

TECHNICAL MANUAL

ARMY FACILITIES
COMPONENTS
SYSTEM-PLANNING
(DESERT)

**ARMY FACILITIES COMPONENTS SYSTEM-PLANNING
(DESERT)**

		<i>Paragraph</i>	<i>Page</i>
CHAPTER 1.	INTRODUCTION		
	Purpose	1-1	1-1
	Scope	1-2	1-1
	Related Publications	1-3	1-1
	Training	1-4	1-1
	Comments and Information Sources	1-5	1-1
	Responsibilities	1-6	1-2
CHAPTER 2.	EXPLANATION OF THE TERMINOLOGY AND AFCS DATA		
	Army Facilities Components System (AFCS)	2-1	2-1
	Building Blocks	2-2	2-1
	Planning Table	2-3	2-1
	Design Criteria	2-4	2-1
	Construction Standards	2-5	2-1
	Building Structures	2-6	2-1
	Construction Effort	2-7	2-2
CHAPTER 3.	EXPLANATION OF PLANNING TABLES (INSTALLATIONS)		
	Arrangement of Planning Tables	3-1	3-1
	Installation Number	3-2	3-1
	Installation Description	3-3	3-1
CHAPTER 4.	EXPLANATION OF FACILITY PLANNING TABLES		
	Arrangement of Facility Planning Tables	4-1	4-1
	Facility Number	4-2	4-1
	Facility Description	4-3	4-1
	Material Logistic and Cost Data	4-4	4-1
	Construction Man-hours	4-5	4-1
CHAPTER 5.	PREPACKAGED EXPENDABLE CONTINGENCY SUPPLIES (PECS) AND CONTAINERIZATION		
	Purpose	5-1	5-1
	Description and Use	5-2	5-1
CHAPTER 6.	SUPPLY PROCEDURES		
	General	6-1	6-1
	The Directorate of Material Management	6-2	6-1
	US Army Troop Support Command (TROSCOM)	6-3	6-1
	Requisition and Supply Procedures	6-4	6-1
CHAPTER 7.	CAMOUFLAGE		
	Treatment of Camouflage in the AFCS	7-1	7-1
	Camouflage Principles, Methods and Materials	7-2	7-1
CHAPTER 8.	UTILIZATION OF TM 5-301		
	Planning	8-1	8-1
	Example Problems	8-2	8-1
CHAPTER 9.	LISTING OF INSTALLATIONS-DESERT		
	Index of Installation (Desert)	9-1	9-1
	Listing of Installation (Desert)	9-2	9-3
CHAPTER 10.	LISTING OF FACILITIES-DESERT		
	Index of Facilities (Desert)	10-1	10-1
	Listing of Facilities (Desert)	10-2	10-3

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CHAPTER 1 INTRODUCTION

1-1. Purpose

The purpose of this manual is to provide material costs, logistical, and engineering data for use in planning construction support for Army functions in the Theater of Operations (TO). The manual is part of the Army Facilities Components System (AFCS), and it is intended for use by:

a. Contingency, base development, construction, and logistical planners. When data are used in base development planning, the user is advised to refer to FM 31-82, Base Development Planning.

b. Construction units, because it contains the engineering data required for construction of the various structures, facilities, installations, and utilities required by the Army and Air Force to support military missions in the TO.

c. Logistical commands and supply agencies in requisitioning, identifying items, costing, and other related supply functions.

1-2. Scope

This manual contains summary listings of installations (generally referred to as planning tables), facilities and Prepackaged Expendable Contingency Supplies (PECS). The manual is divided into four volumes, one for each of the climatic zones in the AFCS. The summaries include cost, shipping weight, and volume of construction material. In addition, man-hour estimates to construct each facility and installation, minimum real estate requirements for installations, and the utility requirements for facilities and installations are included in this manual.

1-3. Related Publications

The AFCS consists of a series of four Department of the Army Technical Manuals. This manual (series is published in four volumes, one for each climatic zone), plus three accompanying publications indicated as follows:

a. TM 5-302, "Army Facilities Components System-Designs." This multi-volume manual contains installation layouts, facility drawings, construction details and materials lists for the AFCS. The manual is of primary interest to the construction unit performing actual construction of Army components in theaters of operations.

b. TM 5-303, "Army Facilities Components System-Logistic Data and Bills of Materials." This manual is used by planners, builders and suppliers in the identification of items in the bills of materials associated with specific facilities. Each item in a facility is identified by a National Stock Number (NSN), abbreviated description, unit of issue, and quantity. The material cost, shipping weight, volume and estimated construction effort in man-hours are shown in the facility description.

c. TM 5304, "Army Facilities Components System User Guide." This manual provides users with a single source of reference and information concerning the operation of the system, available system products, and example problems demonstrating the use of the system.

1-4. Training

Information contained in the AFCS provides commanders at all levels with sufficient information to plan facilities construction training exercises. Cost and quantity of materials, NSNs, man-hours, and construction drawings are provided in such a manner as to permit unit commanders the flexibility of selecting facilities which, if constructed, would exercise individual military occupational specialties, unit construction planning, organization, and management. Construction times reflected in TM 5-301-1 through TM 5-3014 and TM 5-303 are optimal times to accomplish tasks and will serve as an initial planning guide. TM 5-304 provides tables of engineer unit capabilities. A unit that can accomplish tasks within the man-hours shown the TMs should consider itself proficient in its skills, planning, organization and management. Materials required to construct facilities contained in the AFCS are not normally available as training sets and must be procured under appropriate regulations. If the facility is constructed as an authorized construction project, it is subjected to appropriate regulation governing troop construction.

1-5. Comments and Information Sources

The data for this manual are maintained by the Office of the Chief of Engineers and are available in printouts, magnetic tape or microfiche. Cost data are updated quarterly and can be obtained from Huntsville Division, US Army Corps

of Engineers. All correspondence and requests for technical assistance, drawings and information regarding the AFCS system should be forwarded to either:

US Army Corps of Engineers
Huntsville Division
ATTN: HNDED-FD
PO Box 1600
Huntsville, AL 35807-4301
or
HQDA (DAEN-ZCM)
WASH DC 20310-2600

Users of the AFCS are encouraged to submit comments, corrections and recommendations for improvement or revision directly to HQDA (DAEN-

ZCM). Comments should refer to the specific facility or installation. The reason for each comment or recommendation should be given to ensure proper understanding and evaluation.

1-6. Responsibilities

The Chief of Engineers is responsible for the continuous review and updating of this publication to include coordination with DA staff agencies, oversee commands and other users that are affected by construction for contingency operations. Responsibilities of the Chief of Engineers and other agencies or commands are more specifically states in AR 41516.

CHAPTER 2 EXPLANATION OF THE TERMINOLOGY AND AFCS DATA

2-1. Army Facilities Components System (AFCS)

The AFCS is a tool used to assist military planners, supply agencies, and construction personnel at all levels that have a role in Army construction in theaters of operations. The AFCS uses a building block concept to permit maximum flexibility. The building blocks are items, subfacilities, facilities and installations.

2-2. Building Blocks

TM 5-304 provides a complete discussion of the building block concept and explains other terminology in the AFCS system. The building blocks are discussed briefly below:

a. Item. An item is any construction material or equipment that makes up a larger product. Each item has an associated National Stock Number, description, unit of issue, and quantity. The quantities used include an allowance for material wastage and loss.

b. Facility and Subfacility. A facility is a group of items designed to provide a service. Users should therefore carefully read the facility descriptions to ensure that all components necessary to build the desired structure are ordered. A subfacility differs from a facility only in its use in TM 5-303. The purpose of a subfacility is to reduce the repetitive listing of a facility's construction materials. Users should also be aware that components of some facilities (roads, hardstands and bridges) are separated into two subfacility groupings to widen the selections in meeting actual field conditions.

c. Installation. An installation is a group of facilities designed to provide a specific service or support to some military function in a TO.

d. Component. "Component" is a generic term sometimes used to refer to any facility or installation contained in the AFCS.

2-3. Planning Table

"Planning Table" is a term that is used to refer to the printed installations as explained in Chapter 3.

2-4. Design Criteria

a. Design criteria are shown on the construction drawings in TM 5-302 when considered beneficial in adapting AFCS designs to actual site conditions. Also,

Chapter 2 of TM 5-302 provides additional design and construction considerations.

b. The facilities in the system are designed to operate in one or more of four climatic zones. The four climatic zones are:

(1) *Temperate Zone.* The geographical areas in which mean annual temperatures are between + 30°F and +70°F as identified by isothermal lines.

(2) *Frigid Zone.* The geographical areas in which mean annual temperatures are lower than + 30°F as identified by isothermal lines.

(3) *Tropical Zone.* The geographical areas in which mean annual temperatures are higher than + 70°F as identified by isothermal lines.

(4) *Desert Zone.* The geographical areas which are arid and without vegetation.

2-5. Construction Standards

Standards of construction are identified for the purpose of managing construction resources. The availability of resources, the operational plans and the using unit's mission will dictate the standards of construction to be used in theaters of operation. JCS Publication No. 3 sets forth the standards of construction that are applicable in a theater of operation. The standards are based primarily on the duration of the contingency and previously were defined as follows: initial (INT)-0 zero 6 months, intermediate (ITR)-6 to 24 months, and temporary (TPR)-24 to 60 months. Current JCS Publication No. 3 doctrine refines the construction standards as initial (0-6 months) and temporary (6-24 months). The 24-60 months standards has been deleted. Installations and some facilities listed in the AFCS are identified by a corresponding construction standard. In most cases, facilities contained in the AFCS fall into the intermediate and temporary standards. The nature of materials used in construction of the AFCS facilities and the structural aspects of the designs are such that the life of facilities will normally exceed 2 years when appropriate maintenance is performed.

2-6. Building Structures

The AFCS views building structures as being composed of three basic types: disposable

(woodframe, block, concrete or any other construction material that is formed on the site, and which has little or no salvage value); preengineered relocatable (panelized buildings, tents or any other structure that has an 85 percent recover-ability); and mobile (containerized buildings or any other structure that can be moved and erected frequently with little construction effort required, i.e., the MUST Hospital). The AFCS allows for the range of these basic types to permit commanders the option of selecting the facility that best suits available construction effort, mission requirements, and availability of materials. Few mobile facilities other than tents are presently contained in AFCS; however, priority for future designs has been given to the initial mobile-type facilities where feasible.

2-7. Construction Effort

The construction effort in man-hours required for engineer troop units to erect or construct each facility

and installation has been estimated and is shown in this manual. The construction estimates are based on the use of standard construction practices and procedures. The estimates include neither effort of administration, mobilization, and planning, nor effort lost because of weather delays. Estimates of actual working time required for the task was obtained by assuming the use of skilled personnel in the temperate zone. Estimates for other climatic zones were obtained by applying the following adjustment factors:

Tropical	1.45
Desert	1.25
Frigid.....	2.41

Additional information on labor categories, operational conditions and engineer unit capabilities is provided in TM 5-304.

CHAPTER 3 EXPLANATION OF PLANNING TABLES (INSTALLATIONS)

3-1. Arrangement of Planning Tables

"Planning table" is the term used for data published in this manual as AFCS installations. The paragraphs that follow explain the parts of a planning table.

3-2. Installation Number

Installations are shown in ascending order according to the installation number in the upper right-hand corner, which consists of two alpha and four numeric characters. The number is used to identify the complete bill of materials required to construct that installation. This number also identifies the corresponding construction drawing in TM 5-302.

3-3. Installation Description

The installation description appears in the upper left-hand corner, and includes the title, climatic zone, standard and type of construction, purpose, minimum real estate requirements, and utility and aggregate requirements. The following items are contained in the planning tables:

a. Aggregate Requirements. Aggregate cannot be requisitioned from the bills of materials. It is assumed to be available within 5 miles of the construction site.

b. Utility and Road Requirements. Installation requirements include roads, fences, water treatment, sewage treatment, and electrical generation. Facilities providing these requirements are generally not automatically included in the installation. Several installations may be grouped into a complex, with the additional supporting requirements computed for the total complex. The user should carefully review the supporting facilities included in the installation planning table, use the TM 5-302 drawing and TM 5-303 bill of materials for additional information, and augment the listing of the additional required facilities. Also,

appropriate adjustments should be made to the utility sizes and quantities where site plans are changed to accommodate actual field conditions, topography changes, and dispersal requirements.

c. Facility Number. Shows the five numeric and two alpha characters that identify each AFCS facility.

d. Facility Description. Provides a short description of the facilities included in the installation.

e. Size or Unit. Gives dimensions, capacity or unit of measure for each facility in the installation.

f. Basis. Gives the criteria or standard planning basis upon which facilities are included in the installation.

g. Quantity Required. Indicates the actual quantity of a particular facility included in the installation.

h. Material. Displays the total material logistic and cost data associated with the number of facilities in the "Quantity Required" column. The column with the heading "WT-ST" gives the weight of the material to include packaging materials in short tons (2,000 pounds). The column with the heading "VOL = MT" gives the shipping volume to include packaging materials in measurement tons (40 cubic feet). The cost of the material is shown to the nearest dollar in the COST column. The material costs are current as of the listed date. Appropriate inflation factors should be added if data shown is more than 6 months old and a more precise costs is required. CONUS material costs are the only costs shown in AFCS.

i. Constructive Man-hours. Displays the estimated horizontal, vertical, and general construction man-hours for construction by engineer troop units.

j. Installation Totals. The material logistic and cost data and construction effort totals are shown at the end of each table. It should be noted that the costs listed are CONUS material costs only and are current only at the time of publication and thus may be somewhat outdated.

CHAPTER 4 EXPLANATION OF FACILITY PLANNING TABLES

4-1. Arrangement of Facility Planning Tables

The facilities in the AFCS are identified with regard to their application in a theater of operations. The paragraphs that follow explain the parts of the facility planning table. A complete listing of facilities in numerical sequence is contained in Chapter 10.

4-2. Facility Number

The "Facility Number" column shows the five numeric and two alpha characters that identify each facility. The numbering system uses the number for the corresponding construction drawing in TM 5-302. It should be noted, however, that there is not a drawing for every facility.

4-3. Facility Description

The "Description" column contains a full description of each facility. TM 5-303 provides a detailed bill of

materials for each facility, and TM 5-302 provides construction drawings and drawings for utilities (electric, sewage, and water).

4-4. Materials Logistic and Cost Data

The "Construction Material" columns display logistic and cost data associated with each facility. The weight in short tons (2000 lb) includes packing material. The shipping volume is given in measurement tons (40 cu ft). Costs are current as of the date of issue and reflect CONUS material costs only.

4-5. Construction Man-hours

The "Construction Effort in Man-hours" columns give the estimated engineer troop unit effort for horizontal, vertical, and general skills. The total column represents the sum of these items.

CHAPTER 5 PREPACKAGED EXPENDABLE CONTINGENCY SUPPLIES (PECS) AND CONTAINERIZATION

5-1. Purpose

To assist engineer units in the planning and implementation of contingency plans, a series of cargo containers loaded with stylized engineer supplies was developed to meet normal mission requirements for limited periods or for minor repairs for extended periods or for minor repairs for extended periods when supplies are replaced based on demand experience. Also included as facilities are special bomb damage and repair kits. A matrix of bomb damage and repair facilities will be added to TM 5-304.

5-2. Description and Use

Each container is reflected as a separate facility within the AFCS, which allows its requisition as an independent supply kit and permits the requester to obtain as many kits as needed to meet the assigned requirements. The unit commander can also procure a set of kits/facilities which are reflected as installations in the AFCS and are designed to provide a minimum of expendable materials to accomplish the specific engineer tasks. Again, the commander has the option of requesting the number of

installations required. An item consumed from the container can be requisitioned and replaced as separate items since each carries its own NSN. When requisitioning a facility or installation, commanders/requesters should check the size of the shipping/storage container ordered to ensure that proper transportation is available upon delivery of the kits. There are two types of military containers: the TRICON (8 x 8 x 62/3 feet) and the MILVAN (8 x 8 x 20 feet). The TRICON has a maximum payload of 13,000 pounds, a tare weight of 1,880 pounds, and approximate interior dimensions of 90 x 85 x 73.5 inches. The MILVAN has a maximum payload of 40,000 pounds, a tare weight of 4,700 pounds and approximate interior dimensions of 92 x 87 x 231 inches. The containers are equipped with standard fittings allowing movement by a variety of material handling equipment. In groups of three, the TRICONS form an 8 x 8 x 20 container compatible with the commercial container system. Common commercial containers vary in size up to 8 x 9 x 40 feet with a maximum payload of 60,900 pounds, and a tare weight of 6,300 pounds. The weight of each facility (without container) can be found in TM 5-303.

CHAPTER 6 SUPPLY PROCEDURES

6-1. General

The US Army Materiel Command (AMC), is responsible for developing supply procedures, policies and command guidance necessary to fund, procure, store and ship materiel listed in the Army Facilities Components System. AMC responsibility is set forth in AR 415-16. The focal points within AMC for the Army Facilities Components System and their responsibilities are briefly explained in paragraphs 6-2 and 6-3 below.

6-2. The Directorate of Materiel Management

The Directorate of Materiel Management, Associate Director for Evaluation, Headquarters, US Army Materiel Command (ATTN: AMCMM-E), Alexandria, VA 22304, is responsible for coordinating AMC activities and interests pertaining to the AFCS. This coordination embraces material development, procurement policies, employment support and other related matters. The Associate Director for Evaluation ensures that AMC can

support the demands for construction materiel at the onset of an emergency and thereafter as required.

6-3. US Army Troop Support Command (TROSCOM)

The Command, TROSCOM, (ATTN: AMSTRSPRA), 4300 Goodfellow Boulevard, St. Louis, MO, 63120 is the central point within the Continental United States (CONUS) for the inclusion of items in the Federal Supply System and the acquisition and supply of items in the AFCS.

6-4. Requisition and Supply Procedures

Requisition and supply procedures, methods, process and interrelationships are contained in chapter 5 of TM 5-304, AFCS User Guide. Every effort should be made to acquire facility construction materials from a source as close to the construction site as possible before requisitioning through the supply system.

CHAPTER 7 CAMOUFLAGE

7-1. Treatment of Camouflage in the AFCS

The AFCS does not include a separate camouflage facility for each structure. Rather, descriptive information and tables are included which will allow the planner to extract the necessary materials for a particular task. However, in accomplishing a camouflage requirement, it should be noted that successful camouflage techniques require imaginative use of not only the issued materials but also such artificial and natural materials as are locally available. These would include such items as cut foliage, search, wire screening and other disrupters. The proper siting

and dispersal of facilities with respect to existing natural or manmade terrain patterns will lessen the need for artificial camouflage. A complete coverage of camouflage techniques and the doctrine and techniques of camouflage practice are contained in FM 5-20, Camouflage, and TM 5-200, Camouflage Materials.

7-2. Camouflage Principles, Methods and Materials

Discussion of camouflage principles, methods, and materials is contained in Appendix D of TM 5-304.

CHAPTER 8 UTILIZATION OF TM 5-301

8-1. Planning

The importance of the planning phase of any undertaking cannot be overemphasized. This is certainly true in providing construction support for the Army in a theater of operations. The construction requirements fluctuate because of national policies, contingency plans, escalation or de-escalation of operations, geographical locations and conditions, and availability of resources.

The facilities and installations in the AFCS have been developed to satisfy many of the Army's construction requirements in accordance with criteria contained in JCS Publication No. 3. The requirements for the AFCS components are provided by major Army commands and elements of the DA staff. Approval of requirements is received from proponent elements of the DA staff per AR 415-16. For example, The Surgeon General established the requirements for and approved the medical components in the AFCS.

The AFCS components are continually updated to ensure adherence to current doctrine and actual field requirements. A range of construction materials is used in developing the components so that planners and users have the flexibility to select those components that best meet their requirements and resources. The resources consist of personnel, transportation, construction materials and equipment.

Planning for construction support of an Army operation should include the following steps as a minimum:

a. Provide contingency or operational plans to determine the scope of construction requirements. Coordinate with technical and administrative staff elements to determine their facility and installation requirements in the theater.

b. Evaluate intelligence data and other information to determine the number and type of existing facilities and installations that are required. This evaluation should include the availability of utilities (water, electric power and sewage treatment) and the availability of construction materials within the theater. The base development process is described in FM 31-82.

c. Determine the standards of construction to be used for the facilities and installations based on the operation duration, military objectives and availability of resources.

d. Select the AFCS facilities and installations necessary to satisfy the construction requirements. This selection should exclude the requirements that can be met with indigenous resources. In his selection, the planner should include allowances for facilities that may be damaged, such as blown bridges and railroad tracks. A matrix of damage and repair facilities (Kits) is being added to the next change to TM 5-304. Those repair kits are included in this manual and TM 5-303.

e. Evaluate manpower resources to determine whether U.S. contractors, troop units, local contractors and self-help programs are to be used in the construction work. Review Prepackaged Expendable Contingency Supplies (PECS) as necessary to determine what expendable construction supplies are required by engineer units in support of minor repair requirements that do not warrant a requisitional facility.

f. Determine the real estate requirements and initiate actions for the acquisition of the real estate.

g. Estimate the construction effort, cost of construction materials, and logistical data for transporting the materials. Add the overseas transportation costs to the material costs shown in this manual if the total cost of materials to be delivered to the theater is required. Also add local labor and material costs, if appropriate.

h. Requisition the construction materials and identify long-lead-time procurement items so that construction tasks will not be unnecessarily delayed.

i. Establish a management-control system such as Critical Path Method (CPM) techniques to keep construction tasks on schedule.

8-2. Example Problems

Several example problems demonstrating the use of AFCS to both engineer and non-engineer users is contained in Chapter 4 of TM 5-304.

**CHAPTER 9
LISTING OF INSTALLATIONS**

9-1. Index of Installations

<i>Description</i>	<i>Category</i>
Administration	AA
Airfield and Heliports	AG
Camp, PW	PW
Camp, Troop	NT
Hospital	GH
Maintenance, Vehicle	MT
Marine, Railway Repair	FP
Marine, Terminal POL	PA
Medical Depots	GH
Ordinance, Armament Rebuild Ship, Parks & Collection Point	JA
PECS (Containerized Supplies)	YY
Precast Parts Yard (Concrete, Panelized Wood and Steel)	PY
POL Fuel Drum Cleaning, Filling and Storage	PB
POL Pipeline	PD
POL Tactical Marine Terminal	PF
POL Tank Farm, Bulk Storage	PB
POL Tank Farm, Complex	PC
POL Tank Truck/Car Loading/Unloading	PE
Port, Break-Bulk Cargo	FP
Post Office	AP
Railroad, Regulating Station	FR
Railroad, Terminal	FT
Recreational Center	AR
Storage, Ammunition	DA
Signal Intelligence	CC
Storage, Dry Cargo	DC

9-2. Listing of Installations in Category Number Sequence

DDEXER4

RUN DATE 860207

DESERT CLIMATE

HELIPORT, ARMY, MIN REQTS FOR 25 AIRCRAFT, 1 UH-1H AND 24 CH-47C OF THE TRANSP. CO., HELICOPTER MEDIUM INSTALLATION DWG SHEET 7 OF 65, INITIAL STD, SUPPORT AREA, GRADED AND DRAINED, SURFACING HEAVY DUTY MEMBRANE, PERSONNEL FACIL-ORGANIC TOE EQPT, REAL ESTATE REQ FOR INST-104 ACRES, REQD. FROM LOCAL SOURCE---COARSE AGGR, 1743 CY, FINE AGGR, 1472 CY, MINERAL FILLER, 658 CY, COMBAT BN CONSTR

A60134

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY REQUIRED	MATERIALS			CONSTR EFFORT IN MANHOURS				
					WT-ST	VOL-MT	COST	HORZ	VERT	GENL	TOT	
111120AA	RUNWAY W/25 FT SHOULDERS, 450 X 60		CH-54 AIRCRAFT	1.0	21	10	45603	324		173	497	
111120AB	RUNWAY LENGTH CORRECTION, 100 X 60		TEMP AND ALT	.0								
111120AC	RUNWAY OVERRUN, 100 X 110 FT		CH-54 AIRCRAFT	2.0	6	4	4184	143		41	184	
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				538		345	883	
111120AE	CLEAR AREA, 1000 SY		AS REQUIRED	160.0	320	160	167360	7728		3128	10856	
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	1.2	38	34	33014	544		170	714	
111210AB	TAXIWAY W/25 FT SHOULDERS, 2000 X 40		CH-54 AIRCRAFT	5.2	426	161	864848	6237		3265	9502	
111320AB	PARKING PAD, 4EA 20 X 20 FT		UH-1 AIRCRAFT	.3		1	1967	7		3	10	
111320AC	PARKING PAD, 2EA 50 X 25 FT		CH-47 AIRCRAFT	12.0	12	36	78660	497		166	663	
111370AB	AIRCRAFT WASHING APRON, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	20		7	27	
111371AB	DEFUEL/DECONTN APR, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	20		7	27	
111380AA	AC LOADING APR, 2EA 50 X 25 FT		CH-47 AIRCRAFT	2.0	2	6	13110	55		28	83	
111610AA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	1	3	6527	28		14	42	
121110AA	HOT REFUELING PAD, 2EA 50 X 25 FT		3/INSTALLATION	1.5	2	5	9833	41		21	62	
12110AH	SUPPORT ACFT REFUELING 30000 G STOR		5 DAY SUPPLY	2.0	16	40	131052	350	267	736	1353	
12110AJ	FUEL STORAGE AUGMENTATION 50000 GAL		5 DAY SUPPLY	1.0	5	5	16865	74	64	147	285	
113315AA	AC CONTROL STATION, 20 X 20 FT		1/INSTALLATION	1.0	3	2	15	7		1	8	
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304		2	2	4	
114111AA	FIRE AND RESCUE STATION, 20 X 20 FT		1/INSTALLATION	1.0	3	2	15	7		1	8	
142183AB	AMMUNITION STORAGE, 2500SF		AS REQUIRED	1.0				3		2	5	
85110CK	ROAD PAVEMENT, CLASS C, 6IN STBL 1MI		PROVIDE ACCESS	2.2	1472	994	7359	385		111	496	
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.3	30	20	150	9		3	12	
85130KH	ROAD, CLASS C, GRADED AND DRAINED 1MI		PROVIDE ACCESS	2.2	26	13	15297	4433		1617	6050	
85210AY	HARDSTAND GRADED AND DRAINED 1000SY		AS REQUIRED	.3	2	1	1321	74		27	101	
187120AA	DRAINAGE HELIPORT, 24 ACRES		1 IN./HR	1.0				53		39	92	
					2387	1503	1410480	21577	333	10054	31964	

DDEXER4

RUN DATE 860207

DESERT CLIMATE

HELIPORT, ARMY, MIN REQTS FOR 25 AIRCRAFT, 1 UH-1H AND 24
 CH-67C OF THE TRANSP. CO., HELICOPTER MEDIUM, INSTALLATION DWG
 SHEETS 8AND9 OF 65, INITIAL STANDARD
 SUPPORT AREA, GRADED AND DRAINED, SURFACING M8A1 LANDING MAT,
 PERSONNEL FACIL-TROOP CAMP INST NO NT1421, REAL ESTATE REGT
 FOR INST-123 ACRES, REQD FROM LOCAL SOURCE--COARSE AGGR, 1594
 CY, FINE AGGR, 1338 CY, MINERAL FILLER, 598 CY, COMBAT BN CONSTR

AG0234

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY REQUIRED	WT-ST	MATERIALS VOL-MT	COST	CONSTR HORZ	EFFORT VERT	IN MANHOOURS GENL	TQT
111120AC	RUNWAY OVERRUN, 100 X 110 FT		CH-54 AIRCRAFT	2.0	6	4	4184	143		41	184
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				538		345	883
111120AE	CLEAR AREA, 1000 SY			167.0	334	167	174682	8066		3265	11331
111120BA	RUNWAY W/25 FT SHOULDERS, 450 X 60		CH-54 AIRCRAFT	1.0	131	77	73348	342		328	670
111120BC	RUNWAY LENGTH CORRECTION, 100 X 60		TEMP AND ALT	.0							
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	1.2	38	34	33014	544		170	714
111210AB	TAXIWAY W/25 FT SHOULDERS, 2000 X 40		CH-54 AIRCRAFT	.2	16	6	33263	240		126	366
111210BB	TAXIWAY W/25 FT SHOULDERS, 1000 X 40		CH-54 AIRCRAFT	10.2	2234	1265	1306457	6428		6229	12657
111320BB	PARKING PAD, 4EA 20 X 20 FT		UH-1 AIRCRAFT	.3	3	2	2580	6		7	13
111320BC	PARKING PAD, 10EA 50 X 25 FT		CH-47 AIRCRAFT	2.4	173	125	117766	408		411	819
111340BD	HANGAR ACCESS, 335 X 100 FT		AS REQUIRED	1.0	147	108	104844	262		490	752
111370AB	AIRCRAFT WASHING APRON, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	20		7	27
111371AB	DEFUEL/DECONTN APR, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	20		7	27
111380BB	AC LOADING APR, 4EA 50 X 25 FT		CH-47 AIRCRAFT	1.0	29	21	19627	58		58	116
111610AA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	1	3	6527	28		14	42
112110BB	HOT REFUELING PAD, 2EA 50 X 25 FT		3/INSTALLATION	1.5	21	15	14721	43		43	86
12530AL	PUMP STATION FUEL SUPPLY, POL, FOR	4-UNIT	AS REQUIRED	1.0	1	1	1246	9	60	23	92
12630AA	LDG FACIL FOR TWO FUEL TRUCKS	2-STATION	AS REQUIRED	1.0	12	12	13862	173	374	1213	1760
113315BA	CONTROL TOWER LOW DENSITY TRAFFIC		1/INSTALLATION	1.0	16	21	4632	1	560	112	673
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304		2	2	4
14110BA	AFOPS BLDG 864SF PNL WD BDG W/ INT		1/INSTALLATION	1.0	27	33	18383	8	1110	879	1997
114111BA	FIRE AND RSQ STA, FAC NO. 73010AC		1/INSTALLATION	1.0	192	283	39238	63	930	171	1164
114910AR	AIRCRAFT REVETMENT, IMPROVED, UH-1D/H		UH-1 AIRCRAFT	1.0	15	12	3919		61	102	163
114910AT	AIRCRAFT REVETMENT, IMPROVED, CH-47		CH-47 AIRCRAFT	24.0	504	384	132096		2180	3174	5354
121110BB	ORG MNT HANGAR, 105 X 112 FT		CH-47 AIRCRAFT	3.0	237	468	773025	587		1052	1639
141120BA	FLAMMABLE STORAGE, 12 X 24 FT		AS REQUIRED	1.0	14	13	3322	1		1	2
41180AG	TANK, POL, 3000 BARREL, W/6 IN PIPE 3000 BBL		5 DAY SUPPLY	1.0	2	32	12538	104	357	242	703
142183BA	AMMUNITION STORAGE, 24 X 36 FT			1.0	25	27	17138	1		1	2
85110CK	ROAD PAVEMENT, CLASS C, 6IN STBL 1MI		PROVIDE ACCESS	2.0	1338	904	6690	350		101	451
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.6	60	41	300	19		7	26
85130KH	ROAD, CLASS C, GRADED AND DRAINED, 1MI		PROVIDE ACCESS	2.0	24	12	13906	4030		1470	5500
85210AY	HARDSTAND GRADED AND DRAINED 1000SY		AS REQUIRED	.6	4	2	2641	148		53	201
187120BA	DRAINAGE HELIPORT, 25 ACRES		1 IN./HR	1.0	32	36	22513	74		64	138
87210AD	CONCERTINA, TRIPLE TAPE TYP D 1000LF		SECUR FENCE	11.0	1287	770	21582	354		1417	1771
				6925	4884	2991344	23068	5634	21625	50327	

DDEXER4

RUN DATE 860207

DESERT CLIMATE

HELIPORT, ARMY, MIN REQTS FOR 25 AIRCRAFT, 1 UH-1H AND 24
 CH-47C OF THE TRANSP. CO., HELICOPTER MEDIUM, INSTALLATION DWG
 SHEETS 10 AND 11 OF 65, TEMPORARY STD,
 SUPPORT AREA, GRADED AND DRAINED, SURFACING BITUMINOUS
 PAVEMENT, PERSONNEL FACIL-TROOP CAMP INST NO NT1621, REAL
 ESTATE REQT FOR INST-123 ACRES, REQD FROM LOCAL SOURCE---
 COARSE AGGR, 8828 CY, FINE AGGR, 4113 CY, MINERAL FILLER, 1269 CY

AG0334

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY REQUIRED	MATERIALS			CONSTR EFFORT IN MANHOURS				
					WT-ST	VOL-MT	COST	HORZ	VERT	GENL	TOT	
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				538		345	883	
111120AE	CLEAR AREA, 1000 SY		AS REQUIRED	168.0	336	168	175728	8114		3284	11398	
111120BF	RUNWAY OVERRUN, 100 X 125 FT		CH-54 AIRCRAFT	2.0	8	6	4882	166		46	212	
111120CA	RUNWAY W/25 FT SHOULDERS, 450 X 75		CH-54 AIRCRAFT	1.0	260	210	13615	455		189	644	
111120CB	RUNWAY LENGTH CORRECTION, 100 X 75		TEMP AND ALT	.0								
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	1.2	38	34	33014	544		170	714	
111210CB	TAXIWAY W/25 FT SHOULDERS, 1000 X 40		CH-54 AIRCRAFT	11.0	3443	2761	181357	7957		3112	11069	
111320CB	PARKING PAD, 4EA 20 X 20 FT		UH-1 AIRCRAFT	.3	4	3	72	17		3	20	
111320CC	PARKING PAD, 10EA 50 X 25 FT		CH-47 AIRCRAFT	2.4	228	182	3586	480		116	596	
111340CD	HANGAR ACCESS, 335 X 100 FT		AS REQUIRED	1.0	250	200	3346	321		99	420	
111370CB	AIRCRAFT WASHING APRON, 50 X 25 FT		1/INSTALLATION	1.0	10	8	139	26		6	32	
111371CB	DEFUEL/DECONTN APR, 50 X 25 FT		1/INSTALLATION	1.0	10	8	139	26		6	32	
111380CB	AC LOADING APR, 4EA 50 X 25 FT		CH-47 AIRCRAFT	1.0	38	30	598	81		20	101	
111610CA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	14	11	211	99		29	128	
112110CB	HOT REFUELING PAD, 2EA 50 X 25 FT		3/INSTALLATION	1.5	30	24	482	85		29	114	
12530AL	PUMP STATION FUEL SUPPLY, POL, FOR	4-UNIT	AS REQUIRED	1.0	1	1	1246	9	60	23	92	
12630AA	LDG FACIL FOR TWO FUEL TRUCKS	2-STATION	AS REQUIRED	1.0	12	12	13862	173	374	1213	1760	
113315BA	CONTROL TOWER LOW DENSITY TRAFFIC		1/INSTALLATION	1.0	16	21	4632	1	560	112	673	
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304		2	2	4	
14110BA	AFOPS BLDG 864SF PNL WD BDG W/ INT		1/INSTALLATION	1.0	27	33	18383	8	1110	879	1997	
114111BA	FIRE AND RSQ STA, FAC NO. 73010AC		1/INSTALLATION	1.0	192	283	39238	63	930	171	1164	
114910AR	AIRCRAFT REVETMENT, IMPROVED, UH-1D/H		UH-1 AIRCRAFT	1.0	15	12	3919		61	102	163	
114910AT	AIRCRAFT REVETMENT, IMPROVED, CH-47		CH-47 AIRCRAFT	24.0	504	384	132096		2180	3174	5354	
121110CB	ORG MNT HANGAR, 105 X 112 FT		CH-47 AIRCRAFT	3.0	363	594	741540	566		731	1297	
141120BA	FLAMMABLE STORAGE, 12 X 24 FT		AS REQUIRED	1.0	14	13	3322	1		1	2	
41180AG	TANK, POL, 3000 BARREL, W/6 IN PIPE 3000 BBL		5 DAY SUPPLY	1.0	2	32	12538	104	357	242	703	
142183BA	AMMUNITION STORAGE, 24 X 36 FT		AS REQUIRED	1.0	25	27	17138	1		1	2	
85110BT	ROAD CLASS C, 1 1/2 MULTIPLE SURFACE		PROVIDE ACCESS	2.0	798	600	8372	389		69	458	
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.6	60	41	300	19		7	26	
85130KH	ROAD, CLASS C, GRADED AND DRAINED 1MI		PROVIDE ACCESS	2.0	24	12	13906	4030		1470	5500	
85210AY	HARDSTAND, GRADED AND DRAINED 1000SY		AS REQUIRED	.6	4	2	2641	148		53	201	
187120BA	DRAINAGE HELIPORT, 25 ACRES		1 IN./HR	1.0	32	36	22513	74		64	138	
87210AA	FENCE, CHAIN LK, W/2 OUTRGRS 1 1000LF		PERIM FENCING	11.0	187	561	132814	1581		5060	6641	
87210AF	GATE, CHAINLINK SING/LEAF 3 WI 10 HI		AS REQUIRED	5.0	5	10	1395	35		69	104	
87210AG	GATE, VEH CHAINL DBL/LEAF 12WI 10 HI		AS REQUIRED	6.0	6	12	2406	48		104	152	
87210AJ	FENCE, CORNER POST 10 FT HI CHAINLIN		AS REQUIRED	17.0			1853	196		156	352	
					6956	6331	1591587	26355	5634	21157	53146	

DDEXER4

RUN DATE 860207

DESERT CLIMATE

HELIPORT, ARMY, MIN REQTS FOR 27 AIRCRAFT, 10 OH-58, 9 AH-1G AND
 8 UH-1H OF THE AIR CAVALRY TROOP, INSTALLATION DWG. SHEET 12 OF
 65, INITIAL STANDARD, SUPPORT AREA, GRADED
 AND DRAINED, SURFACING M8A1 LANDING MAT, PERSONNEL FACIL-TROOP
 CAMP INST NO NT1421, REAL ESTATE REQ FOR INST-65 ACRES, REQD
 FROM LOCAL SOURCE---COARSE AGGR, 1268 CY, FINE AGGR, 1071 CY,
 MINERAL FILLER, 316 CY, COMBAT BN CONSTR

AG1234

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY			MATERIALS		CONSTR EFFORT IN MANHOURS				
				REQUIRED	WT-ST	VOL-MT	COST	HORZ	VERT	GENL	TOT		
111120AC	RUNWAY OVERRUN, 100 X 110 FT		CH-54 AIRCRAFT	2.0	6	4	6184	143		41	184		
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				538		345	883		
111120AE	CLEAR AREA, 1000 SY		AS REQUIRED	42.8	86	43	44769	2067		837	2904		
111120BA	RUNWAY W/25 FT SHOULDERS, 450 X 60		CH-54 AIRCRAFT	1.0	131	77	73348	342		328	670		
111120BC	RUNWAY LENGTH CORRECTION, 100 X 60		TEMP AND ALT	.0									
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	4.9	157	137	134809	2220		693	2913		
111210AB	TAXIWAY W/25 FT SHOULDERS, 2000 X 60		CH-54 AIRCRAFT	.2	16	6	33263	240		126	366		
111320BA	PARKING PAD, 10EA 12 X 12 FT		OH-58 AIRCRAFT	1.0	10	8	8713	18		18	36		
111320BB	PARKING PAD, 4EA 20 X 20 FT		AH-1G AIRCRAFT	4.3	39	30	36976	89		94	183		
111340BA	HANGAR ACCESS, 105 X 100 FT		AS REQUIRED	1.0	47	35	36467	87		163	250		
111370AA	AIRCRAFT WASHING APRON, 40 X 20 FT		1/INSTALLATION	1.0	1	1	3249	17		5	22		
111371AA	DEFUEL/DECONTN APR, 40 X 20 FT		1/INSTALLATION	1.0	1	3	6498	17		5	22		
111380BA	AC LOADING APR, 6EA 20 X 20 FT		UH-1 AIRCRAFT	1.0	14	11	12898	29		29	58		
111610AA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	1	3	6527	28		14	42		
112110BA	HOT REFUELING PAD, 6EA 20 X 20 FT		6/INSTALLATION	1.0	14	11	12898	29		29	58		
12530AL	PUMP STATION FUEL SUPPLY, POL, FOR 4-UNIT		AS REQUIRED	1.0	1	1	1246	9	60	23	92		
12630AA	LDG FACIL FOR TWO FUEL TRUCKS	2-STATION	AS REQUIRED	1.0	12	12	13862	173	374	1213	1760		
113315BA	CONTROL TOWER LOW DENSITY TRAFFIC		1/INSTALLATION	1.0	16	21	4632	1	560	112	673		
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304		2	2	4		
14110BB	AFOPS BLDG 2160SF PNL WD BLDG W/ IN		1/INSTALLATION	1.0	170	953	96409	21	2151	610	2782		
114111BA	FIRE AND RSQ STA, FAC NO. 73010AC		1/INSTALLATION	1.0	192	283	39238	63	930	171	1164		
114910AN	AIRCRAFT REVETMENT, IMPROVED, OH-58		OH-58 AIRCRAFT	10.0	110	80	28000		449	817	1266		
114910AR	AIRCRAFT REVETMENT, IMPROVED, UH-1D/H		UH-1 AIRCRAFT	8.0	120	96	31352		488	819	1307		
114910AV	AIRCRAFT REVETMENT, IMPROVED, AH-1G		AH-1G AIRCRAFT	9.0	108	90	28926		497	880	1377		
121110BB	ORG MNT HANGAR, 105 X 112 FT		UH-1 AIRCRAFT	1.0	79	156	257675	196		351	547		
141120BA	FLAMMABLE STORAGE, 12 X 24 FT		AS REQUIRED	1.0	14	13	3322	1		1	2		
41180AF	TANK, POL, 1000 BARREL, W/6 IN PIPE	1000 BBL	5 DAY SUPPLY	1.0	1	14	8663	92	357	173	622		
42283AC	MAGAZINE, STEEL ARCH 16X36		AS REQUIRED	1.0	14	31	4453	170	179	173	522		
85110CK	ROAD PAVEMENT, CLASS C, 6IN STBL 1MI		PROVIDE ACCESS	1.6	1070	723	5352	280		81	361		
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.6	60	41	300	19		7	26		
85130KH	ROAD, CLASS C, GRADED AND DRAINED 1MI		PROVIDE ACCESS	1.0	19	10	11125	3224		1176	4400		
85210AY	HARDSTAND GRADED AND DRAINED 1000SY		AS REQUIRED	.6	4	2	2641	148		53	201		
187120BB	DRAINAGE HELIPORT, 11 ACRES		1 IN./HR	1.0	14	17	9880	23		23	46		
87210AD	CONCERTINA, TRIPLE TAPE TYP D 1000LF		SECUR FENCE	9.2	1076	644	18050	296		1185	1481		
					3603	3556	980029	10580	6047	10597	27224		

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