requirements ♦	5						
10.0.	Support Equipment Note: QTP required for UGT							
10.3.	Liquid-material distributors							
10.3.1.	Water distributor							
10.3.1.1.	Perform operational checks ♦	5						
10.3.1.2.	Perform operator maintenance ♦	5						
10.3.1.3.	Perform operations such as:							
10.3.1.3.1.	Gravity feed ♦	5						
10.3.1.3.2.	Pressure spray ♦	5						
10.3.1.3.3.	Fill from hydrant ♦	5						
10.3.1.3.4.	Fill from stand ♦	5						
10.4.	Sweepers							

**Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record**

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
10.4.1.	Multi-purpose sweepers						
10.4.1.1.	Perform operational checks	5					
10.4.1.2.	Operator maintenance						
10.4.1.2.1.	Adjust hood	5					
10.4.1.2.2.	Adjust broom	5					
10.4.1.2.3.	Clean sweeper	5					
10.4.1.2.4.	Change wearing surfaces						
10.4.1.2.4.1.	Brooms	5					
10.4.1.2.4.2.	Skid plates	5					
10.4.1.2.4.3.	Curtains	5					
10.4.2.	Operate on:						
10.4.2.1.	Airfield ♦	5					
10.4.2.2.	Street	5					
10.4.3.	Operate suction hose attachment	5					
10.5.	Compaction equipment						
10.5.1.	Perform operational checks	5					
10.5.2.	Perform operator maintenance	5					
10.5.3.	Compact earthen materials using:						
10.5.3.3.	Steel wheel vibratory roller	5					
11.0.	Excavating/Trenching Machines Note: QTP required for UGT						
11.1.	Backhoe						
11.1.1.	Perform operational checks	5					
11.1.2.	Perform operator maintenance	5					
11.1.3.	Perform backhoe operations such as:						
11.1.3.2.	Excavating with rear bucket	5					
11.1.3.4.	Loading with rear bucket	5					
11.1.3.5.	Backfilling with front bucket	5					
11.1.3.6.	Backfilling with rear bucket	5					
11.2.	Hydraulic excavator						
11.2.1.	Perform operational checks	5					
11.2.2.	Perform operator maintenance	5					
11.2.3.	Perform excavator operations such as:						
11.2.3.1.	Excavating with bucket	5					
11.2.3.2.	Loading with bucket	5					
11.2.3.3.	Backfilling with bucket	5					
11.2.3.5.	Breaking materials with impactor	5					
11.2.4.	Change excavator attachments	5					
13.0.	Paved Surfaces Construction Note: QTP required for UGT						
13.1.	Lay out area using:						
13.1.1.	Line level	5					
13.1.3.	Carpenter hand level	5					

Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record

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
13.2.	Area preparation						
13.2.1.	Clear the area using hand tools	5					
13.2.2.	Clear the area using construction equipment	5					
13.2.3.	Stabilize subgrade using chemical means		7				
13.2.4.	Stabilize subgrade using mechanical means	5					
13.2.5.	Base course preparation						
13.2.5.1.	Place materials	5					
13.2.5.2.	Compact materials	5					
13.2.6.	Concrete slab construction						
13.2.6.1.	Install forms	5					
13.3.	Rigid pavement/Portland Cement Concrete (PCC)						
13.3.3.	Perform concrete test (slump test)		7				
13.3.4.	Place concrete	5					
13.3.5.	Finish concrete:						
13.3.5.1.	Using power screed	5					
13.3.5.2.	Using float/trowel	5					
13.3.5.3.	By edging	5					
13.3.5.4.	By fabricating joints	5					
13.3.5.5.	By creating a non-skid surface	5					
13.3.5.6.	By curing concrete	5					
13.3.5.10.	By sealing joints	5					
13.4.	Defective rigid pavement repair						
13.4.1.	Rigid pavement inspection						
13.4.1.1.	Identify pavement defects	5					
13.4.1.2.	Pavement Condition Index (PCI)		7				
13.4.1.3.	Full-depth pavement repair						
13.4.1.3.2.	Cut pavement using concrete saw	5					
13.4.1.3.7.	Break pavement using air compressor with jack-hammer ♦	5					
13.4.1.3.8.	Remove pavement ♦	5					
13.4.3.	Defective sealing material repair						
13.4.3.1.	Prepare joints/cracks for sealing						
13.4.3.1.2.	Remove existing sealant using powered equipment ♦	5					
13.4.3.3.	Joints/cracks resealing						
13.4.3.3.1.	Install backer material ♦		7				
13.4.3.3.2.	Apply cold sealant ♦		7				
13.4.3.3.3.	Apply hot sealant ♦		7				
13.5.	Flexible pavements/Asphalt Cement Concrete (ACC)						
13.5.1.	Construction with bituminous materials (new construction)						
13.5.1.6.	Determine asphalt temperatures	5					
13.5.1.7.	Place asphalt	5					
13.5.1.8.	Asphalt concrete lifts						

Attachment 3
3E2X1 Air Force Qualification Training Package Documentation Record

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
13.5.1.8.1.	Determine binder course requirements ♦		7				
13.5.1.8.2.	Determine wear course requirements ♦		7				
13.5.1.9.	Compact asphalt	5					
13.5.2.	Flexible pavement inspection						
13.5.2.1.	Identify pavement defects	5					
13.5.2.2.	Defective pavement repair						
13.5.2.2.2.	Cut area ♦	5					
13.5.2.2.3.	Remove pavement ♦	5					
13.5.2.2.4.	Prepare subgrade ♦	5					
13.5.2.2.5.	Prepare base ♦	5					
13.5.2.2.6.	Apply prime/tack coat ♦	5					
13.5.2.2.7.	Place asphalt ♦	5					
13.5.2.2.8.	Compact asphalt ♦	5					
13.5.3.	Cracks in flexible pavement repair						
13.5.3.2.	Apply hot sealant using sealant machine ♦	5					
16.0.	AFS-Specific Contingency Responsibilities Note: QTP required for UGT						
16.3.3.	Construct kit-type revetments						
16.3.3.1.	Expandable bin-type revetment ♦	5					
16.3.3.2.	Precast modular concrete ♦	5					
16.4.2.	Berms and dikes						
16.4.2.1.	Construct berm ♦	5					