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A PROTOTYPE PROCEDURE FOR THE LOCAL GENERATION OF FACILITY REQU--ETC(U)
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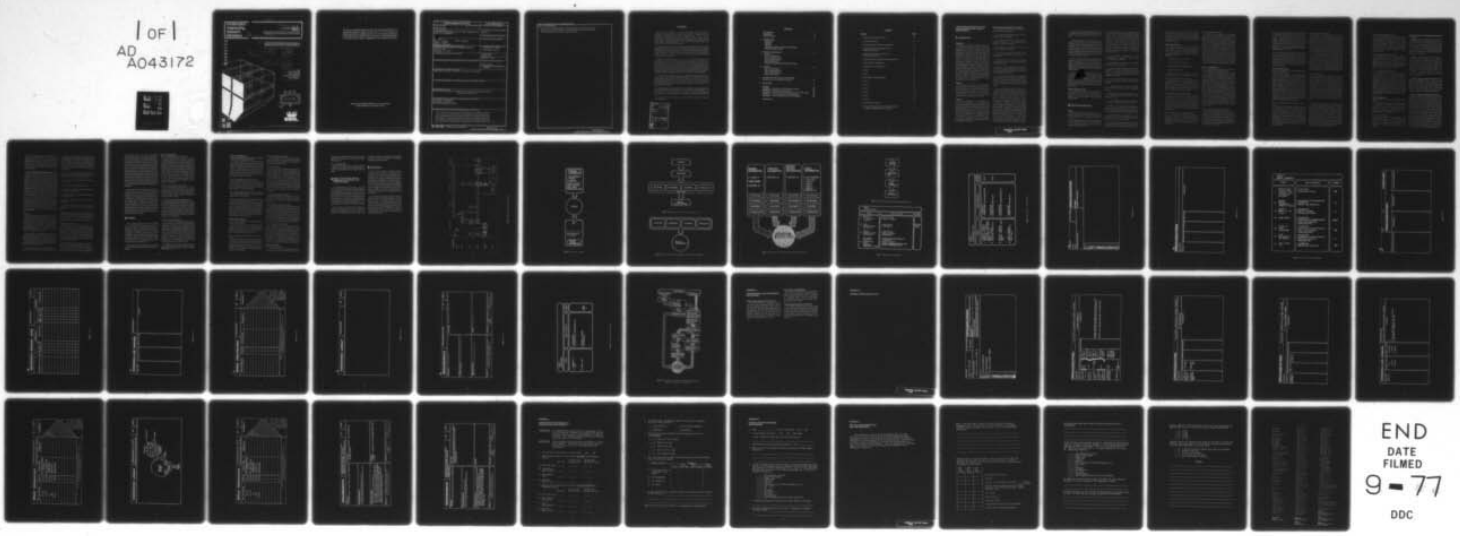

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INTERIM REPORT D-80
August 1977

Improvements to Procedures for Deriving Functional Requirements From Organizations and Individuals

CERL-IR-D-80

A PROTOTYPE PROCEDURE FOR THE LOCAL GENERATION OF FACILITY REQUIREMENTS

Aug 77
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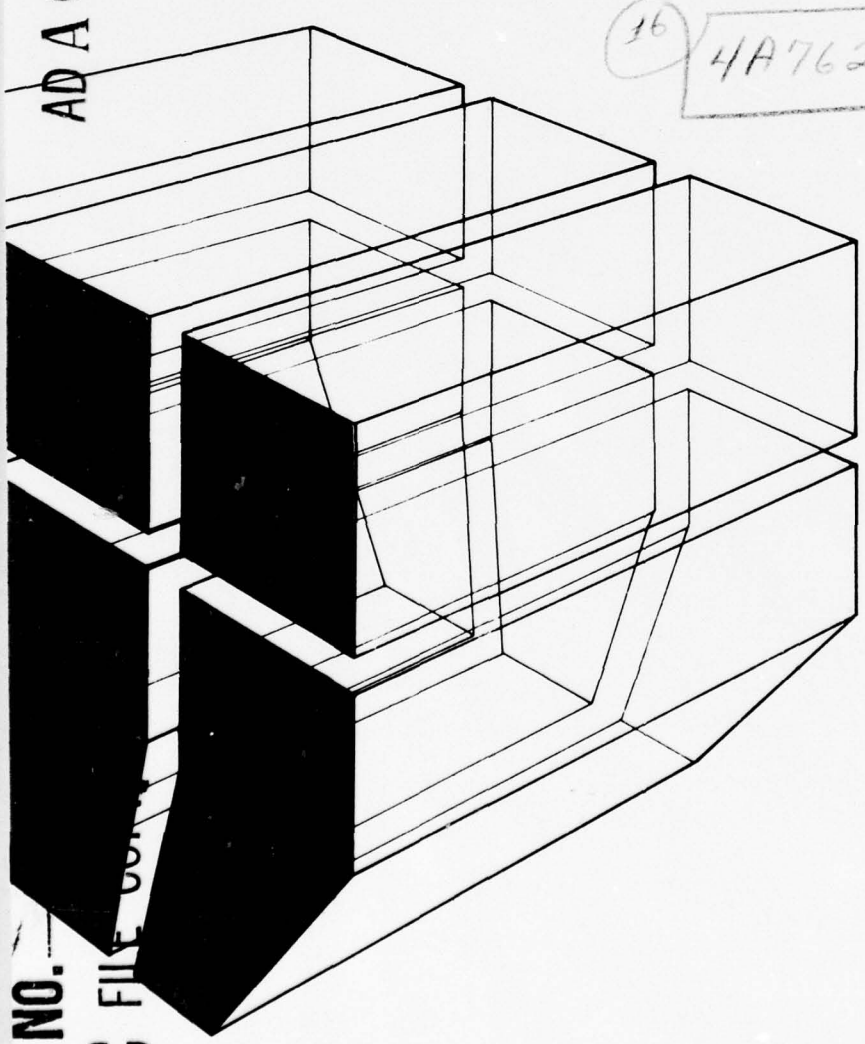

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER CERL-IR-D-80	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A PROTOTYPE PROCEDURE FOR THE LOCAL GENERATION OF FACILITY REQUIREMENTS		5. TYPE OF REPORT & PERIOD COVERED INTERIM 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) David L. Dressel John H. Burgess Roger L. Brauer Wayne D. Veneklasen		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS CONSTRUCTION ENGINEERING RESEARCH LABORATORY P.O. Box 4005 Champaign, IL 61820		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 4A762719AT41-T3-001
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE August 1977 13. NUMBER OF PAGES 52
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)
Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES
Copies are obtainable from National Technical Information Service
Springfield, VA 22151

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)
functional requirements
requirements generation
Military Construction, Army

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report describes a prototype procedure developed in the first phase of an ongoing study to develop tools and procedures for using organizations at the installation level to use in formulating functional requirements for facilities in the Military Construction, Army program. The requirements generation prototype procedure described in this report was developed in actual field test situations at three sites. The procedure consists of four phases—getting started, establishing facts, making judgments, and summarizing. The steps

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in each phase and the responsibilities of specific individuals and groups in each step are described, as is the training required for accomplishment of each phase. Future plans for testing and improving the prototype procedure are outlined.

FOREWORD

This research was conducted for the Directorate of Military Construction, Office of the Chief of Engineers (OCE), under Project 4A762719AT41, "Design, Construction, and Operation and Maintenance Technology for Military Facilities"; Task T3, "Architectural Research and Development in Support of Military Facilities"; Work Unit 001, "Improvements to Procedures for Deriving Functional Requirements From Organizations and Individuals." The applicable QCR is 1.01.012. The OCE Technical Monitors for this study were Robert Shibley and Richard Cramer.

The work was performed by the Architecture Branch (HPA), Habitability and Planning Division (HP), U.S. Army Construction Engineering Research Laboratory (CERL), Champaign, IL. Principal Investigators were Dr. Roger L. Brauer and Mr. John H. Burgess; associate investigators were Messrs. David L. Dressel and Wayne D. Veneklasen. Program review of this work and report was provided by Mr. Robert Porter, Chief of HPA and Dr. Robert Dinnat, Chief of HP.

Appreciation is expressed to Mr. T. Goss of U.S. Army Forces Command and Mr. R. L. Duncan of U.S. Army Training and Doctrine Command for their assistance in locating the three test sites used in developing the procedure described in this report: the Tactics Training Laboratory at Fort Rucker, AL, the Fort Polk Airfield Project at Fort Polk, LA, and the Personnel Services Center at Fort Sill, OK. Appreciation is also expressed to the instructors at the Fort Rucker Tactics Training Laboratory for their willing cooperation and to LTC Wilfred Wittekind, Chief, Flight Simulation Division (DOAT), Mr. Lawrence Hurbst, Master Planner (DFAE), and LTC Furney, Con/Coord (DTD).

At Fort Polk, the assistance and cooperation of MAJ Harvey Walker, Master Planner, and Mr. Robert Ray, Assistant Master Planner (DFAE), as well as MAJ Jerry Thiels, Assistant Division Aviation Officer, were greatly appreciated. In addition, the cooperation of all individuals representing the 19 organizations or functions to be located at the Fort Polk Airfield contributed greatly to the successful formulation of requirements for the improvement of the airfield.

At Fort Sill, appreciation is extended to Mr. James Hammond, Master Planner (DFAE), MAJ David Wahblom and CPT Joseph Goeke, Personnel Services Division (DPCA), and the representatives of the 34 organizations or functions to be housed in the Personnel Services Center for their contributions to the formulation of requirements for that facility.

COL James E. Hays is Commander and Director of CERL and Dr. L. R. Shaffer is Technical Director.

CONTENTS

FIGURES

A PROTOTYPE PROCEDURE FOR THE LOCAL GENERATION OF FACILITY REQUIREMENTS

1 INTRODUCTION

Background

Evaluation of the impact of Military Construction, Army (MCA) building delivery procedures on the performance quality of facilities has indicated that using organizations need tools and methods to help them systematically identify functional requirements for facilities they will occupy in the future. Functional requirements—statements of how a facility is to perform—have been recognized as essential information on which to base the numerous decisions required in developing and designing a facility. This recognition was partially responsible for initiation of the Project Development Brochure (PDB-1). As installations began to submit PDB-1s for facilities in the MCA program, however, the difficulties experienced by using services in formulating functional requirements became apparent. These difficulties resulted in initiation of research at the U.S. Army Construction Engineering Research Laboratory (CERL) to develop tools and procedures for organizations at the installation level to use in formulating functional requirements.

Objectives

The objectives of this research are (1) to develop the tools and procedures required by using organizations at the installation level to formulate functional requirements for installation facilities, (2) to put those requirements in a form compatible with the existing or a revised PDB-1 format, and (3) to develop training materials necessary to implement the procedure.

Approach

The three phases planned for accomplishing the objectives are (1) formulation of a prototype procedure for generating facility requirements through field development studies; (2) field testing of the prototype using installation personnel responsible for stating functional requirements, revision of input forms as necessary, and development of an appropriate output format; and (3) development of a training plan and the training materials necessary to execute the procedure at installations. This report describes the prototype procedure for requirement generation developed during the first phase of this project.

Prototype Development Objectives and Approach

The objectives in developing the prototype procedure described in this report were:

1. To ensure that using organizations are involved—including groups and individuals

2. To reduce the workload of the Directorate of Facilities Engineering, i.e., the installation master planners, in requirements generation

3. To improve the completeness, accuracy, and format of requirement statements

4. To make procedures and forms simple and easy to use, and to make procedures as quick and economical as possible

5. To recommend an overall scheme for managing local implementation of procedures and the defense of resulting requirements.

In addition, it was recognized that any procedure which would enable using organizations at an installation to generate facility requirements would have to meet the following requirements:

1. The procedure must relate to the existing MCA process. Figure 1 shows the procedure's potential points of impact on the MCA cycle facility delivery process. These points include preparation and review of the DD Form 1391 and PDB-1, and concept and final design reviews.

2. The procedure must address project-specific information rather than generic information, but the output must be presented in a format which would permit comparison with generic information. As Figure 2 shows, the design of a facility depends on these two types of information. Generic information may be characterized as requirements (qualitative statements of objectives for facilities), criteria (what the solution to a requirement is expected to be or do), or guidance (advice regarding the application of criteria in facility planning, design, or operation). Vehicles for dissemination of generic information are design Guides (DG), Technical Manuals (TM), Army Regulations (AR), Engineering Regulations (ER), etc. Project-specific information is primarily in the form of requirements; little project-specific information is in the form of criteria because of the limited construction expertise of using organizations. Primary vehicles for information transfer are the DD Form 1391 and PDB-1 documents.

3. The procedure must differentiate between requirements and criteria; that is, requirements must be the focus, given using organizations' expertise in this area.

4. The data generated by the procedure must account for the five major variables affecting mission performance. Given a mission, some functions must be delineated, and some time (scheduling) to carry out activities is necessary, as are personnel, equipment, and facilities (Figure 3). With these elements, the mission can be accomplished. Activities, personnel, equipment, and time (scheduling) are used, in turn, to aid in facility requirement formulation (Figure 4).

5. Factors which indirectly affect mission accomplishment, as well as those contributing directly to mission accomplishment, must be accounted for. Figure 5 portrays this distinction; additional inputs to requirement formulation come from a forecast of future demands and a consideration of needs of the individuals using the facility.

To gain a [illegible] understanding of what was specifically requi[illegible]e process, the prototype procedure was deve[illegible]tual field test situations at three location[illegible]actics Training Laboratory at Fort Rucker, AL, the Fort Polk Airfield Project, Fort Polk, LA, and the Personnel Services Center at Fort Sill, OK. Appendix A presents background information on these three projects.

Mode of Technology Transfer

The results of this study will impact TM 5-800-3[1] and AR 415-20.[2] In addition, the results will be transmitted to field users through the training materials developed for the Technology Transfer Information Package (TTIP).

2 PROTOTYPE DESCRIPTION

Overview

In the prototype procedure, missions (why an organization exists), functions (what an organization does), and activities (how an organization does what it does) form the ultimate basis for requirements. It is in terms of these three elements that requirements can be defended. Those concerns which affect mission performance, security, and the health, safety, and morale of personnel are also documented to further justify requirements. Additionally, activity personnel and equipment variations over time are forecast to help prevent requirements from being obsolete at the time of facility occupancy. According to the prototype procedure, the following individuals participate in obtaining the information necessary to write requirements for a facility:

1. Using organization representatives, i.e., local representatives of the appropriate major command such as FORSCOM or TRADOC.

2. The installation master planner or a responsible representative from his/her office.

3. A project coordinator and liaison who serves as a "defender" of the project from the conception through occupancy. The coordinator may conduct some local training on the requirement development process for the PDB-1 (see Chapter 3).

4. A major command representative from the headquarters of the appropriate major command, such as TRADOC.

5. A representative from the Corps of Engineers District Office of the District in which the installation is located.

6. Representatives of the upper administrative levels of each major organizational unit which will occupy the proposed facility.

7. A user committee consisting of the organization representative and selected subordinate personnel.

8. Members of the organizational units intending to occupy the proposed facilities, and, in the case of service- or support-oriented facilities, those people outside the tenant organizations who would use the facility.

9. Group and individual representatives of the organizational units to use the facility, including the lowest level, e.g., section or office chiefs.

The developed prototype procedure is divided into four major phases: getting started, establishing facts, making judgments, and summarizing (Figure 6). These

[1] *Project Development Brochures: Part 1: Functional Requirements*, TM 5-800-3 (Department of the Army, May 1974).

[2] *Project Development and Design Approval*, AR 415-20 (Department of the Army, May 1974).

four phases encompass actions on the part of the using organization from conception of a facility to the point at which requirements for the facility are forwarded to the master planner's office for preparation of the PDB-1. Appendix B presents an example of the completed information package.

Phase 1: Getting Started

The objective of this phase is to start the process correctly with the proper documentation of objectives for the facility, a plan of action for carrying out the rest of the process, and the identification of the potential using organizations involved. The four steps in this phase (Figure 7) are:

1. Recognizing the need for a facility
2. Stating objectives for the facility
3. Identifying potential using organizations
4. Getting groups together.

Although the first three steps are part of current master planning, they are presented here for continuity.

Step 1: Recognizing the Need for a Facility

The using service and the master planner determine the need for a facility. It is the using service's responsibility to decide that its operation is somewhat encumbered in current facilities. The master planner must then identify that there is no adequate space on post in which to house the using service's activities.

Step 2: Stating Objectives for the Facility

Stating objectives involves the using service and the coordinator. In this step the using service decides what a new facility will do for it in terms of mission performance. This task can be done jointly with the coordinator, who guides the using service in making a complete and objective statement. Also at this point, the coordinator becomes familiar with the problem to be faced in terms of defining requirements for the facility through the entire process.

Step 3: Identifying Potential Using Organizations

It is the using service's responsibility, jointly with the project coordinator, to decide which organizational units will be housed in the new facility. The master planner may also participate in terms of site selection to conform with the rest of the using service's missions or functions.

Step 4: Getting Groups Together

This step involves a meeting of the participants listed in Figure 7. The coordinator, who introduces the participants in the step, serves as moderator of the discussion, which involves verifying objectives from step 2, and forming a plan of action for accomplishing the rest of the requirement generation process. It is through the coordinator that the plan of action is written. The master planner is present primarily to provide input concerning site selection. The major command representative attends primarily to receive information and monitor the project, or to be introduced to the project if he or she has not already become acquainted with it through informal channels. The District Representative is present to become familiar with the project and its intended scope. The organization representatives help form the plan of action and decide on scheduling the remaining phases and steps.

Phase 2: Establishing Facts

Step 1: Generating Mission-Oriented Activity, Personnel, Equipment and Scheduling (APES) Sets

The combination of an activity, specific personnel, related equipment, and scheduling forms a descriptive set of information which impacts facility requirements (Figure 8). These activity, personnel, equipment, and scheduling (APES) sets are the means by which an organization's mission and functions can be analyzed. They also serve as the basic building blocks of future requirements. To generate these APES sets, the coordinator must insure that the organization representatives know exactly which types of information must be gathered. The organization representative is responsible for the execution of this step. If the organization representative is a division chief, he or she will probably assign the actual data gathering in this step to individual branch or section chiefs. The coordinator can serve as a liaison within an organization to help explain to lower level organizational heads what information is needed. Forms a and b (Figures 9 and 10) are used to collect the information.

Step 2: Verifying Mission-Oriented APES Sets

In this step, the APES sets generated in step 1 are reviewed at the working level to verify that they are complete and accurate before being used in the rest of the requirement generation process. In this step, the coordinator informs people at the working level of their responsibility. The groups and individuals at the working level then critique the APES sets generated by the organization representatives.

Step 3: Identifying Indirect Mission-Oriented APES Sets

The approach required in this step is similar to that for step 1 in this phase, but the focus is somewhat different. Individuals performing activities (often requiring supportive equipment) that must occur regardless of the mission may not be identified through mission-oriented APES sets. How these individuals are identified and how data are obtained from them is described in the **Formulating Other Than Mission-Based Requirements** section, p 11.

Step 4: Verifying Indirect Mission-Oriented APES Sets

This verification is performed by groups and individuals in the below-supervisory chain as in step 2. For service- or support-oriented facilities, this step can be accomplished by eliciting information from nonresident facility users. Again, the coordinator serves as advisor and, in some cases, may perform training required to accomplish this step.

Phase 3: Making Judgments

Step 1: Reviewing Phase 2 Data for Organizational Effectiveness and Efficiency

The complete description of the functions and activities of each organization which will use the facility that results from phase 2 should be forwarded to the highest administrative level within the particular organization at the installation for review of organizational effectiveness and efficiency (Figure 11). Since facility requirements are based on what is done and how it is done, any ineffective or inefficient procedures that may have developed over time, possibly resulting from personnel changes, could be given a formal physical form—the facility. In-depth review of these functions and activities during this step could prevent inappropriate facility requirements. For sufficiently complex organizations, the Organizational Effectiveness Office on the installation can be consulted.

Step 2: Identifying Special Concerns in Terms of "Needs"

In this step, all of the APES sets generated and verified to date are forwarded to groups and individuals for comments based on four categories of concern ("needs"): (1) satisfaction, (2) task performance, (3) security, and (4) health and safety. Comments are recorded in the space provided on form b. Organization representatives are responsible not only for providing their insights to these concerns but also for insuring that subordinate groups and individuals accomplish their responsibilities. The coordinator, again, acts in an advisory capacity.

Step 3: Identifying Future Impacts

In this step, key installation personnel look at the APES sets and the "special concerns" and try to project the future impacts on these APES sets and concerns. Questions to be answered include whether activities will no longer be performed in 5 years; whether more activities will be performed; if the facility is technologically oriented; whether a new generation of technology and subsequent equipment will place additional or different demands on the facility. This step is performed in a panel discussion, with the coordinator acting as an advisor and moderator. Upper level administrative representatives from the organizations are the key people in the forecasting effort. On occasion, representatives of organizations which have a direct effect on the using organization's operations may be present. The master planner may provide information concerning future plans for sites adjacent to the facility in question. The user committee, which represents all organizations impacted by the facility and all supervisory levels, may be present. Results are recorded on form c (Figure 12).

Step 4: Naming Spaces

In step 4, APES sets are assigned to spaces in the facility. This involves many judgments by numerous people, including deciding which APES sets are compatible and which are not in terms of (1) the activities being compatible, (2) the number of tasks performed by the personnel, and (3) the equipment types being compatible. For example, a clerk-typist located in a room where reports are edited could cause considerable noise. These two activities—editing and typing—are not necessarily compatible because of the noise problem. The problem can be solved by abating the noise at the source or by locating the typist and editor in separate spaces. This concern is the type that is important in step 4.

Form d (Figure 13) provides a record of special data for equipment. This information can serve as input for the tasks of naming spaces and deciding on requirements (step 6). Form e (Figure 14) identifies common-use spaces and the organizations' usage of them. For example, conference spaces in administrative facilities can be shared by several organizations if they are properly sized and their use is accurately scheduled. Lobbies and waiting areas can also be shared. Form f (Figure 15) is used only to name the spaces and indicate which APES sets are assigned to each. The coordinator serves as an advisor. The primary responsibility for this step falls on the organization representatives.

Step 5: Deciding on Space Adjacencies

This step is performed by the organization representatives and group and individual representatives in conjunction with the coordinator. Results are recorded on form f (Figure 15). Considerations, some of which were already contemplated in step 4, would be work load, managerial style, efficiency, communications, security, etc. Once the adjacencies have been decided on in the matrix, a simple bubble-diagram is drawn (form g, Figure 16).

Step 6: Stating Requirements for Spaces

Once spaces have been defined by their APES sets and named, their requirements must be stated. Consideration must be given to such variables as acoustics, lighting requirements, and space requirements (form h, Figure 17). This step is performed by the organization representatives and the group and individual representatives in conjunction with the coordinator.

Step 7: Verifying Steps 4 Through 6

In conjunction with the coordinator, the results of steps 4 through 6 are forwarded by the organization representatives to their subordinates for concurrence. Once this task has been done for all of the lowest level organizational units to use the facility, the organization representatives at this lowest level (e.g., section or platoon) meet with the representative at the next highest level (e.g., branch or company) to determine functional relationships among spaces within that higher organizational level. This procedure is iterated up the organizational hierarchy until the functional relationships among all organizations to use the facility are determined.

Phase 4: Summarizing

Step 1: Summary to Director of Facilities Engineering (DFAE)

The organization representatives and the coordinator are responsible for presenting a completed facility requirements document incorporating all previously gathered information, in a format consistent with the needs of designers and other decision-makers, to the installation master planner (Figure 18).

Step 2: Writing the PDB

It is the responsibility of the master planner to write a PDB-1 for the facility based on the document evolved in step 1. This document is to be forwarded to the coordinator and organization representatives for concurrence before being sent to the major command for approval.

Formulating Other Than Mission-Based Requirements

Background

Occupants. The previous discussion focused on formulating requirements for organizations which occupy a facility. However, organizations are not the only occupants of a facility. Occupants also include individuals and groups of people who would not be identified as a unit within an organization. Included here might be lunch-hour joggers, the physically handicapped, women, etc. Requirements for such groups and individuals must also be generated.

Needs. In the previously described procedures for generating facility requirements for organizations, it was recognized that the primary need of an organization is task performance—being able to complete the operations which are necessary to accomplish its mission. Other needs for an organization might include security or economy. For groups and individuals, needs include not only being able to perform tasks or activities which are necessary or preferred, but also being safe, secure, and healthy, and having a sense of achievement or satisfaction.

Activities, Personnel, Equipment, and Time as the Basis for Requirements. The previously discussed principle of generating facility requirements from detailed information on the activities, personnel, equipment, and time factors relevant to the organizational element being examined also applies to generating facility requirements for groups and individuals not clearly identified when analyzing an organization.

Direct and Indirect Mission-Oriented Activities. In formulating requirements for facilities based on accomplishment of organizational missions, a mission analysis procedure is used to break the mission down into functions and then into activities. These activities could be referred to as direct mission-oriented activities. However, a facility must also accommodate other group and individual activities, including activities that must be performed by everyone, such as eating, drinking, and toilet activities, as well as activities which people do in varying degrees depending on individual interest or desire, such as socializing, observing the natural world, moving about, and observing other people. In many situations, activities are demanded by society or its laws regarding health and safety; in most organizations, standards have been established which govern the degree to which certain activities are accommodated. For example, the organization provides separate bathrooms for male and female employees, wide doors and

ramps for the handicapped, an office lunchroom or cafeteria, and often a shower room. These group or individual activities, which are based on needs for health and safety, security of personnel and personal belongings, morale, and satisfaction, may contribute indirectly to the accomplishment of the organizational mission and therefore are referred to as indirect mission-oriented activities.

General and Locally Specific Requirements. General, or generic, requirements are those based on activities which are universally performed across organizations, installations, or areas of the country; these requirements are usually handled through some centrally developed and controlled document. These generic requirements and the criteria for achieving solutions for them include such things as standards for toilet facilities, accommodations for women, standards for disabled people, etc. On the other hand, locally specific requirements are those which are based on activities or other factors which are unique to a region of the country, installation, or organization. The procedures for developing facility requirements must include the ability to identify those requirements which have already been formulated as generic requirements and are documented elsewhere in ARs, ERs, and TMs. It would be inefficient and uneconomical to redevelop existing generic requirements for each new facility. However, where generic requirements do not exist, or where activities are locally specific, requirements must be developed

Procedures

With these background considerations in mind, procedures for generating requirements which do not result directly from a mission analysis can be discussed. Procedures for dealing with activities which contribute indirectly to mission accomplishment are more difficult to complete than those which contribute directly. Several judgments are involved, with a wide variety of methods being available for collecting the activity, personnel, equipment, and time data.

In the approach for generating requirements for organizations illustrated in Figures 4 and 5, mission analysis is used to generate the APES data, which are then used to formulate the requirements for a facility to accommodate them. Figure 19 expands this idea to show how requirements for groups and individuals can be generated in a parallel manner.

The model shows that two initial judgments are necessary in dealing with groups and individuals and the related activity, equipment, and time factors. The first judgment is identifying whether there are any indirect mission-oriented factors to be considered. The second judgment is to classify these identified factors as either generic or locally specific. Assistance in making these judgments could be provided by a checklist of groups and individuals, or one for activities, equipment, or scheduling.

Once it has been determined that there are factors for which local data must be collected, numerous issues relative to the execution of data collection arise:

1. Can the data be collected given local expertise, and, if so, how?

2. Which data collection method is best?

3. How much time, money, and manpower must be devoted? Are these available?

4. How can data be reduced? What are the available tools and procedures?

5. How are the findings from data reduction to be interpreted?

6. How can requirements be formulated from the findings and fed back into the total facility requirements?

Subsequent phases of this research project will address these issues and develop efficient and effective means of collecting sufficient activity, personnel, equipment, and time data for indirect-mission analysis so that requirements for the facility can be identified.

Examples From Test Projects

The three test cases used to develop procedures for using organizations to formulate facility requirements offer some examples of items which did not emerge directly from a mission analysis. In the Fort Polk Airfield case one consideration arose from an activity, while in the project at Fort Sill a significant group who would be using the facility was not covered by the mission analysis. While other items could be cited, these two will be discussed briefly.

When formulating the requirements for the Fort Polk Airfield, several people recognized the need for a place to eat. Nearly 500 people would be stationed at the airfield, which is about 1 1/2 miles (2.4 km) from the main post area, where the nearest eating facilities

were available. However, there was no information available suggesting what the current eating patterns were for those stationed at the airfield, what kind of food service was desirable, or what kind of food service would be utilized. To gather some data on current eating patterns and kind of food service desired (activity) and what the projected utilization might be for various types of food service (personnel and scheduling), a short questionnaire was composed and circulated to personnel working at the airfield (Appendix C). Using the results from this evaluation and the knowledge of what was economically feasible, the local Post Exchange Service was able to identify what type of service would be offered, the equipment which would be used, and the hours food service would be available. On the basis of these activity, personnel, equipment, and scheduling data, the requirements for eating accommodations were formulated.

The main purpose of the facility used as a test case at Fort Sill was to provide one-stop processing for permanent-party personnel. However, because the personnel who would be served by this facility did not constitute a formal organization, their needs could not be identified by a mission analysis procedure. Therefore, a small study involving interviews, observations, and questionnaires was conducted to determine what the typical sequence of activities for processes was and how the needs of this group should be accommodated (Appendices D and E). One of the significant results was determining where the waiting time usually occurred, where waiting spaces should be placed, and about how many chairs should be provided.

3 TRAINING

If the requirements generation process for the PDB-1 is to flow smoothly—thus ensuring continuity and quality across projects, installations, and Districts—all participants must have some training in specified topics. The extent of training required will vary. The project coordinator, for example, will require an intimate knowledge of the entire requirement generation process. Groups and individuals will require minimal training at specified points in the process, however, for their tasks usually do not generate information but verify information gathered by someone else.

The following sections generally describe the training required by groups and individuals in each phase of the procedure.

Phase 1: Getting Started

Step 1: Recognizing the Need for a Facility

CERL has recommended[3] that an objective means of identifying whether or not a facility is functioning in terms of habitability be developed. Habitability is a relatively broad issue which encompasses nearly every functional consideration for a facility. If this procedure is developed, it will aid in recognizing whether a new facility is needed by identifying the shortcomings in current facilities. In this step, the using service and the master planner would have to evaluate their existing facilities to determine whether a new facility is needed or whether current facilities can be modified. Therefore, the using service and master planner must be trained in this process before a DD Form 1391 is written for a new facility.

Step 2: Stating Objectives for the Facility

Since the using service representative and the coordinator are the only people involved in this decision, training is limited to them. Since stating the objectives for the facility may also be a part of the procedure described in step 1, training for step 2 should be concurrent with that for step 1.

Step 3: Identifying Potential Using Organizations

Identifying potential using organizations is contingent on the organizational structure itself. Compatible (in terms of the objectives for the facility) organizational units would most likely be housed in a new facility, so which organizational units are most compatible in terms of mission must be determined. This procedure requires minimum training for the coordinator and the using service; training is not required for the master planner, who is also involved.

Step 4: Getting Groups Together

At this point, the coordinator becomes a trainer in the sense of developing a strategy and timetable for the completion of the process and for assigning tasks. The master planner, major command representative, District representative, and organization representatives must be briefed concerning what will be required of them, when it will be required of them, and in what form their information must be presented. At this point, the coordinator will probably train the organization representatives on the use of each of the forms that will be necessary for the completion of the process. Appendix B presents examples of completed forms.

[3] R. L. Brauer and D. L. Dressel, *Concepts for the Generation, Communication, and Evaluation of Habitability Criteria*, Special Report D-78 (U.S. Army Construction Engineering Research Laboratory, 1977).

Phase 2. Establishing Facts

Step 1: Generating Mission-Oriented Activity, Personnel, Equipment and Scheduling (APES) Sets

From step 4 in phase 1, the coordinator and organization representatives have already been trained on the use of all necessary forms and procedures for generating APES sets. Organization representatives who are division chiefs or of similar level will be required to train the branch or section chiefs who will actually be gathering the information on appropriate procedures and forms necessary to execute this step. This task can be done in conjunction with the coordinator.

Step 2: Verifying Mission-Oriented APES Sets

Since this step involves primarily the coordinator, who has been trained in the entire process, he/she can be most useful in telling the groups and individuals who are examining the APES sets how to insure that their critiques are accurate and complete.

Step 3: Identifying Indirect Mission-Oriented APES Sets

The training required for this step is similar to that required for step 1 in this phase.

Step 4: Verifying Indirect Mission-Oriented APES Sets

In this step, the information from step 3 is both verified and quantified. This procedure is not complex, but it must be thorough. The groups and individuals must be taught appropriate means of critiquing those indirect mission-oriented APES sets developed in step 3 and use of the appropriate vehicle for making comments and additions to these. This training can probably be done solely on the basis of forms, with minimal face-to-face training from the coordinator.

Phase 3: Making Judgments

Step 1: Reviewing Phase 2 Data for Organizational Effectiveness and Efficiency

Since the input for this step is primarily from the highest level administration at the installation for the organization in question, organizational and managerial skills have presumably already been developed. Thus, no special training is required for this step.

Step 2: Identifying Special Concerns in Terms of "Needs"

Once again, although the organization representatives are primarily responsible for accomplishing this step, it is the groups and individuals who provide the input. Training these groups and individuals on how to critique all the APES sets that have been developed in terms of the four categories of evaluation described in Chapter 2 will be necessary.

Step 3: Identifying Future Impacts

This step, overseen by the coordinator, involves the input of organization heads. Any instructions can be informally or verbally provided by the coordinator, or merely preprinted on data forms.

Step 4: Naming Spaces

This step is the most complex one in the process. It requires judgment based on previously gathered data. Execution of this step requires considering many variables simultaneously to identify compatible APES sets for inclusion in a specific space in the facility. Training required will be on the variables to be considered, such as communication; these variables will have to be defined. The coordinator will be the primary trainer, and the organization representatives and group and individual representatives will require the training. Some of this training may be included as instructions in the printed form, although much of it will have to be informal.

Step 5: Deciding on Space Adjacencies

Again, this is primarily a judgment step, as in step 4. It requires the same type of training for the same people. It is merely dealing with a higher-order element of the facility.

Step 6: Stating Requirements for Spaces

A guidance package must be included as part of the process so that the organization representatives and the groups and individual representatives can look at the APES sets in each space and develop the requirements compatible for all included APES sets in terms of ventilation, acoustics, lighting, etc. Generic documents in the TM, ER, and AR series can aid in this step and will be introduced through training to the organizing representatives and groups and individual representatives.

Step 7: Verifying Steps 4 through 6

The coordinator can be the primary trainer of the groups and individuals who must perform this step. The procedure for verifying the organization of APES sets in spaces, the requirements stated for the spaces and the space adjacencies must be communicated to the groups and individuals before this step can be accomplished. This information exchange, or the procedure for accomplishing this step, may take place informally. It is not likely that the instructions for this step can be communicated solely by printed materials.

Phase 4: Summarizing

Step 1: Summary to DFAE

In this step, the organization representatives and the coordinator will require primarily preprinted forms on

which to put all updated information for forwarding to DFAE (i.e., master planner). No specialized training will be required.

Step 2: Writing the PDB

Instructions for PDB completion already contained in TM 5-800-3 will merely have to be supplemented to include the requirement data added by the preceding process.

4 IMPACT OF THE STUDY ON THE SCOPING OF FACILITIES AT THE THREE TEST SITES

As originally planned and documented on the DD Form 1391, the Fort Polk Airfield Operations Building was programmed at 11,200 sq ft (1040 m^2). The functional requirements analysis showed that 26,800 sq ft (2490 m^2) were actually needed; some operations which needed to be housed in this facility had been overlooked. Also at Fort Polk, the Airfield DS Maintenance Hangar was originally programmed at 32,600 sq ft (3029 m^2), but the analysis showed that 16 percent less space (27,230 sq ft [2530 m^2]) was needed.

At Fort Sill, the use of the functional requirements process for the Personnel Services Center resulted in a reduction of programmed space from 190,000 sq ft (17,651 m^2) to 57,500 sq ft (5342 m^2). Part of this discrepancy resulted from deleting several marginally important (in terms of the objective for the facility) organizations from the facility.

5 CONCLUSION

This report has described a prototype procedure developed in the first phase of an ongoing study to develop tools and procedures for organizations at the installation level to use in formulating functional requirements for facilities in the Military Construction, Army program. The procedure consists of four phases—getting started, establishing facts, making judgments, and summarizing. Numerous personnel representing a variety of organizations participate in the individual steps of each phase, with an overall coordinator participating throughout the process. Varying degrees of training will be required for the individual participants in the process.

The functional requirements generation procedure described in this report will establish project scope and additional details on the project. Efficiency would be increased, however, if a streamlined process was developed to establish project scope on the DD Form 1391s, leaving the more detailed analysis until later in the MCA process, when there is a higher level of confidence that the facility will be authorized for design and construction. The development of a streamlined process is planned as future work.

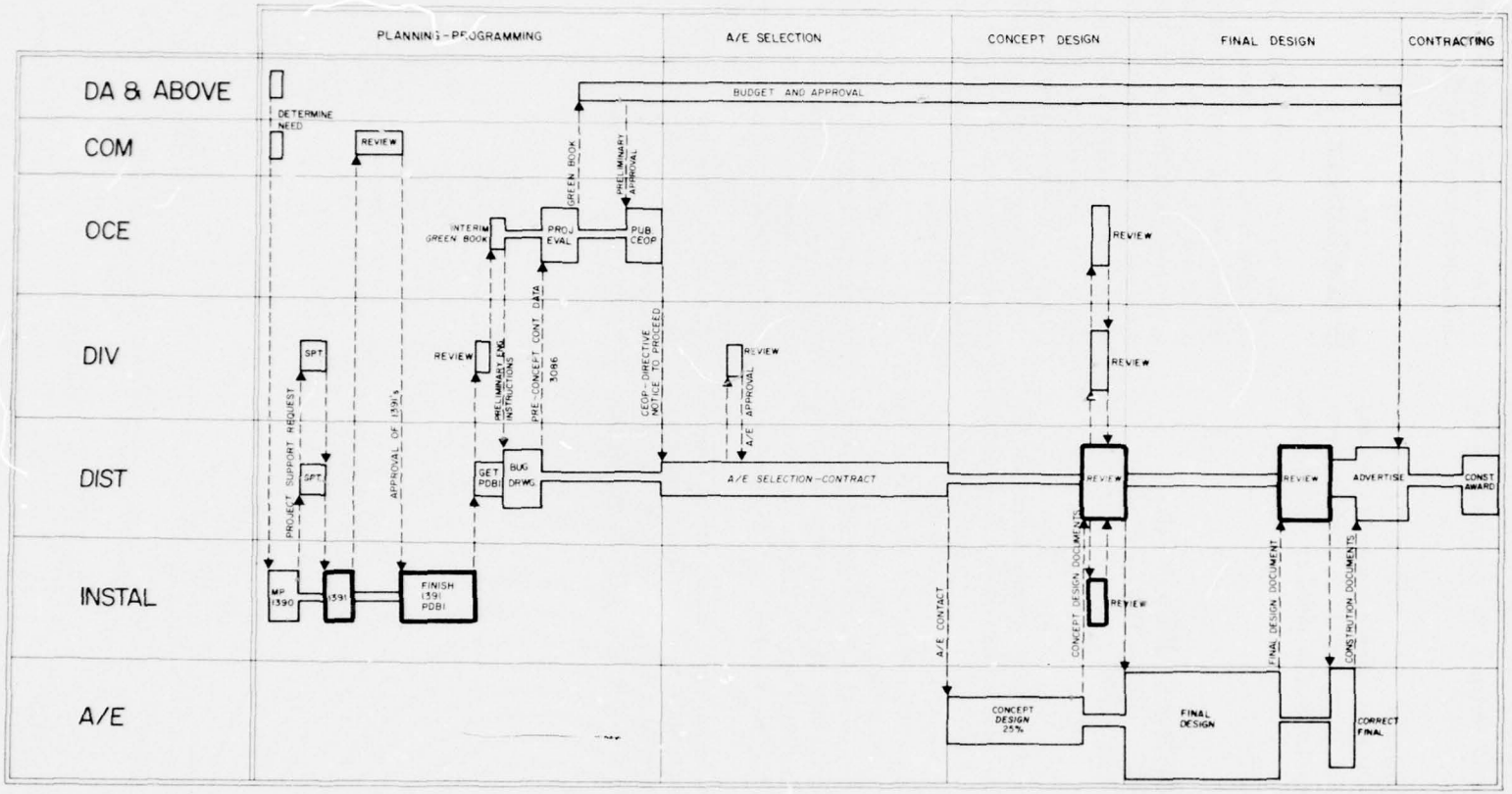


Figure 1. MCA cycle facility delivery process.

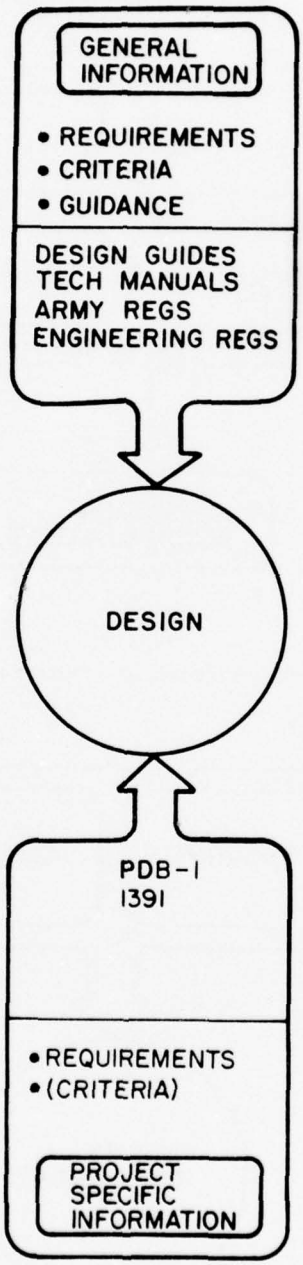


Figure 2. Information for design.

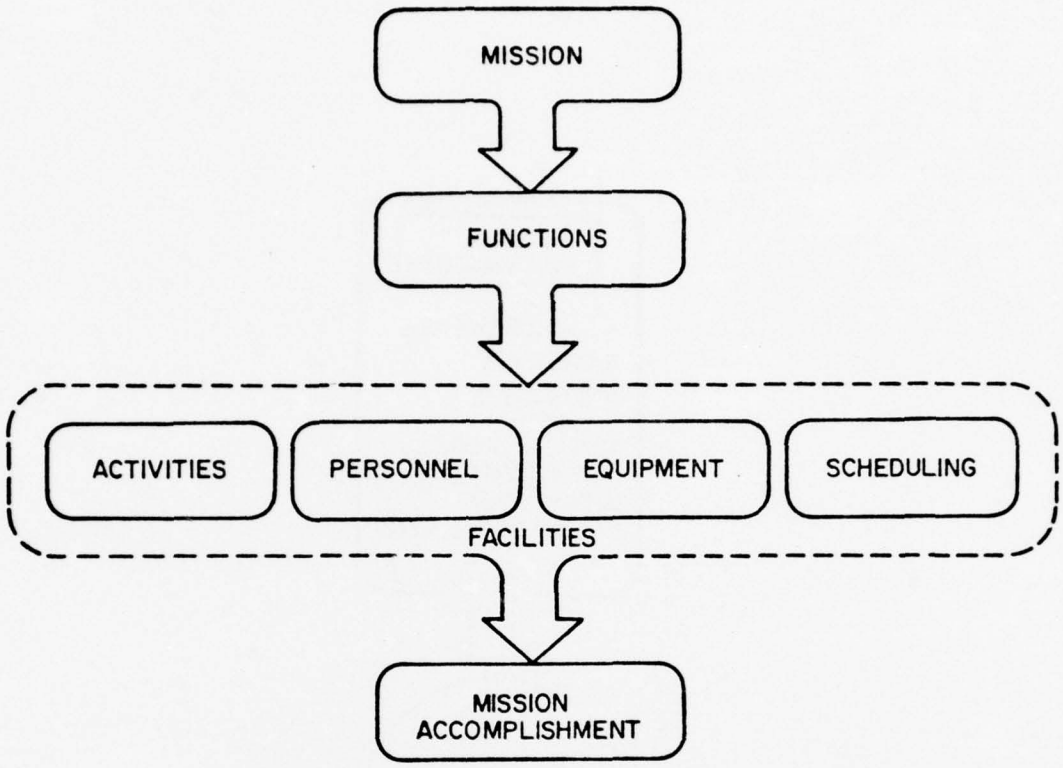


Figure 3. Elements necessary for mission accomplishment.

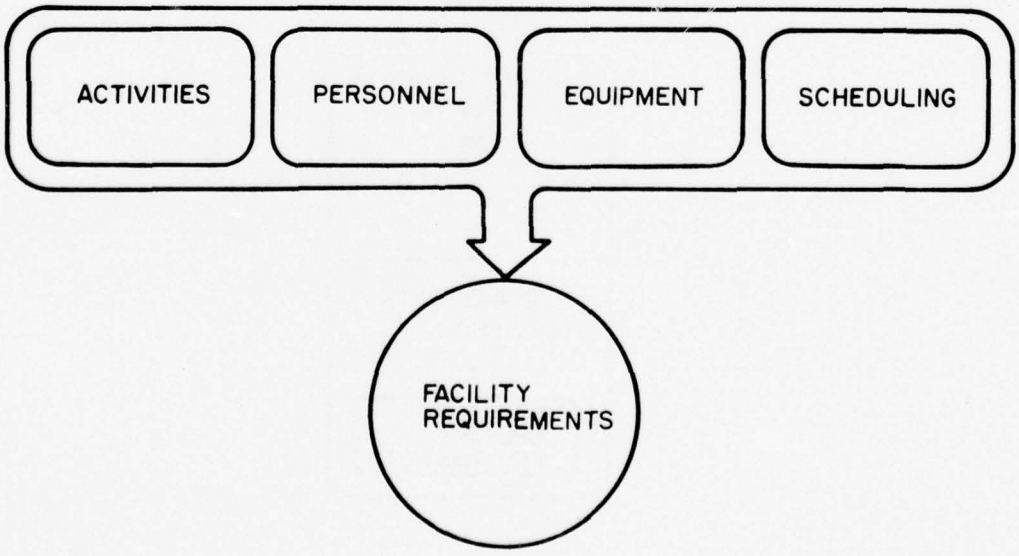


Figure 4. Elements of mission accomplishment used in requirement generation.

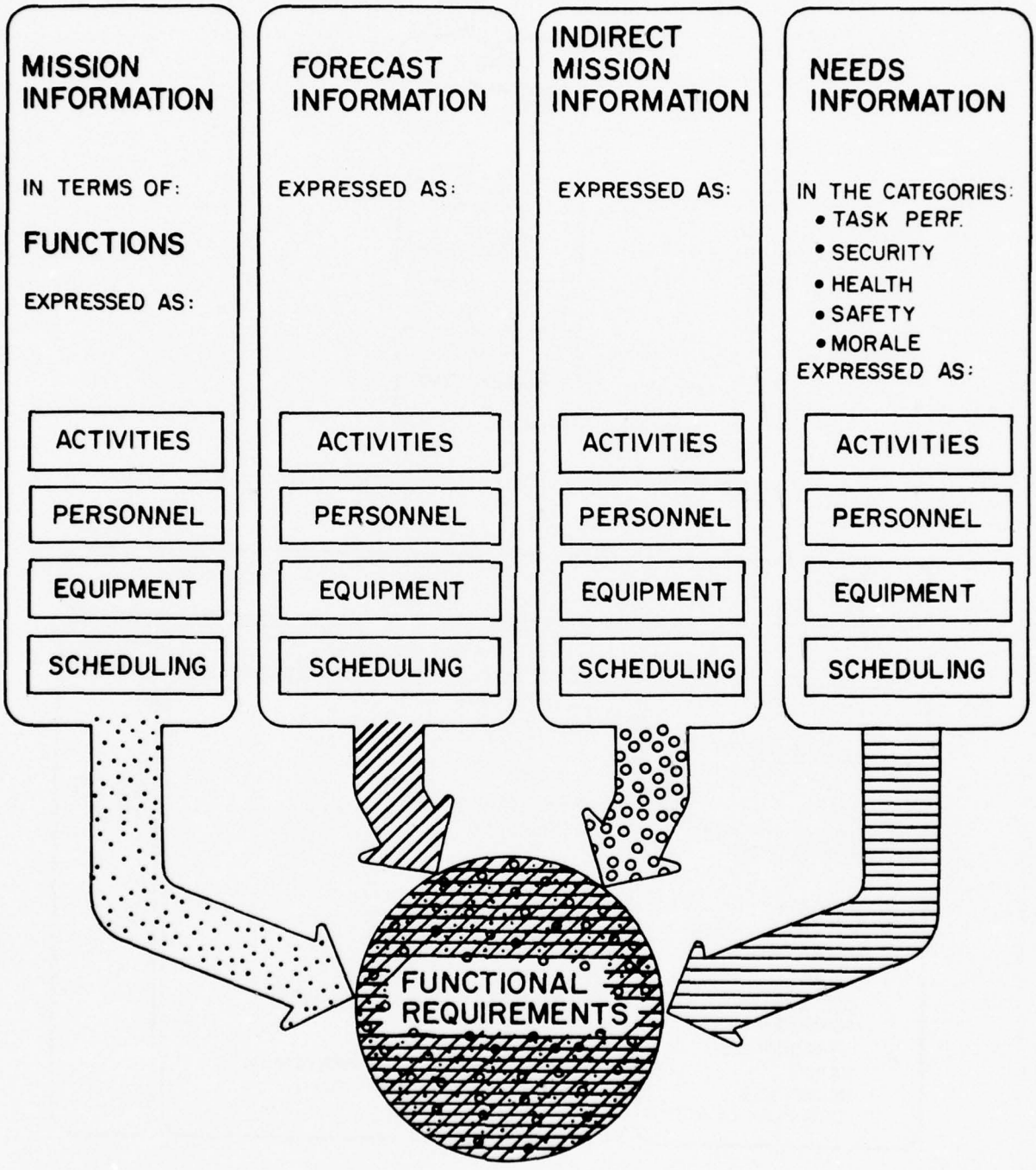


Figure 5. Types of information used in functional requirement formation.

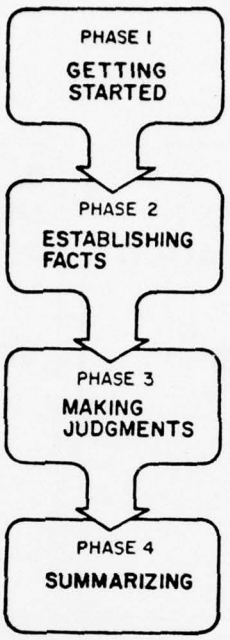


Figure 6. Phases in the prototype requirements generation process.

PHASE I:
GETTING STARTED

STEPS	WHO IS INVOLVED	FORMS
1 RECOGNIZE THE NEED FOR A FACILITY	• USING SERVICE • MASTER PLANNER	AS ON 1391
2 STATE OBJECTIVES FOR THE FACILITY	• USING SERVICE • COORDINATOR	
3 IDENTIFY POTENTIAL USING ORGANIZATION	• USING SERVICE • MASTER PLANNER • COORDINATOR	
4 GET GROUPS TOGETHER: INTRODUCTION VERIFY OBJECTIVES FORM PLAN OF ACTION	• ORGANIZATION REPRESENTATIVES • COORDINATOR • MASTER PLANNER • MAJOR COMMAND REPRESENTATIVES • DISTRICT REPRESENTATIVES	

Figure 7. Steps in phase 1: getting started.

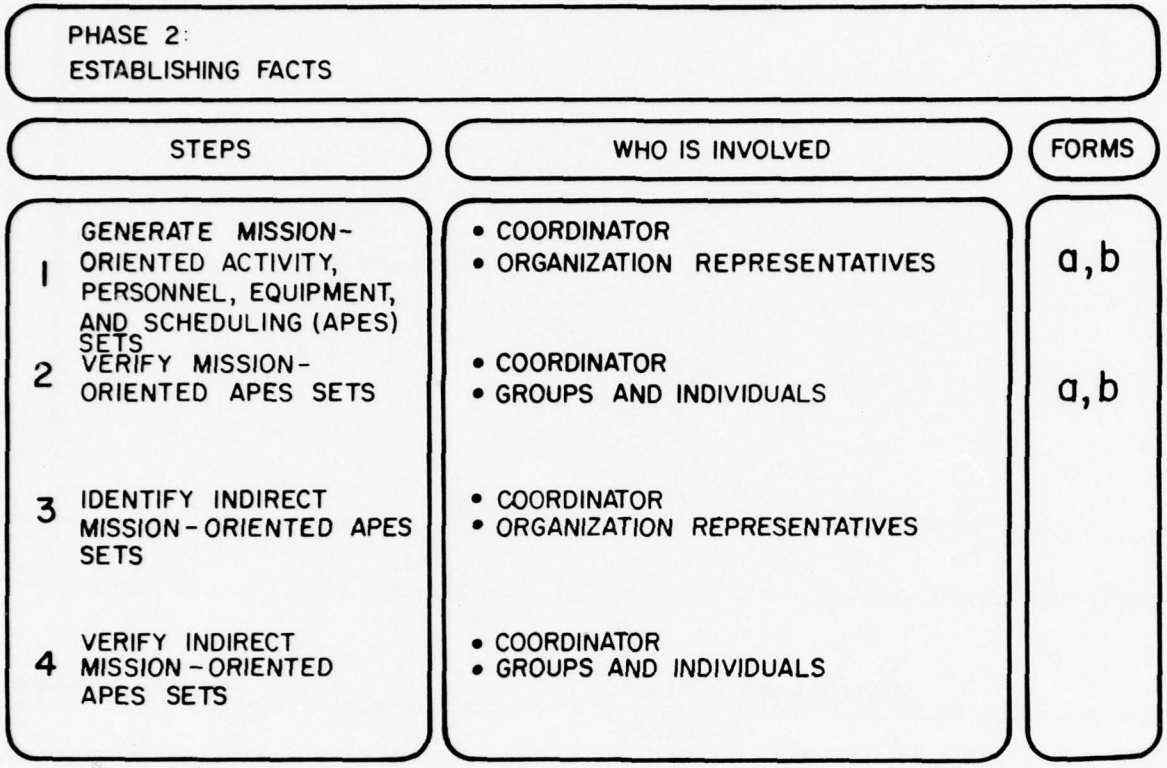


Figure 8. Steps in phase 2: establishing facts.

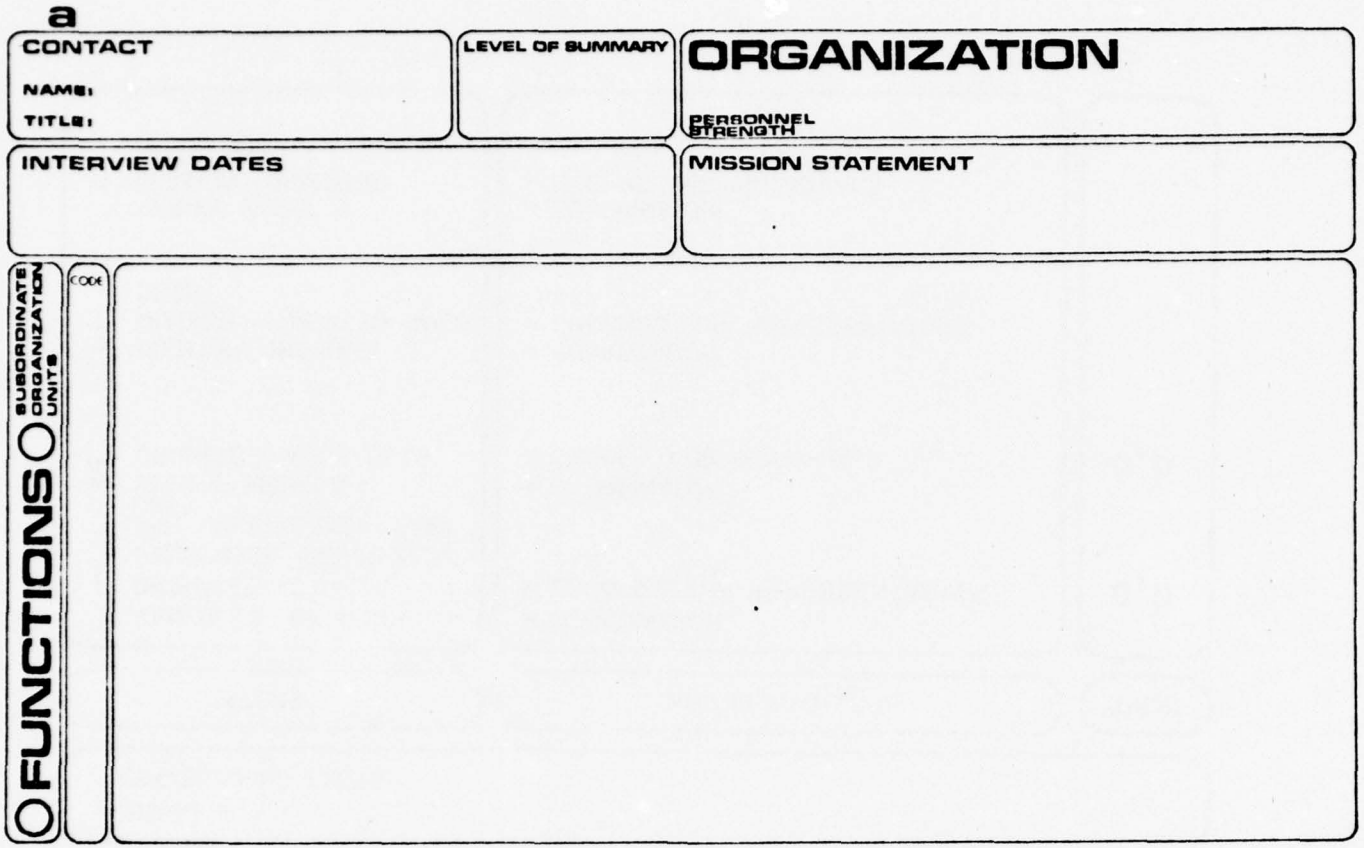


Figure 9. Form a.

b

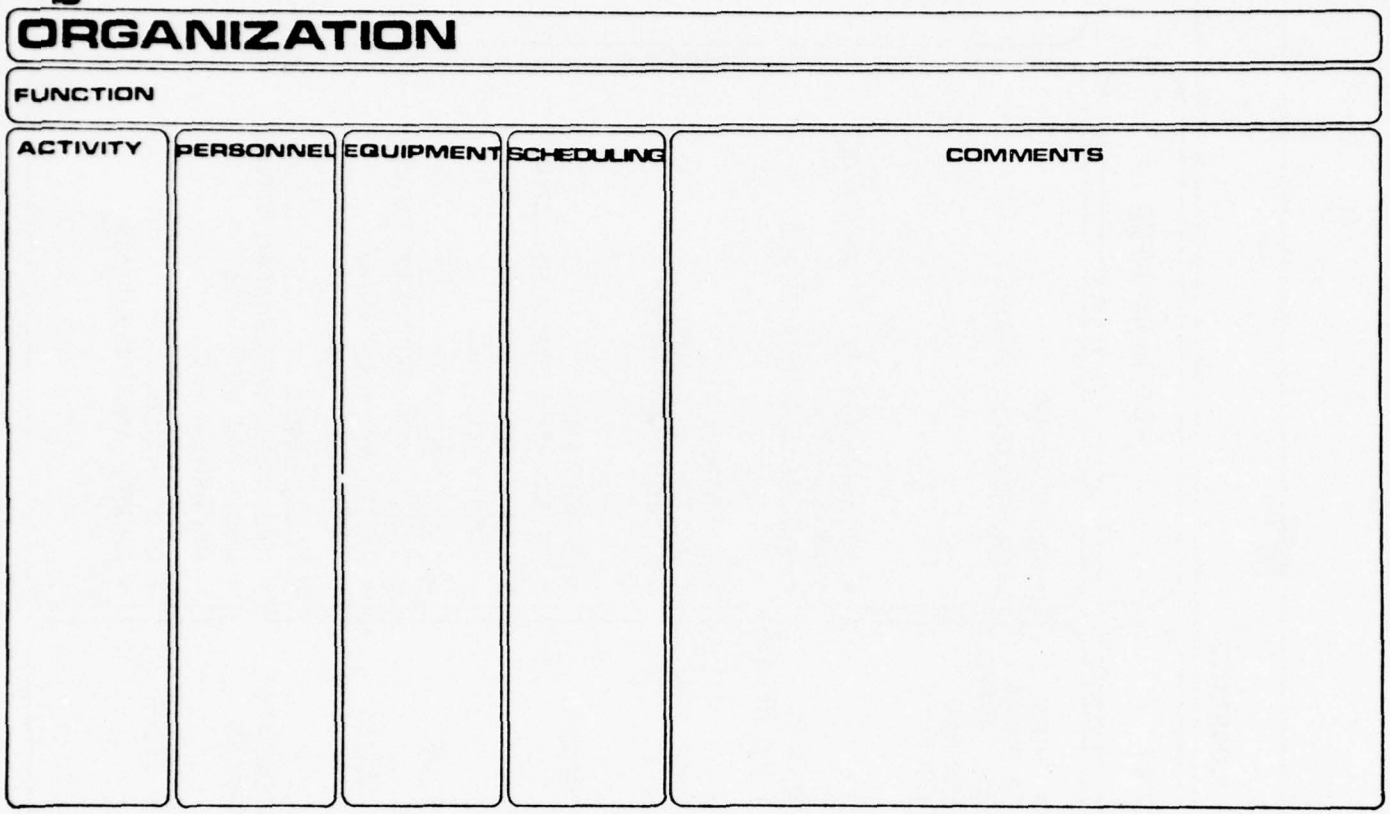


Figure 10. Form b.

PHASE 3:
MAKING JUDGMENTS

	STEPS	WHO IS INVOLVED	FORMS
1	REVIEW PHASE 2 DATA OR ORGANIZATIONAL EFFECTIVENESS AND EFFICIENCY	• COORDINATOR • ORGANIZATION HEADS	a,b
2	IDENTIFY SPECIAL CONCERNS IN TERMS OF "NEEDS"	• ORGANIZATION REPRESENTATIVES • COORDINATOR • GROUPS AND INDIVIDUALS	b
3	IDENTIFY IMPACT OF THE FUTURE	• COORDINATOR • MASTER PLANNER • ORGANIZATION HEADS	c
4	NAME SPACES	• COORDINATOR • ORGANIZATION REPRESENTATIVES • GROUP AND INDIVIDUAL REPRESENTATIVES	d,e,f
5	DECIDE ON SPACE ADJACENCIES	• COORDINATOR • ORGANIZATION REPRESENTATIVES • GROUP AND INDIVIDUAL REPRESENTATIVES	f,g
6	STATE REQUIREMENTS FOR SPACES	• COORDINATOR • ORGANIZATION REPRESENTATIVES • GROUP AND INDIVIDUAL REPRENTATIVES	h
7	VERIFY STEPS 4-6	• COORDINATOR • GROUPS AND INDIVIDUALS	d-h

Figure 11. Steps in phase 3: making judgments.

C

BY:	DATE	FORECAST
	ORGANIZATION	

FUNCTION or ACTIVITY	PERSONNEL	EQUIPMENT	DATE ANTICIPATED

Figure 12. Form c.

d

EQUIPMENT-SPECIAL DATA		ORGANIZATION		DATE

		GENERATED					REQUIRED					
EQUIPMENT ITEM	APE	NOISE	AIR CONT.	HEAT	OTHER	EXPLANATION	AIR COND.	VENT.	LIGHT	ELECT.	OTHER	EXPLANATION

Figure 13. Form d.

e

COMMON-USE SPACES			ORGANIZATION
SPACE USE	FREQUENCY OF USE	INTENSITY OF USE	COMMENTS

Figure 14. Form e.

f

SPACE DESIGNATION	ORGANIZATION	BY	DATE

APE REFERENCE	USE	BLG	SPACE NAME	COMMENTS	ADJACENCY

USE CODE: B---must be dedicated to this unit or function only
S---can be shared with other units or functions of this organization
O---can be shared with other organizations

ADJACENCY CODE:
0-same space
1-must be adjacent
2-close ok, but adj. preferred
3-nearby
4-someplace in same building
5-different bldg. which is nearby
6-different bldg. distance not important

Figure 15. Form f.

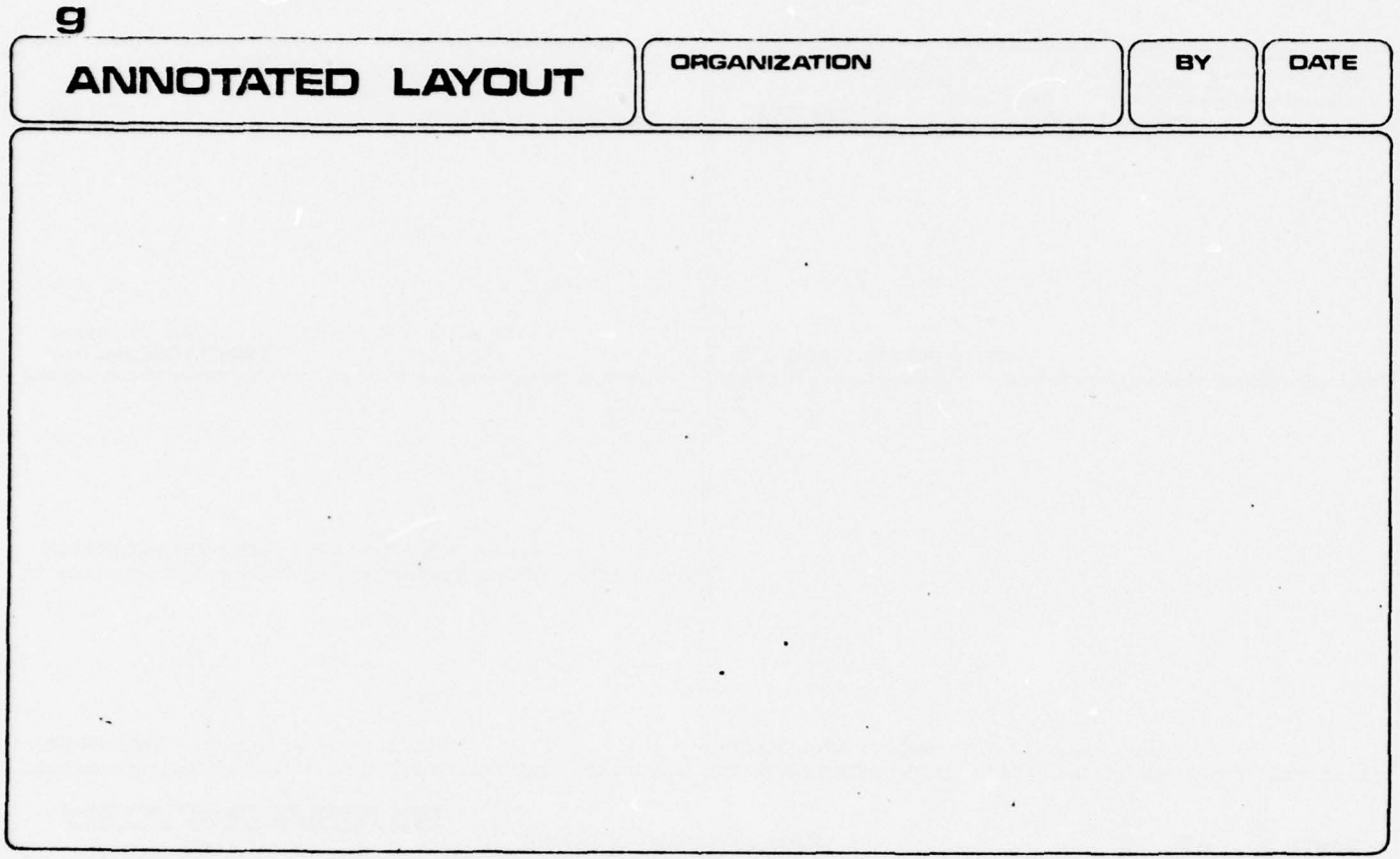


Figure 16. Form g.

h

REQUIREMENTS	ORGANIZATION/SPACE	BY	DATE

GENERAL (Security, Privacy, Etc.)

ENVIRONMENTAL (Heat, Light, Sound, Ventilation, Etc.)

ARCHITECTURAL
(Appearance, Surfaces and Finishes, Doors and Windows, Etc.)

UTILITIES (Sewer, Water, Fire Protection, Etc.)

OTHER (Communication, Etc.)

NEED CODE:
N---necessary, lack of seriously impairs function
I---important, lack of impairs function
H---helpful, lack of slightly impairs function

PURPOSE CODE:
1---activity or function performance
2---health or safety
3---morale
4---security
5---equipment performance
6---other a _____
b _____

Figure 17. Form h.

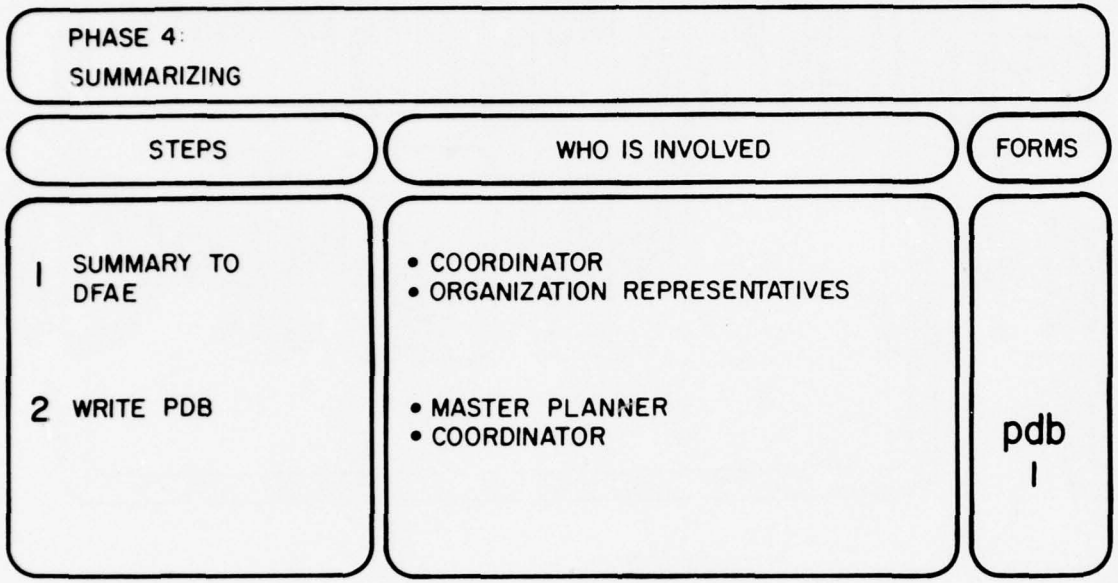


Figure 18. Steps in phase 4: summarizing

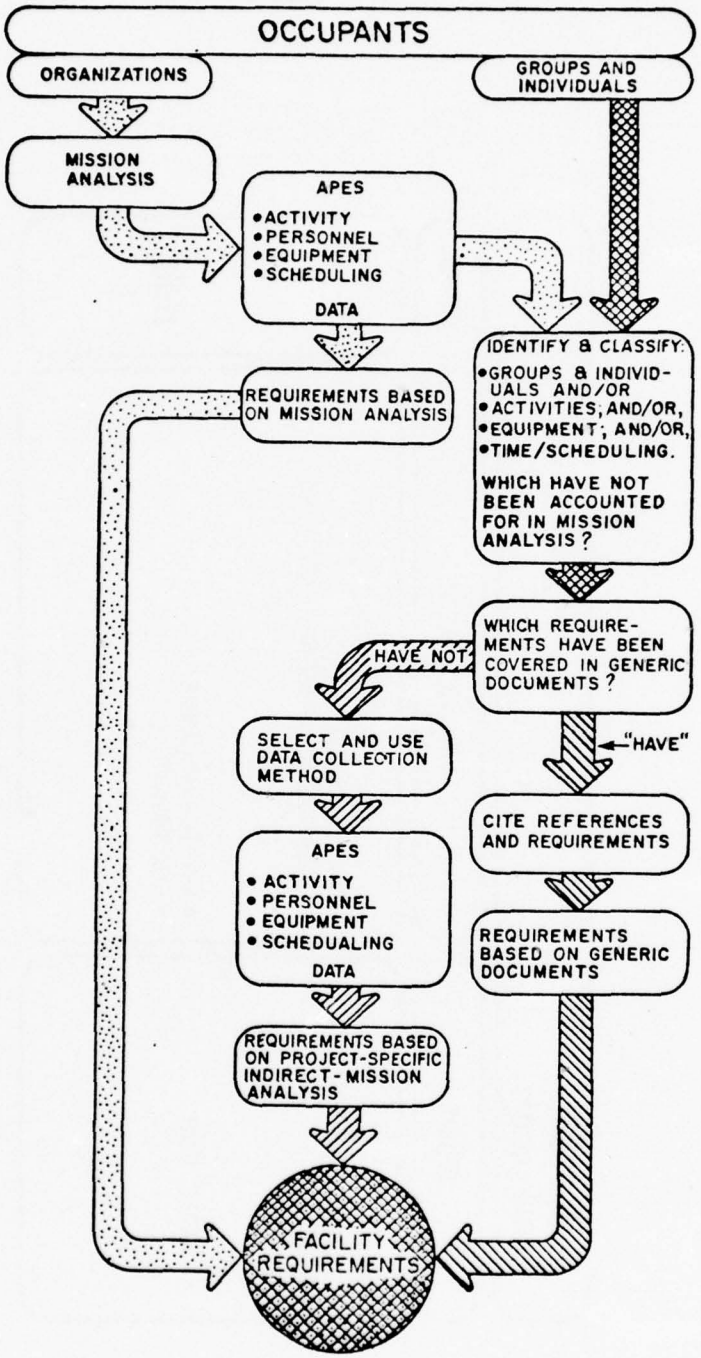


Figure 19. Formulation of requirements for groups and individuals compared to requirements for organizations.

APPENDIX A:

DESCRIPTION OF FIELD DEVELOPMENT OF LOCATIONS

Tactics Training Laboratory at Fort Rucker, AL

The Tactics Training Laboratory provides the aviation student with a working knowledge of military tactics and techniques required to carry out the most effective modern operations. Highly specialized simulation techniques are used for the training. Only one organization will use the facility—the Directorate of Academic Training. Total personnel load on the facility will be approximately 15 instructors, with the number of trainees varying from year to year.

The Fort Polk, LA Airfield Project

The airfield at Fort Polk will service organizations organic to Fort Polk and units within the tenant 5th Infantry Division (mechanized), as well as some flights by a commercial airline. A total of 19 organizational units, comprised of 66 aircraft and numerous resident personnel, will use the airfield.

The Personnel Services Center at Fort Sill, OK

The proposed Personnel Services Center would provide a permanent centralized processing capability for more than 12,000 processees per year. In addition to permanent-party processing, the facility would be a one-step services center for personnel at Fort Sill. Thirty-four organizational units are designated to use the facility.

APPENDIX B:

EXAMPLE FORMS AND INPUT DATA

CONTACT	LEVEL OF SUMMARY	ORGANIZATION
NAME: SGT. POMBER TITLE:	SECTION	E CO 705TH: PRODUCTION CONTROL SECTION PERSONNEL STRENGTH 7

INTERVIEW DATES	MISSION STATEMENT
14 APR 76, 17 JUN 76, 23 JULY 76	ACCEPTANCE & SUPERVISION OF ALL WORK ORDERS FOR MAINTENANCE RECEIVED FROM UNITS.

FUNCTIONS / SUBORDINATE ORGANIZATION UNITS

A. ADMINISTRATION

B. MAINTENANCE

C. STOCK AIRCRAFT PARTS

ORGANIZATION

E CO 705TH : PRODUCTION CONTROL SECTION

FUNCTION

A. ADMINISTRATION

ACTIVITY	PERSONNEL	EQUIPMENT	SCHEDULING	COMMENTS
1. FILL-IN WORK ORDER REGISTER	(1) E4 (1) O2	(5) DESKS WITH CHAIRS (2) 4-DRAWER FILES (1) TYPEWRITER (2) 4'x8' BULLETIN BOARDS (4) BOOKCASE UNITS (1) 2-DOOR STOR. LOCKER (1) TUB FILE ON STAND 2'x3'x18" W L H (2) 2-LINE PHONES (1) CALCULATOR OR ADDING MACHINE		
2. FARM-OUT JOBS	(1) E6			
3. ESTABLISH PRIORITIES IN SCHEDULING	(1) CW4			
4. COORDINATION WITH QUALITY CONTROL	(1) E6 - SAME AS ABOVE			CONVERSE AND FORWARD PAPERWORK ON SECTIONS WHICH REQUIRE INSPECTION (PHASED WITH WORK PROGRESS)
5. COORDINATION WITH STORAGE & SUPPLY	(1) E4			FORWARD ANY PAPERWORK REQUIRED ON NEEDED PARTS
6. SUPPORT RECOVERY - COMPLETE DAILY LOGS				
7. MAINTAIN DOCUMENT REGISTER FOR SHOP STOCK	(1) E5 (1) E4	(2) DESKS WITH CHAIRS (1) TYPEWRITER (1) FIELD TABLE (1) MICROFICHE READER		
8. BRIEFINGS	SEE "COMMON-USE" SHEET			

ORGANIZATION

E CO 703TH: PRODUCTION CONTROL SECTION

FUNCTION B. MAINTENANCE

ACTIVITY	PERSONNEL	EQUIPMENT	SCHEDULING	COMMENTS
1. SUPPORT RECOVERY - WORK IN HANGAR AS MECHANIC	(1) E4 - SAME AS A5,6			
2. VISUAL INSPECTION OF MAINTENANCE WORK	(1) E6 - SAME AS FOR A-1, A-2, A-4			

ORGANIZATION	E CO 705TH: PRODUCTION CONTROL SECTION
FUNCTION	C. STOCK AIRCRAFT PARTS

ACTIVITY	PERSONNEL	EQUIPMENT	SCHEDULING	COMMENTS
1. STOCKS AND MAINTAINS AIRCRAFT PARTS	SAME AS FOR A-7	PARTS BINS: (6' x 18" x 10') H D W		

COMMON-USE SPACES

ORGANIZATION

E CO 705TH: PRODUCTION CONTROL SECTION

SPACE USE	FREQUENCY OF USE	INTENSITY OF USE	COMMENTS
BRIEFINGS	DAILY	7-8 PEOPLE	ALL CAN BE DONE IN AN OVER-SIZED "PRODUCTION CONTROL OFFICE"
	WEEKLY	12 PEOPLE	
	MONTHLY	8 PEOPLE	

SPACE DESIGNATION

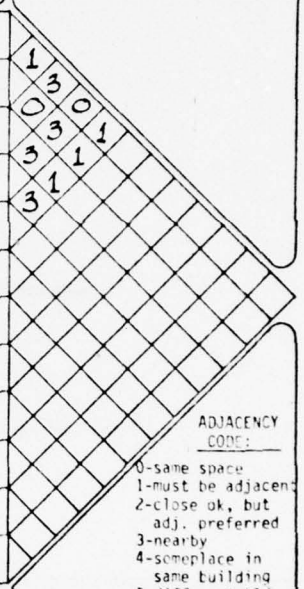
ORGANIZATION E CO 705TH
PRODUCTION CONTROL SECTION

BY

DATE

APE REFERENCE	USE	BLG	SPACE NAME	COMMENTS
Δ1-Δ6	B	DSH	PRODUCTION CONTROL OFFICE	
Δ7, C1	B	DSH	SHOP STOCK OFFICE	
C1	B	DSH	SHOP STOCK STORAGE	
Δ8	B	DSH	BRIEFINGS	
B1,2	O	DSH	HANGAR BAY	

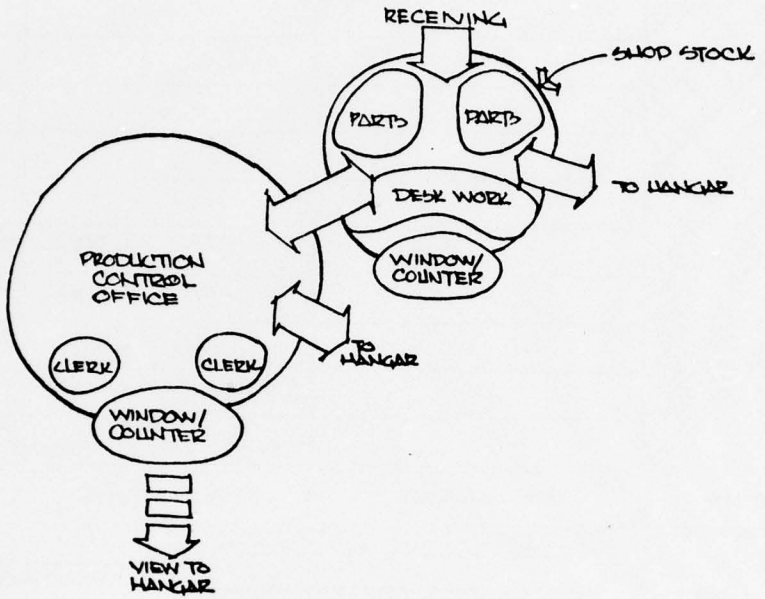
ADJACENCY



ADJACENCY CODE:
0-same space
1-must be adjacent
2-close ok, but adj. preferred
3-nearby
4-someplace in same building
5-different bldg. which is nearby
6-different bldg. distance not important

USE CODE: B---must be dedicated to this unit or function only
S---can be shared with other units or functions of this organization
O---can be shared with other organizations

ANNOTATED LAYOUT	ORGANIZATION E CO 703TH PRODUCTION CONTROL SECTION	BY	DATE



SPACE DESIGNATION

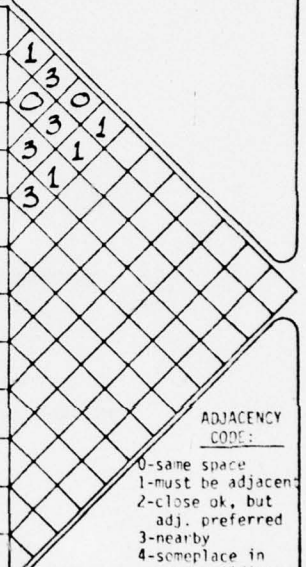
ORGANIZATION E CO 705TH
PRODUCTION CONTROL SECTION

BY

DATE

APE REFERENCE	USE	BLG	SPACE NAME	COMMENTS
Δ1-Δ6	B	DSH	PRODUCTION CONTROL OFFICE	
Δ7, C1	B	DSH	SHOP STOCK OFFICE	
C1	B	DSH	SHOP STOCK STORAGE	
Δ8	B	DSH	BRIEFINGS	
B1,2	O	DSH	HANGAR BAY	

ADJACENCY



ADJACENCY CODE:
0-same space
1-must be adjacent
2-close ok, but adj. preferred
3-nearby
4-someplace in same building
5-different bldg. which is nearby
6-different bldg. distance not important

USE CODE: B---must be dedicated to this unit or function only
S---can be shared with other units or functions of this organization
O---can be shared with other organizations

REQUIREMENTS

ORGANIZATION/SPACE E CO 705TH
PRODUCTION CONTROL SECTION
PRODUCTION CONTROL OFFICE/BRIEFING

BY

DATE

GENERAL
- LOCKABLE ENTRIES WHEN OFFICE IS NOT STAFFED (N-1)

ENVIRONMENTAL
- AIR CONDITIONING AND HEATING (I-2,3)
- SOUND CONTROL FROM HANGAR AND OUTDOORS (I-1,2)

ARCHITECTURAL
- VIEW OF HANGAR FOR SUPERVISION (I-1)
- DOOR BETWEEN SHOP STOCK AND OFFICE/BRIEFING (N-1)
- "DUTCH DOORS" TO MAINTENANCE PLATOON, SHOP PLATOON AND QUALITY CONTROL OFFICES FOR WORK ORDER FLOW & COMMUNICATION AND ACCESS CONTROL (I-1)
- CUSTOMER COUNTER TO RECEIVE WORK ORDERS AND CONTROL CUSTOMER INTRUSION (N-1,4).

UTILITIES
- 110V FOR OFFICE EQUIPMENT AND SUPPLEMENTAL LIGHTING (N-1,5)

OTHER
- INTERCOM TO HANGAR BAY TO ANNOUNCE PHONE CALLS (I-1,3)

NEED CODE:
N---necessary, lack of seriously impairs function
I---important, lack of impairs function
H---helpful, lack of slightly impairs function

PURPOSE CODE:
1---activity or function performance
2---health or safety
3---morale
4---security
5---equipment performance
6---other a _____
b _____

REQUIREMENTS

ORGANIZATION/SPACE E CO 705TH
PRODUCTION CONTROL SECTION
SHOP STOCK

BY

DATE

GENERAL
- LOCKABLE DOORS AND WINDOWS WHEN NOT STAFFED (N-4)

ENVIRONMENTAL
- AIR CONDITIONING AND HEATING (I-2,3)
- SOUND CONTROL FROM HANGAR & OUTDOORS (I-1,2)

ARCHITECTURAL
- DOOR BETWEEN SHOP STOCK AND PROD. CONT. OFFICE (I-1)
- WINDOW COUNTER FOR DRAWING PARTS (N-1)
- LAYOUT MUST PROVIDE CONVENIENT RECEIVING OF SUPPLIES (ALL PARTS ARE OF A SIZE WHICH WILL PASS THROUGH A 3'-0" x 6'-8" DOOR, AND ARE CARRIED BY HAND (N-1)

UTILITIES
- 110V FOR MICROFICHE READER AND ADDING MACHINE - RECEPTACLE FOR READER MUST BE AT WINDOW COUNTER (N-5)

OTHER

NEED CODE:
N---necessary, lack of seriously impairs function
I---important, lack of impairs function
H---helpful, lack of slightly impairs function

PURPOSE CODE:
1---activity or function performance
2---health or safety
3---morale
4---security
5---equipment performance
6---other a _____
b _____

APPENDIX C:

QUESTIONNAIRE CONCERNING FOOD SERVICE AT FORT POLK AIRFIELD

INTRODUCTION In developing long range plans for improvements at the Ft. Polk Airfield, we would like to obtain your opinions about the need for a snack bar and how well it might be utilized. Your comments are appreciated and will not be identified with you individually.

INSTRUCTIONS Please complete this questionnaire and return it to your unit commander. Results will be compiled by the Post Aviation Division for use in formulating facility requirements.

1. Is your usual duty station at the airfield? ___Yes ___No

2. When you are on duty at the airfield, FOR MEALS how frequently do you,

	Every Day	Usually, but not every day	Seldom, Once per week or less
a) carry your own?	_____	_____	_____
b) leave the airport to eat?	_____	_____	_____
c) skip eating a meal?	_____	_____	_____
d) buy from vendor truck?	_____	_____	_____

3. When you are on duty at the airfield, FOR COFFEE BREAKS how frequently do you,

	Every Day	Usually, but not every day	Seldom, Once per week or less
a) carry your own?	_____	_____	_____
b) leave the airport to eat?	_____	_____	_____
c) skip a coffee break?	_____	_____	_____
d) buy from vendor truck?	_____	_____	_____

4. In your opinion, how necessary would it be to have a snack bar at the Ft. Polk airfield?

_____Very necessary _____Nice, but not necessary

_____Necessary _____Unnecessary

5. If a snack bar were provided, how often would you use it for coffee breaks?

_____a) Almost all of my breaks

_____b) Maybe once a day

_____c) Almost every day

_____d) Once or twice a week

_____e) Very seldom or never

6. If a snack bar were provided, how often would you use the following type of services for meals?

Type of service	Frequency			
	Daily	Almost every day	Once or twice a week	Seldom or never
a) Drinks and snacks to supplement a sack lunch?				
b) Cold sandwiches				
c) Hot sandwiches				
d) Full meals				

7. In your opinion, what is the main reason a snack bar should be located at the airfield? _____

_____

_____

Thank you for your time and efforts in completing this questionnaire.

APPENDIX D:

FORT SILL OCCUPANT/PROCESSEE QUESTIONNAIRE

1. Rank _____ 2. Is this a PCS move? ___Yes ___No

3. Is your family with your? ___Yes ___No ___Have none

   If yes: where will they stay until you get housing?

   _____

4. How many posts have you processed before Ft. Sill? _____

5. What is usually the biggest problem foryou when you process into a new post?

   _____

   _____

   _____

6. If the following services were included in a one-step processing center (where all in-processing could be completed in one building), how would you rank them in order of importance to you? That is, if pay were most important you would rank it "1", then say personnel as "2" and so on. Please rank them all.

   _____ Army Community Services
   _____ Babysitting/Nursery
   _____ Barber Shop
   _____ Education
   _____ Housing
   _____ Human Resources (including Chaplain, etc.)
   _____ I.D. Cards
   _____ Pay
   _____ Personnel
   _____ PX Cafeteria
   _____ Red Cross
   _____ Transportation
   _____ Vehicle/Weapon registration and inspection

7. Is there anything not on the above list that should be included?

   _____

8. Any other comments that would be useful in designing a Personnel Processing Center?

   _____

   _____

APPENDIX E:

FORT SILL QUESTIONNAIRE FOR UNIT FIRST SERGEANTS

The installation is considering the construction of a new facility at Fort Sill which is to be a Central Processing Center. The purpose of such a facility would be to provide all the services necessary for enlisted processing in a single building. We are trying to collect as much information as possible from those persons who deal with processing and processees. Would you complete the following pages as accurately as you can and return the completed form as instructed. Thank you.

What is the most common complaint you hear regarding processing procedures (not to be confused with the problems of the processee such as a housing shortage) like waiting in line or transportation around post?

_____

_____

_____

_____

_____

_____

Within a week of initial assignment, you hear many reasons that new personnel have to leave the unit to finish processing. Would you indicate the frequency with which you hear the following excuses (check the appropriate box below):

Most New People	Some New People	Few New People	
			Army Community Services
			Education
			Housing - are you able to estimate: ____% on-post ____% off-post
			Personal problems where they want to see a Chaplain, Drug & Alcohol Counselor, Lawyer, Red Cross, etc.
			I.D. Cards
			Finance Office
			Personnel Office
			Transportation Office for Housing Goods
			Vehicle and/or Weapon Registration

Are there any reasons why a Central Processing Center would be a disadvantage?

_____

_____

_____

_____

If the following services were included in a one-step processing center (where all processing could be completed in one building), how would you rank them in order of importance? That is, if you think that Pay is most important, you would rank it "1", maybe Personnel as "2", and so on. Please rank them all.

_____ Army Community Services
_____ Babysitting/Nursery
_____ Barber Shop
_____ Education
_____ Housing
_____ Human Resources (including Chaplain, etc.)
_____ I.D. Cards
_____ Pay
_____ Personnel
_____ PX Cafeteria
_____ Red Cross
_____ Transportation
_____ Vehicle/Weapon registration and inspection

Are there any services that are not on the above list that should be included in a processing center? How important are they?

_____

_____

In what ways would you see a Central Processing Center make things easier for you? Are there any cost savings you would care to estimate?

_____

_____

_____

_____

Within a week of initial assignment to your unit, what percent of the new personnel have to leave the unit area to complete processing?

____ A. 0-20%
____ B. 21-40%
____ C. 41-60%
____ D. 61-80%
____ E. 81-100%

How much time do you think would be saved per individual if there were a Central Processing Center? In other words, how much sooner could you place that individual on full-time duty?

____ A. A Central Processing Center would make no difference
____ B. Maybe one work day
____ C. A couple of work days
____ D. Up to a week of work days
____ E. More than a week of work days

COMMENTS

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Canadian Forces Liaison Officer (4)
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KAOL, Transport Canada Building
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ATTN: ATEN-FE-BG

Ft McPherson, GA 30330
ATTN: AFEN-FED

6th US Army
ATTN: AFKC-LG-E

USA-WES
ATTN: Concrete Laboratory
ATTN: Library

USA-CRREL

US Army Engineer District
Saudi Arabia
ATTN: Library
New York
ATTN: Chief, Design Br
Pittsburgh
ATTN: Library
ATTN: Chief, Engr Div
Philadelphia
ATTN: Library
ATTN: Chief, NAPEN-D
Baltimore
ATTN: Library
ATTN: Chief, Engr Div
Norfolk
ATTN: Library
ATTN: Chief, NAOEN-D
Huntington
ATTN: Chief, ORHED-D
ATTN: Library
Charleston
ATTN: Chief, Engr Div

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US Army Engineer District
Savannah
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ATTN: Chief, SASAS-L
Jacksonville
ATTN: Library
ATTN: Const. Div
ATTN: Env. Res. Br.
Mobile
ATTN: Library
ATTN: Chief, SAMEN-D
Nashville
ATTN: Library
ATTN: Chief, ORNED-D
Memphis
ATTN: Library
Vicksburg
ATTN: Chief, Engr Div
Louisville
ATTN: Chief, Engr Div
Detroit
ATTN: Library
ATTN: Chief, NCEED-T
St. Paul
ATTN: Chief, ED-D
Chicago
ATTN: Chief, NCCVE
St. Louis
ATTN: Library
ATTN: Chief, ED-D
Kansas City
ATTN: Library (2)
ATTN: Chief, Engr Div
Omaha
ATTN: Chief, Engr Div
New Orleans
ATTN: Library (2)
ATTN: Chief, LMNED-DG
Little Rock
ATTN: Chief, Engr Div
Tulsa
ATTN: Chief, Engr Div
ATTN: Library
Fort Worth
ATTN: Chief, SWFED-D
Galveston
ATTN: Chief, SWGAS-L
ATTN: Chief, SWGED-DS
Albuquerque
ATTN: Library
ATTN: Chief, Engr Div
Los Angeles
ATTN: Library
ATTN: Chief, SPLED-D
San Francisco
ATTN: Chief, Engr Div
Sacramento
ATTN: Chief, SPKED-D
ATTN: Library, Room 8307
Far East
ATTN: Chief, Engr Div
Japan
ATTN: Library
Portland
ATTN: Library
ATTN: Chief, DB-6
Seattle
ATTN: Chief, EN-DB-ST
ATTN: Chief, NPSEN-PL-ER
Walla Walla
ATTN: Library
ATTN: Chief, Engr Div
Alaska
ATTN: Library
ATTN: NPADE-R

US Army Engineer Division
Europe
ATTN: Technical Library
New England
ATTN: Library
ATTN: Laboratory
ATTN: Chief, NEDED-T
North Atlantic
ATTN: Library
ATTN: Chief, NADEN-T
Middle East (Rear)
ATTN: MEDED-T

Commander
ATTN: AFEN-CDC
Ft McPherson, GA 30330

Commander
ATTN: ATEN-C
Ft Monroe, VA 23651

US Army Engineer Division
South Atlantic
ATTN: Chief, SADEN-TA
ATTN: Library
Huntsville
ATTN: Library (2)
ATTN: Chief, HNDED-CS
Lower Mississippi Valley
ATTN: Library
Ohio River
ATTN: Library
ATTN: Chief, Engr Div
North Central
ATTN: Library
ATTN: Chief, Engr Div
Missouri River
ATTN: Library (2)
ATTN: Chief, MRDED-T
Southwestern
ATTN: Library
ATTN: Chief, SWDED-TA
South Pacific
ATTN: Chief, SPDED-TG
Pacific Ocean
ATTN: Chief, Engr Div
ATTN: Chief, PODED-D
North Pacific
ATTN: Chief, Engr Div

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Ft Lee, VA 23801
Ft Gordon, GA 30905
Ft McClellan, AL 36201
Ft Knox, KY 40121
Ft Sill, OK 73503
Ft Bliss, TX 79916
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West Point, NY 10996
USAIC
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USAAVNC
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HQ, 5th Inf Div & Ft Polk, LA 71459
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ATTN: Library (Code L08A)
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Washington, DC
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ATTN: Transportation Research Board
ATTN: Library of Congress (2)
ATTN: Dept of Transportation Library

Defense Documentation Center (12)

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Commander
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Ft Sill, OK 73503

Commander
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