

Chapter 2 Program and Planning

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2-1. INTRODUCTION

A. APPLICATION

This chapter deals with the first two stages (pre-design) of MDC Development—identifying program needs and translating them to statements of functional requirements. The final product will be in the form of a Project Development Brochure prepared by the using service. As many people should be involved as can meaningfully contribute to the question and answer process, each representing a segment of the community directly affected by the proposed facility. Coordination of the process shall be the responsibility of the installation MDC director, assisted by the facilities engineer. All deliberations and collected data should be carefully recorded for later reference.

Initial planning questions include:

1. *Identifying eligible population, its present and future needs in terms of the Morale Support Activities (MSA) mission.*
2. *How urgent are these needs?*
3. *What Performing Arts activities can answer them by building on the current program?*
4. *What opportunities and resources exist in the community and what may feasibly be developed?*
5. *What by-product benefits might be spun off Performing Arts activity?*
6. *Can existing physical plant and other assets contribute to the project?*
7. *To what extent can the civilian community share in the support and benefits of the center?*
8. *What are the unique aspects of the installation's mission?*

Having identified potential activities, consider:

1. *What are their implications for developing and reinforcing long term growth of program benefits?*
2. *What are the desirable characteristics of physical plant and building location?*
3. *How can program needs be economically satisfied without sacrifice of product quality?*

4. *What is the influence of operating costs, available staff, and staff skill emphases?*

Finally, these considerations must be coordinated with authorized funding, space allowances, master plan designations, construction criteria, and Army-wide regulations required to justify major command approval and Congressional appropriations.

B. ORIENTATION

The program and planning process is an exchange between a facility's users and its designers. The process enables the using service to make two kinds of statements: what it means to do with its new facility, and what characteristics it believes the facility must have to accomplish that end. While it is important to have clear priorities, restraint is urged in making critical judgments until all potential elements are accounted for. It is best to feel confident no useful contribution or idea has been overlooked. Statements of intent mean as much to an experienced designer as descriptions of finite dimensions and properties. Many of the characteristics sought by the user in the early planning stages will change as information and understanding grow. A part of the evaluation task consists of tracing the consequences of these changes so that the eventual design result is judged for approval in terms of the last best statement of requirements.

The primary task is to lay out characteristics in order of importance. Trial values can then be assigned using the contents of Chapters 3 and 4. It will be found that some criteria are in conflict, and a decision will have to be made to compromise or to eliminate the lesser value.

Desired characteristics must be stated in a language that can be translated to observable properties. Many requirements appear in every project for which no common standard exists. Qualities such as orderliness, liveliness, scale and beauty are not readily verified or measured, but it is nonetheless wise to include them in the program statement.

2-2. ARMY PERFORMING ARTS PROGRAM

A. SUBPROGRAMS

There are four categories into which Army Performing Arts programming falls. These are called subprograms since, at many installations, they are individually organized and operated as components of the overall Performing Arts Program. They frequently work together and share technical resources. However, in terms of programming each tends to appeal to a specific segment of the military community.

1. Music Subprogram

All forms of locally produced vocal and instrumental music, music listening/appreciation, and music-related technical activities are included.

2. Theater Subprogram

All forms of locally produced drama and musical theater auditing/appreciation, and theater technical activities are included.

3. Unit Level Entertainment Subprogram

This is composed of an organized set of music and theater activities programmed to fit the personnel in a specific unit (e.g., if the unit works at night the activities will be programmed for the day). The activities included will generally emphasize music, but may be a comprehensive mixture of music, theater and dance to suit the unique and often diverse needs of the unit.

4. Commercial Entertainment, In-coming Touring Show Subprogram.

Activities may be in any performing arts discipline. They may be either professional or amateur. However, the distinguishing characteristic is that these activities are not produced locally, but by another military installation, or commercially, or by a civilian community or school.

It is worth noting that dance is not presently identified as a separate subprogram. However, dance is one of the fastest growing performing arts activities in the United States. The historic absence of dance as an activity locally produced on military installations should be viewed carefully. The absence of suitable facilities has impeded commercially produced dance concerts as well as local development, but a growing number of Army dance enthusiasts has been discovered over the past twelve years.

Of the four subprograms, all but Unit Entertainment are immediate candidates for the MDC facility. The Unit Centers benefit indirectly from heightened community awareness and the use of the installation MDC for inter-unit and district

competitions, showcase performances, and the like.

B. COMMUNITY AND SKILL DEVELOPMENT

Programs in this larger category include Performing Arts; Visual, Applied and Industrial Arts and Crafts; Dependent Youth Activities; and Social Recreation.

These programs reinforce each other in basic objectives but remain distinct in emphasis, with efforts directed toward experience in respective categories. In particular, Performing Arts addresses the objectives of life-enhancement and personal development through cultural and creative activity, and skill development supported by recognition and practical training opportunities. The discipline of the Arts is emphasized more than consumption of leisure time. Community and Skill Development Activities is one of the three core programs whose overall objectives reflect the mission of Morale Support. Other core programs are Physical Activities, which include athletics and outdoor recreation, and Library Activities and services.

C. MORALE SUPPORT ACTIVITIES

At the installation level, MSA is usually a divisional element of the Directorate of Personnel and Community Activities. MSA's mission is to increase Army effectiveness and combat readiness by assisting commanders in maintaining morale, mental and physical fitness.

2-3. ESTABLISHING PROGRAM GOALS

Policies governing MSA are found in AR 28-1, and require that programs adhere to several major objectives that have general implications for the direction of installation programs. These in turn have impact in the qualities and functional requirements of performing arts facilities.

A. RELATIONSHIP TO MSA MISSION

1. Maintain a high level of esprit de corps, job proficiency, military effectiveness, and educational attainment.

Implication:

Music and Drama Center programs will be designed to support diverse types of performing arts activities which may be conducted concurrently. The MDC design must also allow for diversity in the various skill levels of participants.

2. Promote and sustain the mental and physical fitness of military personnel.

Implication:

The program should provide opportunity for creative fulfillment—either actively or through spectator involvement—and for physical development activities such as dance.

3. Encourage the constructive and creative use of off-duty leisure time.

Implication:

Provide activities which help develop and maintain motivation, talent, and skills that enhance the soldier's ability to discharge his duties as service member and citizen. In order to encourage military personnel to participate on a voluntary basis, the facility must be inviting and visually appealing. Particular attention will be given to those production support areas which reinforce and enhance on-the-job soldier skills (e.g. scenic drafting, construction, and electrical work).

4. Aid in recruitment and retention.

Implication:

Make Army service an attractive career. Performing arts activities play a vital role in assuring military personnel of "life style" comparability between military and civilian life. The facility must visually and functionally support the same quantity and quality levels of performing arts programming found in civilian communities.

5. Assist Army personnel in adjusting from civilian life to a military environment.

Implication:

The performing arts activities undertaken must be contemporary, relevant, innovative; artistically, educationally and culturally sound; and must include new interests and trends in the performing arts.

6. Assist in building morale.

Implication:

Provide the same kinds of activities for military dependents and other eligible personnel within the military community. The MDC must have a non-military atmosphere.

B. PROGRAM EMPHASIS

The first three chapters of AR 28-8, *Program Operational Guide*, discuss at length many of the important emphases of the Performing Arts program; these are largely (and aptly) revealed in terms of the skills and dedication expected of directors and staff. The MDC must provide the tools and functional qualities equal to the task.

1. Performance

There is one prime, unequivocal emphasis to begin with: Performance is the most important activity and the main purpose of the MDC facility. Performance generates awareness, interest, appreciation, and demand for more. It inspires participation, skill development, recognition, and the motivation for excellence. The performance space with its technical support is top priority.

2. Quality vs. Quantity

Of great importance is the quality of activities and of the facility itself. Ultimately it is good staffing of a good facility that will assure high quality performance and participant/spectator involvement in the program. It is therefore imperative that technical/functional adequacy, capacity, and durability be initial considerations with respect to audio, stage lighting, musical, rigging and operating equipment.

While the number and variety of performances offered annually is often regarded as a measure of program effectiveness, this is true only to the extent that quality is maintained. Frequent productions are valuable if well done, and if they permit the attainment of increased quality, audience appreciation, and participant skills. Avoid downgrading technical and functional adequacy in order to simply achieve low average construction costs or the false operating economies sometimes perceived in a multi-purpose facility concept.

3. Diversity vs. Specialization

Programs and activities within the facility must be varied to provide freedom of choice to participants with a wide range of ages, abilities, preferences, skill levels and cultural needs. In the past there has been a tendency to assume that a facility that is not multi-purpose is too specialized. Inevitably, local interest would argue for the theater auditorium to double as a basketball court or training facility. A quick study of the requirements of these and similar uses reveals irresolvable technical conflicts which if placed within one facility would downgrade the quality of it for all uses.

In order to achieve diversity while maintaining quality within budgetary limits, the facility must be designed primarily for one use with other diversified activities subordinate to the primary use. There are, of course, limits to how diversified a facility may become without totally compromising the primary activity. This issue will be discussed more fully in Chapter 3, which demonstrates that even among performing arts activities, facility characteristics can be in conflict where performance types are mixed.

Program planners are advised to choose one primary performance space use (music or drama) to which the majority of supporting facilities are directed. Diversity is achieved by offering a variety of opportunities for active participation. Appropriate secondary activities can take place if they are adapted to the facility.

4. Active vs. Spectator Participation

These aspects are inseparable. However, it will often become apparent that the budgeted facility will not contain sufficient space for the largest desired audience capacity and necessary production facilities. The planners must resolve this dilemma in a manner which does not inhibit technical production quality.

The project initiators must take into account the existence of other permanent facilities on the installation or in the nearby civilian community that have ample capacity for major productions, or can make rehearsal and production support space available for MDC use. These factors will have bearing on the programming of a new facility. In the majority of instances the new facility will have to serve all aspects of the primary performance activity. The planning staff must be ready to eliminate other secondary activities or to determine which of these can be combined for economy.

Significantly, the choice of primary performance type has direct bearing on optimum audience capacity, but it should be recognized that this choice influences the proportion of allotted space available for secondary programming. Chapter 3 further develops this data.

5. Popular Interest vs. Special Motivation

Great care should be exercised in utilizing general opinion polls to establish program emphasis. Similarly, it is a mistake to ignore community needs in favor of known special interests like dinner theater and glee club. The Army Performing Arts Program is aimed at enriching the cul-

tural life and varied experience of soldiers and their families. Polls typically reflect only common experiences which may be limited. However, properly conducted surveys can provide indicators of underlying interest and desire for varied choices. The Army Performing Arts Program can capitalize on this since commercial profit is not a significant motive.

Audience satisfaction promotes active participation. Participants in production activity (and the MDC staff) need the reward of community and leadership recognition, appreciation and support, and a sense of worthwhile accomplishment in developing valuable skills. The community image of the facility will help establish the effectiveness of program activities.

In order to produce any type of performance a great many non-performance skills are required (technical/administrative skills). A facility must be designed to encourage active participation and development of requisite skills. Moreover, the cost-effectiveness of each production season increases with the skill levels of participants and awareness of audiences. When soldiers are transferred to a new installation, their skills and the desire to apply them travel. The abiding support of the community then encourages newcomers to excel.

2-4. SELECTING ACTIVITIES

Unless the using service has already devoted considerable time and effort to devising a long-range program development strategy that can now be analyzed in terms of this Guide, program planners are advised to consider every potential activity for inclusion in the MDC. Since this Design Guide is concerned with securing adequate facilities, it will tend to emphasize activities that have special physical implications. However, the using service is first concerned with program values. The following sequence is recommended procedure.

First generate a list of as many activities as can possibly be undertaken by an installation Performing Arts program. AR 28-1 and AR 28-8 serve as the basic source of eligible activities, and a good many more will suggest themselves

| 1. PERFORMANCE ESSENTIALS | 2. DEVELOPMENT & SUPPORTING | 3. RECREATIONAL & OTHER |
|--|--|---|
| Music Performance - Vocal Choral/Glee Club Solo Music Performance- Instrumental Symphonic Orchestra Recital/Solo Popular/Dance Band Chamber Ensemble Drama Performance Readings/Monologues Comedies/Skits Plays Combined Performances Musical Comedies Dance Concerts Musical Revues Thematic Pageants Operas/Operettas Cabaret Preparatory & Technical Rehearsal Theatrical Direction Musical Direction Choreography Set & Costume Construction Makeup/Stage Design Lighting Design/Control Recording/Sound Control Bookings/House Management | Voice Coaching Instrumental Instruction Conducting Workshops Composition Classes Writing Lyrics Recording Clinics Electronic Equipment Workshops Instrument Repair Drama Workshops Auditions & Try-outs Playwriting Classes Play Production Scenic & Costume Design Lighting & Design Workshops Dance Workshops Dance Production Choreography Telecommunications Special Effects Theater Management Production Management Publicity | Music Tape Club Record Library Script/Book Library Video Library Film Library Drama Seminars Demonstrations Play-going Movie-going Concert-going Social Dancing Arts Festivals |

TABLE 2-4.1 PERFORMING ARTS ACTIVITIES CATEGORIES

by induction. This process will provide input for decision making and dispel preconceived definitions everyone is likely to have.

Assemble activities into categories with one or more characteristics in common, even if the categories have little apparent relevance to present purposes. Are these activities otherwise related? For example, AR 28-1 lists typical activities by administrative assignment to each of the sub-programs. It also enlarges and subclassifies this list according to the disciplines and participants involved and possible combined activities.

AR 28-8 uses these same activities to define necessary staff skills; the same could be done for

skills developed through soldier participation. AR 28-8 also proceeds at length to characterize activities in terms of functional and technical facilities required. Each regrouping of activities yields a better understanding of fundamental characteristics, from equipment employed to eligible funding sources.

A. PRIORITIES

The key is to make useful distinctions in order of importance. For the purpose of facility definition, reference to Program Emphasis (2-3b above) suggests initial categories are:

1. *Every kind of performance and the production activities required to implement it.*
2. *Developmental activities that can lead to performance or to supporting resources.*
3. *Educational and recreational activities*

Some of these activities are shown in Table 2-4.1. The requirement of balanced programming (AR 28-1) means that some of each category shall be implemented at every installation. However, the order of selection and emphasis for the central facility (MDC) shall correspond to this categorization. Unit-level centers balance this by taking the reverse order.

B. APPLY GOALS

Examine each activity or cluster of activities in terms of the Program Emphasis issues (2-3b) and rearrange by priority within each category. It may be helpful to employ a score-keeping system, mapping activities against positive values by assigning a range score of 0 to 3, for example. This is simply a method for making cumulative notes of individual judgments. It recognizes that each analyst may have a different interpretation of activity names. A sample is shown in Figure 2-4.1.

C. ADJUST TO CONTEXT

Check this ordered list against MSA mission goals (AR 28-1 and 2-3a of this Chapter) to evaluate long-view justification and balance. It is here that unique local conditions come to the fore. An evaluation of current interest in various activities will be helpful. Also, determine if exposure to new performance types and public information campaigns would develop interest. A survey or interviews with operators of neighboring facilities, to assess their capabilities and plans for the future, will set baseline expectations.

Consult reputable opinion polls, such as the Harris Poll of Music and the Arts, as well as surveys conducted within the military community. Regard all such information realistically; published results are extrapolations of data that may have been taken in a context entirely different from that in which it is read. The thrust of this investigation is to estimate the level of activity that is implementable now and in the future.

D. REVIEW

At this point, certain activities will have emerged as strong candidates, perhaps as alternative development strategies. This is a good time to review preliminary findings with the installation command and planning board to gain initial support for the developing rationale.

Command feedback will indicate the influence of plans and priorities set at higher levels of authority. It may also include meaningful new considerations to be followed up, related to the installation's current and future mission. For example, a trend toward technical specialization will introduce increased numbers of personnel with higher educational levels, perhaps older with established families.

E. APPLY CONSTRAINTS

High value primary activities must be dimensioned in terms of physical and budgetary constraints. A firm resolve may be required at this critical point. Consult general criteria for space allowances (DOD 4270.1-M) and, using basic criteria developed in Chapter 3 of this Guide, estimate production and performance facilities needed to accomplish primary activities.

Also consider the staff available in comparison with the staff needed. AR 28-1 recommends minimum activity standards (Table 2-4.2) that can serve as an indicator of bottom line staff and operating budget for a functioning program. Consult installation records and HQDA for assistance in the realistic appraisal of various production costs. Compare these to anticipated attendance and participation levels projected from data assembled in 2-4d. above.

It is very likely the preliminary program will exceed constraints and require reduction in scope. In this case, the major guideline is to resist across-the-board reductions. It is most important that primary activities be accomplished well, with fully adequate technical facility support.

The requirement of balanced offerings cannot be ignored, but within that framework, development of at least one chosen performance activity as the primary use of an MDC is essential to ensure a high level of production quality, audience appreciation, and consequent interest in participation and skill development. Identify the primary program elements that can be main-

| PROPOSED ACTIVITIES | | | | | | | | | | | | | | "Instructions: please rate the following proposed program activities from 0 to 3, in terms of Morale Support, Community and Skill Development, and Army Performing Arts objectives. Also note (+ or -) special factors inherent in local conditions and available resources." | | | | |
|---|------------------|----------------------|---------------------|--------------------------|------------------------------|-----------------|-----------------|------------------------------|------------------------|----------------------------|------------------------|--------------------------------|--|---|---|---|--|--|
| SOLDIER PARTICIPATION (SAMPLE) | | | | | | | | | | | | | | | | MSA MSA & CSDA PROGRAM GOAL LOCAL CONDITIONS EVAL | | |
| (Include Family, Civilian Community, Staff Participation) | | | | | | | | | | | | | | | | | | |
| Publicity Work | House Management | Ensemble Performance | Recital Performance | Instrumental Instruction | Glee Club/Choral Performance | Stage Crew Work | Lighting Design | Set and Costume Construction | Set and Costume Design | Playwriting for Production | Skits and Variety Acts | Drama Performance, Full Length | | | Goals and Objectives MSA MSA & CSDA PROGRAM GOAL LOCAL CONDITIONS EVAL | | | |
| 1 | 1 | 2 | 2 | 3 | 2 | 1 | | 1 | | | 3 | 2 | | | | | Provide Freedom of Choice, Initiative | |
| 2 | 1 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 3 | 3 | | | | | Provide Alternatives to Duty Environment | |
| 2 | 1 | 2 | 3 | 3 | 1 | | 3 | 1 | 3 | 3 | 3 | 2 | | | | | Provide Sense of Personal Accomplishment | |
| 1 | | 2 | 3 | | 2 | | | | 1 | 1 | 2 | 3 | | | | | Recognition and Reward | |
| 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | | | | | Wide Age Range Involvement | |
| 3 | 1 | 2 | 1 | 3 | 3 | | | 3 | 2 | | 3 | 3 | | | | | Wide Ability Range Involvement | |
| 1 | 2 | 1 | 3 | 3 | 1 | 1 | 3 | 2 | 3 | 3 | 2 | 1 | | | | | Increase Individual Skills | |
| | | 3 | 2 | 2 | | | | | 2 | 1 | 1 | 3 | | | | | Heighten Cultural Awareness | |
| 2 | 2 | 3 | | | 3 | 3 | | 3 | | | 2 | 3 | | | | | Promote Team Work | |
| 3 | | 3 | 1 | | 3 | 1 | | 1 | | | 2 | 3 | | | | | Increase Sense of Community | |
| 1 | | 3 | 2 | 3 | 2 | 1 | 3 | 1 | 3 | 3 | 2 | 3 | | | | | Encourage Creative Use of Leisure Time | |
| 2 | 2 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 3 | 1 | 3 | | | | | Comparable Military/Civilian Opportunities | |
| 2 | 3 | 3 | 2 | 1 | 2 | 2 | | | | | 1 | | | | | | Provide Quality Musical Productions | |
| 2 | 3 | | | 1 | | 2 | 3 | 1 | 3 | | 1 | 3 | | | | | Provide Quality Theatrical Productions | |
| | | 1 | 2 | | 2 | | | | | | 3 | 1 | | | | | Program Diversity | |
| 3 | | 3 | 2 | | 2 | | | | | | 2 | 3 | | | | | Develop Audiences | |
| | | + | | + | + | | | | | | - | + | | | | | Existing Demand | |
| - | + | + | - | + | + | + | + | | - | + | + | | | | | | Available Budget | |
| + | + | + | + | + | - | + | + | + | + | + | + | + | | | | | Available Staff | |
| - | + | + | + | + | + | - | - | - | - | + | + | - | | | Existing Facilities | | | |
| - | + | + | - | + | + | + | - | - | - | - | + | - | | | Existing Activities | | | |
| + | | | | | | | + | + | | | | + | | | Unique Installation Mission Factors | | | |
| + | + | | - | + | | | + | | + | | + | | | | By-Product Value | | | |
| 28 | 18 | 36 | 31 | 26 | 29 | 16 | 20 | 17 | 24 | 18 | 34 | 39 | | | Program Values | | | |
| 0 | +5 | +5 | -1 | +6 | +3 | +2 | +2 | -1 | -1 | +2 | +4 | 1 | | | Practicality Factors | | | |

FIGURE 2-4.1 ANALYSIS OF ACTIVITY PRIORITIES

| Installation Military Strength (in thousands) | | | | | |
|---|---------------------------|---|--------------|--------------------------|--|
| | under 5,000 | | 5,000-15,000 | over 15,000 | |
| Music or Drama Center | Unit Entertainment Center | | 14,000 GSF | 20,000 GSF Space Allowed | |
| Drama Groups | 1 | 1 | 1 | 1 | |
| Choral Groups | 1 | 1 | 1 | 1 | |
| Concerts/Productions | | 3 | 6 | 9 | |
| Instrumental Groups | 1 | 1 | 1 | 1 | |
| Stagecraft Training | | 3 | 6 | 6 | |
| Clinics/Workshops | | | 2 | 4 | |
| Visiting Teachers, Lecturers, or AV Programs | | 6 | 9 | 12 | |
| Touring Shows | | | | | |
| Amateur/Semi-Pro | | 2 | 4 | 6 | |
| 'Names' Commercial | | 1 | 2 | 3 | |

| | under 10,000 | | 10,000-25,000 | over 25,000 | |
|---------------------|-----------------------------|---|---------------|--------------------------|----|
| Music-Drama Centers | Single Facility Recommended | | 28,000 GSF | 40,000 GSF Space Allowed | |
| Concerts/Production | | 3 | 6 | 9 | 12 |
| Stagecraft/Training | | 3 | 6 | 6 | 9 |
| Clinics/Workshops | | 2 | 4 | 4 | 6 |
| Visiting Teachers | | 6 | 9 | 12 | 12 |
| Touring Shows | | 3 | 6 | 9 | 9 |

TABLE 2-4.2 MINIMUM ACTIVITY STANDARD PER QUARTER

Music Center Staff

- Music Center Director GS-9 (1)
- Vocal Music Specialist GS-7 (1)
- Instrumental Music Specialist GS-7 (1)
- Technical/Instrumental Repair GS-7 (1)
- Instrument/Equipment Control GS-5 (2)

Drama Center Staff

- Drama Center Director GS-7 (1)
- Theater Publicist GS-6 (1)
- Public Information Specialist GS-5 (1)
- Lighting Technician GS-5 (1)
- Design Technician GS-5 (1)

Music-Drama Center Staff

- Area District Command Installation Director GS-11 (1)
- Music Director GS-11 (1)
- Theater Director GS-9 (1)
- Lighting Technician GS-7 (1)
- Sound Technician GS-7 (1)
- Costume Technician GS-7 (1)
- Instrumental Music Specialist GS-7 (1)

TABLE 2-4.3 STAFF GUIDELINES

tained within staff and budgetary limits, and then apply constraints of space allowances to a broad-scope estimate of needs.

F. EVALUATE PRODUCT

The adjusted list of program elements may still exceed general facility allowances. First be sure every essential activity component is noted and assigned a place in the general space estimate, even if its best functional relationship and exact requirements are undetermined.

At this stage, the estimate is based on very general assumptions that careful planning may subsequently bring into line with stated limits. However, if the divergence is great, do not assume that "something can be worked out" in detailed refinement. Chapter 3 of this Guide will help determine if estimates of smaller groups of activities are unrealistic in size or functionality. For instance, set storage and rehearsal cannot occupy the same space. However, this is not the time to eliminate essential functions. If unsure, it is entirely appropriate to retain professional consultants to advise on application of this Guide's criteria to the desired program.

Finally, the using service should have in hand a statement of activities to be accommodated as essential functions. If the program scope has been reduced significantly, compare it to original program goals. Although the realistic quantitative scope of activity may have been altered, qualitatively it should remain equal. If a major objective has been sacrificed, the reason for making that decision must be clear. The decision may have resulted from an error in choosing activities to eliminate or from a simple failure to transfer an important program goal characteristic to the activities remaining. For instance, basing the description of a single performance facility on the needs of incoming commercial shows may inadvertently limit opportunities for local participation. However, there may be justification for departure from general standard constraints. These must be thoroughly and firmly documented since the acceptable basis for altering project scope at a later date is very limited. An economic analysis of the program is advised, and a specifically designed "market survey" should be conducted to substantiate the need for the program and its projected goal-effectiveness. Of the possible variations, the first to be explored should be any deviation from the DA approved

master plan that designates the MDC site. Approval of a changed master plan must precede the project's placement in the Short-Range Construction Program.

2-5. SELECTING THE SITE

A. INSTALLATION MASTER PLAN

Location selection should be understood to be a process of reconsideration. Most installations will already have a DA approved master plan, with a Music and Drama Center site on it. This previous site selection will presumably have been based on a less thorough and up-to-date understanding of the MDC's program than this Guide sets forth, but the existing site may still be valid and master plan rationales should be understood before attempting any change. Depending on the site chosen, there may be required a request for approval of changes in the installation master plan, in accordance with AR 210-20, Master Planning for Permanent Army Installations.

The MDC site is usually assigned to the Community Facility Complex, but since the master plan is basically a land-use plan, this designation often covers a large area. Established installations have assigned a specific plot for the MDC in relationship to other existing facilities. Younger installations that have not physically developed the land may offer alternative MDC sites. While location in the community complex is correct for several reasons, the proximity of existing utility services and access roads may make the pre-selected site an economic necessity.

B. OTHER CONSIDERATIONS

If there is flexibility in site selection, or if analysis of the master plan warrants relocation, the site selection should be based upon the activity program and function understandings gained during Activity Selection (2-4 above). Useful information concerning procedures, methods, and criteria considerations is furnished by several sources in the Technical Manual series, including TM 5-803-1, Master Planning Principles and Procedures; TM 5-803-3, Site Planning; and TM 5-803-6, Site Planning of Community Centers.

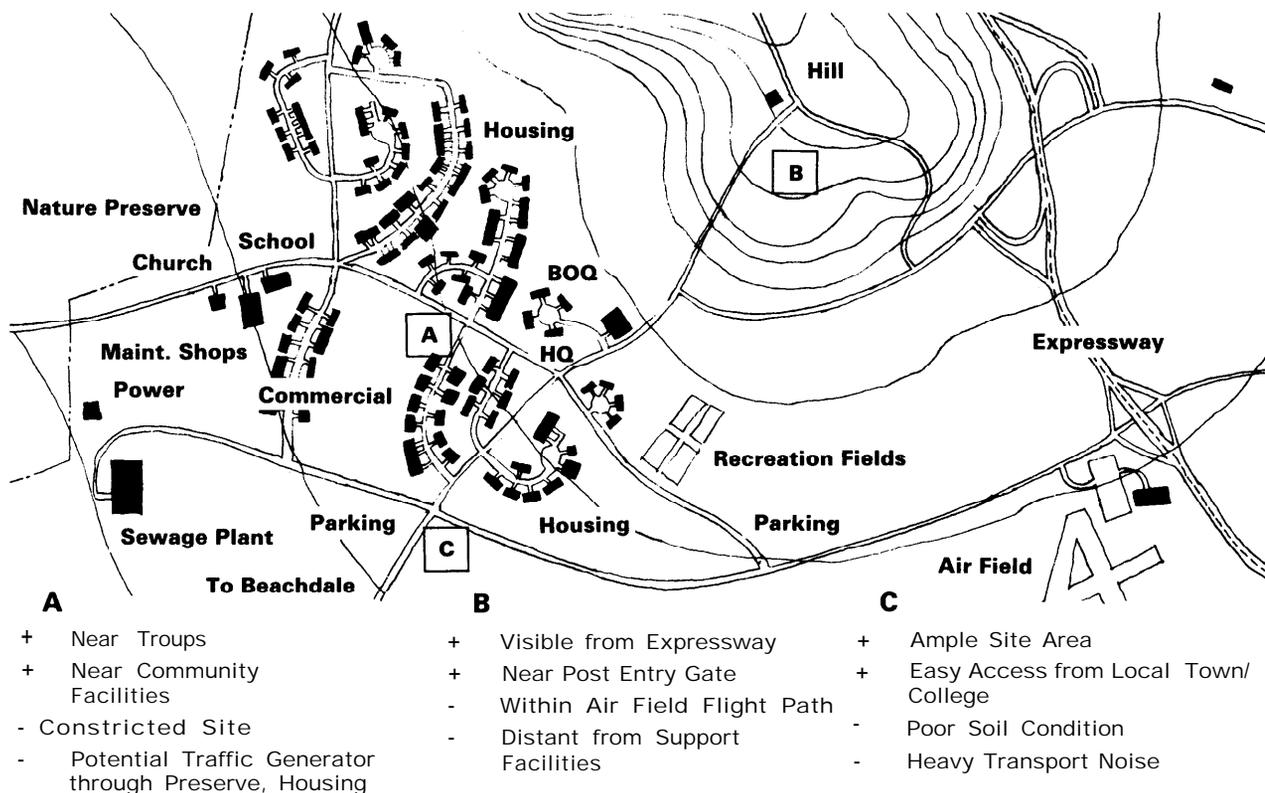


FIGURE 2-5.1 LOCATION CONSIDERATIONS-INSTALLATION MASTER PLAN

The process of locating the MDC facility is carried out jointly by the MDC staff and the facilities engineer, for best understanding of the local situation and needs. Continuing dialogue will be required concerning the determinants of installation geography, available sites and fitness to the needs of Music and Drama Program. The most significant factors are noted here.

1. Proximity

Other military community facilities and housing areas for troops and their families should be nearby, preferably within walking distance. This places the activities in the participant's domain. Perhaps more important is proximity to related community facilities. This increases daily visibility and awareness of coming events. Moreover, theater has the best chance for success when it becomes part of a series of evening events. Many theatergoers enjoy dinner before the show or a social drink after. The nearness of post recreational activities or clubs can provide that sense of making a "whole evening" out of a visit to the theater.

2. Accessibility

In order to have a larger and diversified audience

pool to draw from, it may be beneficial to include the surrounding civilian communities. In this case accessibility is both physical and visual. Not only is nearness to the main gate desirable to avoid lost civilians wandering around the post, but of equal importance is the prominence of the site (on a hill, for instance). The building becomes a reference point.

Vehicular access has several dimensions to consider. If transit systems are available, a good deal of congestion can be avoided at performance times. Otherwise, primary roads should connect town and troop areas to the MDC without invading quiet zones and housing areas.

Parking space will be needed, normally at a rate of one space per four seats full capacity, plus spaces for cast and crew. Since performance normally occurs in off-peak hours, location near daytime community facilities can make use of existing parking spaces.

Service access also becomes a site selection factor. Loading of bulk items and road shows requires that access to the stagehouse be negotiable by semi-trailers. There are also access/proximity considerations where production fa-

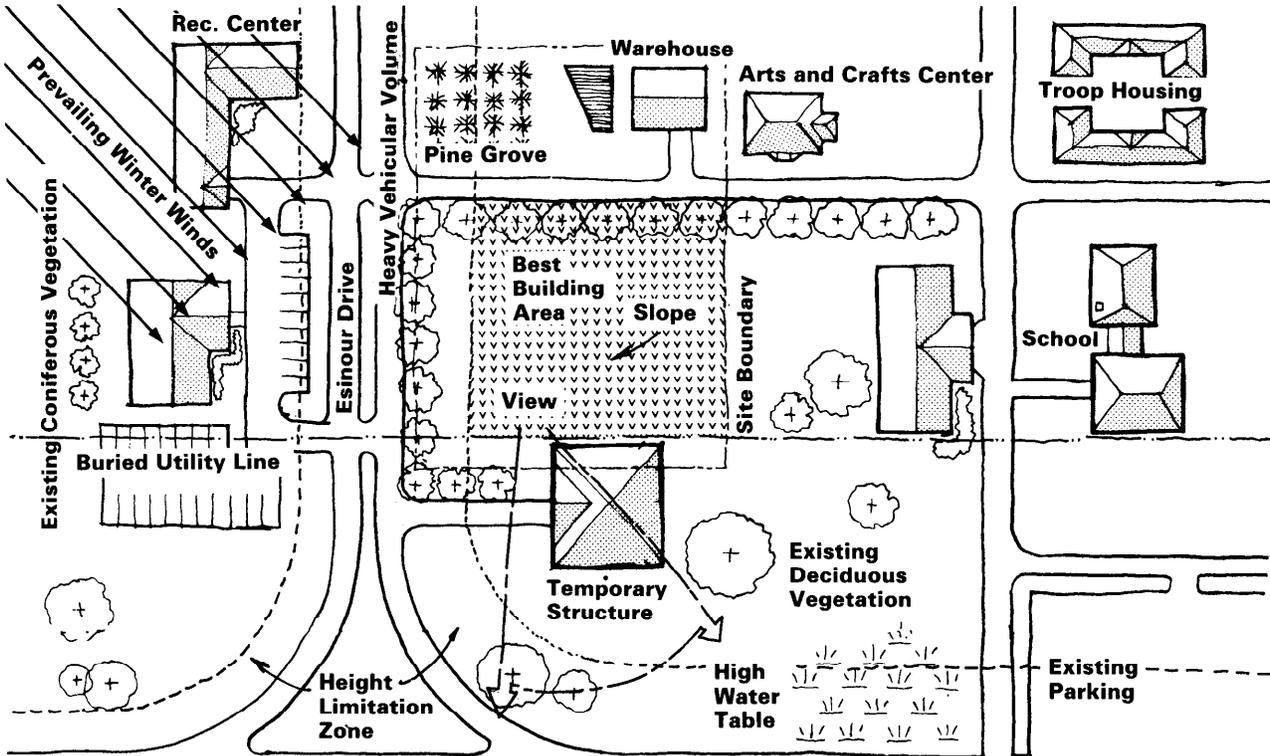


FIGURE 2-5.2 TYPICAL SITE ANALYSIS DIAGRAM

ilities (warehouses, workshops) are separate, although such arrangements should generally be avoided.

3. Site Area

Along with parking and service areas, future expansion of indoor or outdoor spaces are significant determinants of the site size. Space limitations require planners be prepared to take maximum advantage of outdoor waiting spaces for capacity crowds. Since site selection occurs before the MDC's exterior configuration is known, an ample margin for variation is needed. Also, proximity is a significant factor in noise reduction; don't overlook flight paths, machine shops, laundries, youth centers, target ranges, and other potential noise sources.

4. Identity

Prominence and community context have been mentioned. There are other considerations, such as familiarity with the location of an existing temporary facility, or relationship to a local landmark that gives special meaning to the site selection.

2-6. COMMAND APPROVAL

Program definition and site selection are the first major steps toward securing a Music and Drama Center. Continuing with the MCA process requires that the installation proposal receive authorization as short range construction program (SRCP) line item. Authorization takes the form of guidance from the appropriate major Army command to proceed with limited documentation of project requirements. This guidance is the product of a priority programming system that determines annual project initiations.

The installation master plan is in fact a list of facilities for ultimate development; each year the installation commander submits to HQDA a list of components in order of priority, separately identifying those funded from MCA. Other command levels add their own priorities, a summation is made, and a revised list is sent back down consisting of projects included in the Five Year Defense Program. From the top of this list, major commanders select the SRCP projects they desire to submit to Congress for funding.

Clearly, the using service objective is to achieve the highest priority status it can, beginning with the installation commander. It is wise to plan carefully a presentation to the commander and installation planning board, building on previously earned support (see 2-4e). Not only must they be convinced of the program's importance, they must also receive ample information to back up the request for high priority in dealing with major command. The main points for presentation are discussed below.

A. DESCRIPTION OF PROGRAM FUNCTIONS

Description is the key term. It need not be elaborate, and indeed should be concise and orderly, underlining primary activities, the kinds and frequency of performances anticipated, the people who will be involved, important developmental activities, and the general scope of facility requested, including its site. Create an overall understanding of how the pieces fit together and what the facility might look like. It is not recommended to design its appearance, but a careful selection of illustrative material speaks volumes. For example:

1. *One or two reference diagrams depicting primary and secondary space uses in relative scale and relationship. Use simple geometric shapes without labored, intricate organization. Basic logic should read at a glance.*
2. *Photographs of the site, preferably from the viewpoints most visitors would have. Include adjacent buildings and terrain. One photo may be overlaid with the outline of a rectangular volume approximating that of the facility. Remember to include a person in any photo to give it scale.*
3. *Photographs or clippings of comparable facilities or significant portions of them, to illustrate your verbal presentation as you make it. Similar illustrations will be found in Chapter 5.*
4. *A calendar or bar chart showing a hypothetical schedule of anticipated events, explaining overlaps and lead time needed for production, and the active participants involved at any given time.*
5. *Photographs of current staff and soldiers engaged in production activities like set-building, music practice, stage lighting, tryouts and rehearsals. Also show audience activities,*

cast parties and ceremonies related to discussion of these topics.

Illustrations should be thought of as gestures. They help round out the substance of description, but they should not overwhelm it.

B. SUPPORTING DATA

A summary of the information collected during the programming process may be submitted prior to the presentation, especially if the commander has already had an opportunity to review preliminary findings. The quality of this data is an important factor in determining the project's status, but it must be accompanied by a brief interpretation explaining its relation to significant features of the proposal. The data consist of facts and figures: population analysis, survey results, basis for budgeting space, manpower and operating costs, traffic and parking counts, historical costs and activity rates and current inventory of applicable equipment. The summary should report the decision making process which led to the proposal and a description of long range objectives and temporary deferrals. Accurate recordkeeping during the program exploration will prove invaluable here.

C. PROGRAM JUSTIFICATION

An essential ingredient of the presentation is a brief, cogent statement of the need for this project in relation to installation mission and the soldiers' proficiency and preparedness. Specific reference is made to Morale Support Activities and skill development opportunities. Requests for unusual or nonstandard elements must be justified by demonstrated economic analyses (cost-effectiveness), their essential role in the overall program (negative effect of deletion), or special requirements not anticipated by existing criteria (local conditions). A detailed discussion should be appended to the supporting data summary. The district engineer can assist in the preparation of this material, much of which can be used to substantiate costs and needs when seeking Congressional funds.

2-7. ESTABLISHING PROJECT REQUIREMENTS

Receipt of Short Range Construction Program guidance is the signal to prepare formal submission material in accordance with regulations for MCA projects. This is a joint effort of the using service and facilities engineer, intended to specify functional requirements in a way that methodically defines the uses and performance criteria of the building by reference to existing standards and this Guide. A preliminary cost estimate is made at the same time and the entire package sent back to major command with DD Form 1391, an important summary of project data and justification of its requirement by the installation. The process is essentially a codification of the material prepared for installation command approval.

If the project is then placed in the SRCP and approved, a directive will be issued by OCE to the district engineer or construction service field office to proceed with concept design. The construction service compiles design criteria (a nuts-and-bolts parallel of functional requirements) and pre-concept control data, which include a project site plan, basic building plan, outline specifications, and refined cost estimate.

A. PROJECT DEVELOPMENT BROCHURE

The statement of functional requirements (PDB) is the principal project reference for planning, design, and evaluation. It is written in language comprehensible to the using service, major command, the construction service and design personnel. TM 5-800-3 contains complete instructions for its preparation, which parallels the content of this chapter of the Design Guide. AR 415-20 establishes procedures.

The using service must bear in mind that this is the last major opportunity to state its requirements in the most complete, specific form it can, including those requirements difficult to quantify. The statement of design criteria prepared by the district engineer is a further elaboration of PDB content. But the using service should not assume provision will be made for anything that is not called for. This is also the time to request any departure from the normal process of design development.

B. BUDGET DATA

The using service will furnish a budgetary esti-

mate to accompany the DD Form 1391. The estimate is developed in accordance with AR 415-17, Empirical Cost Estimates, for the primary facility and supporting facilities defined by AR 415-20. Primary facilities will be in the code category 740-76 unless amended listing is issued.

In addition to this estimate, a general site plan will be furnished for a proposed facility sited in accordance with the DA approved master plan. If the facility is not so sited, both general site plan and a specially prepared detail site plan will be furnished in accordance with AR 415-15.

C. DD FORM 1391

This is a summary project description to be completed with the greatest care, following procedures detailed in AR 415-15. Every block should be completed with special attention given to the description of the requirement for the project. This is the only written summary justification that reaches OSD, OMB, and the Congress. More detailed justification is prepared only for the Army witness presenting program and budget requests at the DA level.

2-8. FUNCTIONAL PLANNING

Functional requirements and criteria cannot be developed without reference to subsequent chapters of this Guide. However, it is possible to outline the kinds of information involved, suggest an orderly approach to recording and presenting it, and remark on special considerations arising in military construction projects.

The basic PDB illustrated in TM 5-800-3 is inadequate for defining functional requirements of Music and Drama Centers. Although it is intended to furnish statements of special requirements, its topical procedure has been designed for relatively routine construction programs. It is at once too specific to guide overall thinking ("type of curb and gutter desired") and too general to sensibly emphasize exceptional needs ("ceilings: height, finish, acoustical treatment, additional information"). In short, using service planners are urged to supplement the standard PDB extensively.

The using service's task of planning will be considerably facilitated by the detailed listing and consideration of activities generated from program definition. It is the MDC staff who best understand what takes place in the scene shop, the lighting control booth, the practice room, and the ticket office.

These and all other activities have direct implications for the architectural substance and environmental conditions required (functional requirements). As a starting point, it may be helpful to adopt an existing facility of similar scope and intended use, or pieces of several, for the purpose of analyzing what is and is not ger-

mane to the actual program activities; what adjustments, additions, deletions would make various spaces conform in use to the special needs of the project. Figure 2-8.1 categorizes (names) various activity centers for consideration. A much more extensive treatment is offered in subsequent chapters to be consulted.

Each activity center (or space use), can be described by several characteristics, some of which have quantitative factors (measurable attributes). The appropriate characteristic, measurable or not, is a criterion. In formulating functional requirements, address each space use with at least the characteristics discussed below.

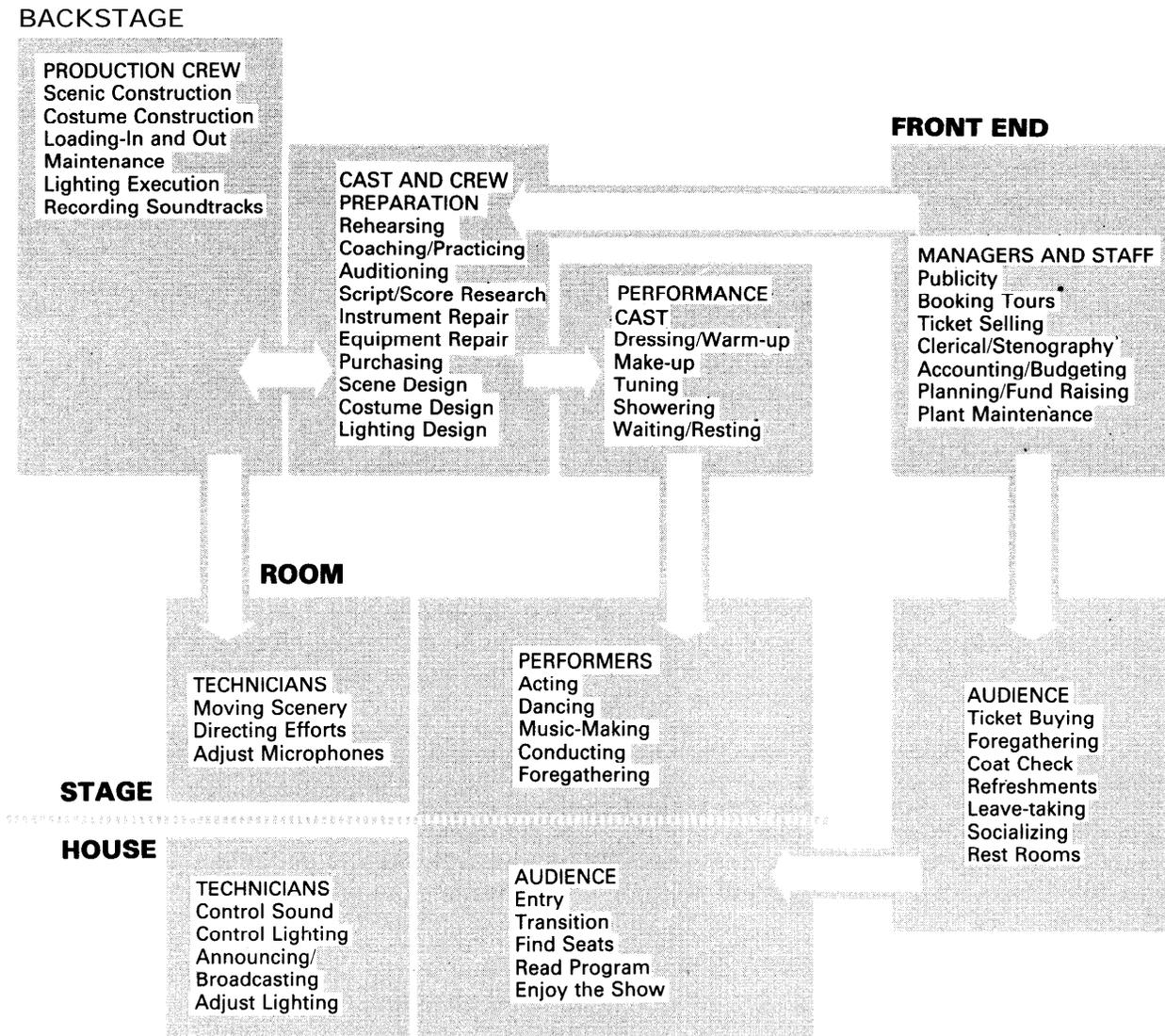


FIGURE 2-8.1 ACTIVITY CENTERS

A. RELATIONSHIPS

This characteristic governs relative positions within and among physical components and occupants. First distinguish conceptual from functional relationships.

Conceptual statements express the quality of a space, usually by analogy to common experience (the main entry should be like a front porch, the proscenium is a picture frame). Conceptual statements are important, useful information for the designer and should not be discarded or discounted. But the conceptual characteristics cannot be dimensioned or verified operationally, even though they may have a vital function (to make people welcome, to provide locational reference).

Statements of functional characteristics imply the measure of attainment (light switches within reach, a vestibule large enough for two wheel-chairs before entering the auditorium). The using service should state special or unusual functional relationships clearly, and also express general requirements that affect groups of spaces.

overlap, and sequence are relationships in three dimensions and time, preferably dimensioned by distance and degree (open, closed, partial; always, never, sometimes). These considerations may seem elementary except to the audio engineer who finds himself in a soundproof booth unable to hear what he is controlling, or to the actor who must leave the building and re-enter by another door in order to cross the stage unseen.

In the MDC, functional groups that are particularly sensitive to physical relationship criteria are the Performance Room itself, technical accessories like theater lighting, stage dressing and acoustical supplements, access and circulation, and process-oriented activities like set and costume construction.

B. SIZE OR CAPACITY

Unit measure of floor area is employed extensively as a common denominator of many criteria, and is therefore especially important. The constraints of maximum facility scope and cost are unfortunately expressed this way, with little

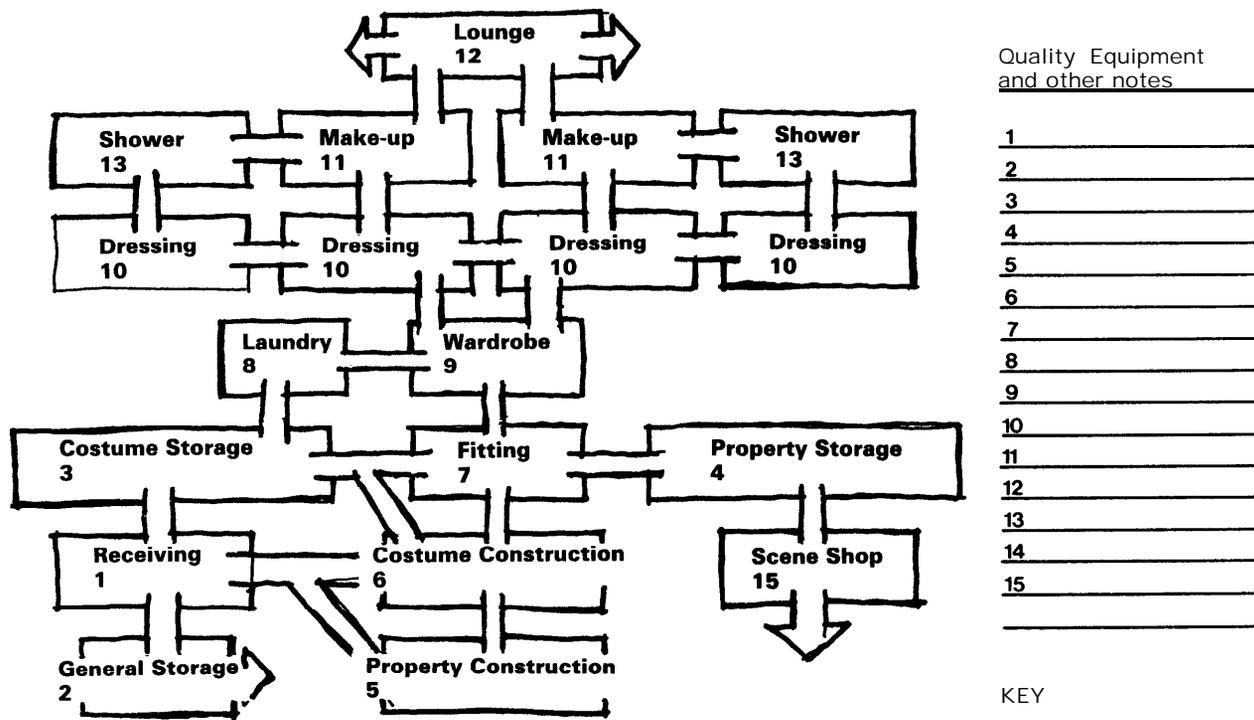


FIGURE 2-8.2 PROCESS RELATIONSHIPS NOTATION

functional direction (soldiers per square foot, dollars per square foot) beyond statistical averages. Except for applying regulation constraints, the square foot characteristic should be used thoughtfully (for required stage area or viewport size, for instance). In most cases, dimensioning should be done by use, such as number of people seated, space for a grand piano, turning area for a semitrailer, and storage for fifty stacking chairs.

There will be some minimum functional size or capacity not readily apparent, such as allowance for future growth of lighting equipment inventory, in which case an area figure generalizes. Other capacity factors might include provision for blank conduit and cable trays, power service, structural design loads, rigging sets and battens, microphone jacks and similar system characteristics.

C. EQUIPMENT

This characteristic is singled out because of the Army funding policies, which differentiate built-in equipment from moveable equipment. The

MDC planner may have some problems here since the "essential" nature of certain equipment may not be evident to the budget reviewer. AR 415-15 paragraph 7-4 should be studied carefully. Equipment that can be built-in without impairing its functional quality should be so described to avoid confusion.

For example, theater lighting systems and instruments are certainly essential to the primary facility, but it may not be realized that portable dimmer racks. (part of the system) are functionally preferable to fixed dimmers, or that the stage and certain railings are preferably demountable in part and adaptable in general. Loose seating requires built-in storage depending on the selected chair.

A separation list of essential equipment must be made. If it is not part of the construction contract but proposed for MCA funding, consult AR 37-108 and paragraph 3-22 of AR 415-15.

D. SPECIAL DIMENSIONS

The using service should be on the alert for spe-

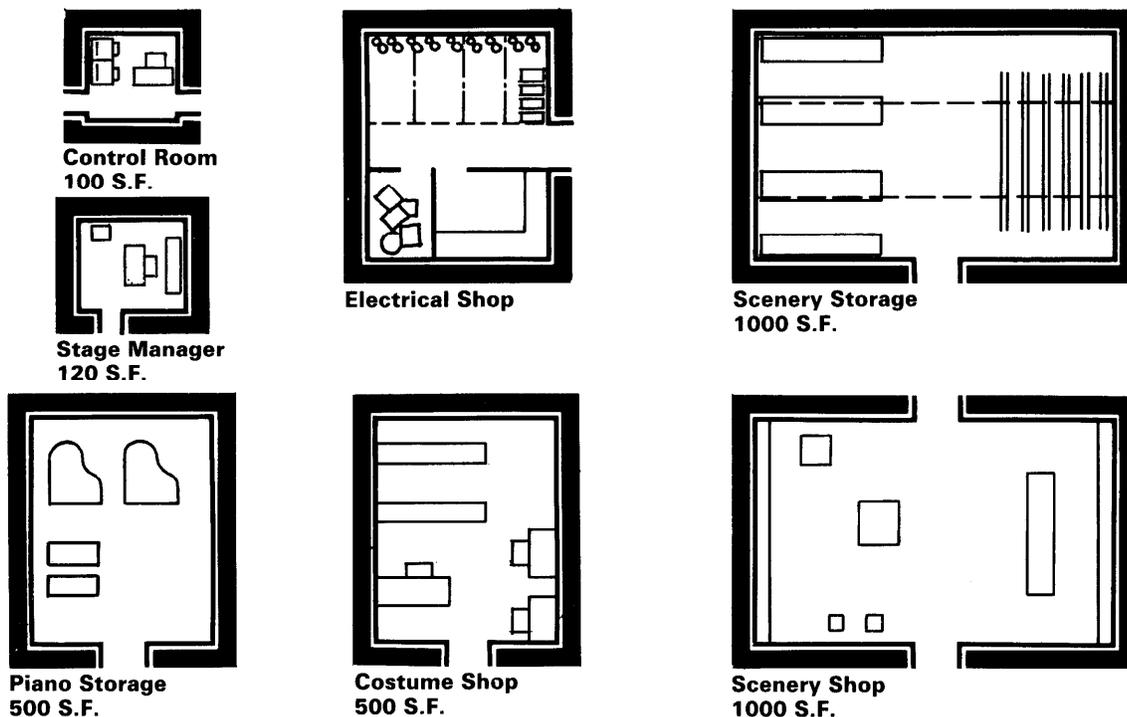


FIGURE 2-8.3 SPACE ALLOCATION NOTATION

cial dimensions in addition to relationship and capacity measures. The piano lift is useless if the piano cannot be maneuvered onto it. The follow spot booth can be ample in size but have a window too small.

Circulation and access routes are obvious candidates for scrutiny. Critical clearances should be stated in operational terms (e.g., require the ability to move an 8 x 16 x 16 foot piece from truck to shop to stage rather than request a 9 foot corridor). There will also be critical distances connected with lighting, acoustics, and vision; critical proportions related to stage and room areas; and critical elevations for rigging iron. Many of these are covered by design criteria in this Guide, but variations must be noted.

E. PRIORITIES

Characteristics should be numbered and grouped by priority. Wherever desired characteristics might reasonably be in conflict as design proceeds, state which is more important: seating capacity, comfortable legroom or viewing distances.

F. OTHER CHARACTERISTICS

There is no particular limit to the number and detail of functional requirements the using service planners can state, provided they feel confident they are correct, verifiable, and reasonably practicable with respect to larger issues and budget. At the same time they should not feel compelled to spell out requirements that are normal good practice. It is fair to assume competent designers and technical consultants will be retained in accordance with Chapter 1. When determining characteristics in terms of specific activity groups, general building characteristics cannot be overlooked. Criteria for noise control, illumination levels, relative humidity, and security which affect the entire building should be defined by using this Guide and other technical references.

2-9. SITE PLANNING

A. GENERAL CONSIDERATIONS

The principles of Functional Planning can also be applied to Site Planning. However, there are three conditions which should be considered. First, site planning for an MDC contains relatively few special criteria not previously identified in TM-5-803-1, 3, 6 or TM-5-830-1 (See Table 1-5-1). Second, the using service will not have examined outdoor activities with anything like the detail of indoor programs, which is the basis for functional planning. However, a certain level of detail has already been achieved in Paragraph 2-5, Selecting the Site. Third, the military construction program emphasizes site planning in advance of building concepts and identifies it separately for budget data, requiring a rather complete analysis for the PDB.

Climate conditions and the utility services are determined prior to the development of mechanical system concepts and potentials for utilizing outdoor spaces. Since significant funds are involved in site improvements, the using service should pay attention to their effective deployment and recognize it will ultimately be responsible for upkeep.

B. ACCESS AND PARKING

In addition to the site selection considerations discussed in 2-5, the using service should explore possible alternative uses of paved areas in fair weather. This can boost attendance and public visibility, and can permit continuing local activity while the theater is dark for dress rehearsals, setting and striking major productions.

If a desirable activity program includes occasional shows drawing audiences in excess of normal capacity, an outdoor amphitheater seating area related to the stagehouse might be considered. Special attention should be given to the establishment of overall site development conditions which are compatible with provision of accessibility for the physically handicapped. Refer to DOD 4270.1-M, EM 1110-1-103 Design for the Physically Handicapped and ER 1110-1-102. Where required, steps and stepped ramps should conform to TM 5-803-3.

C. SITE FURNISHINGS

1. Signage

Site signage has three main functions: to identify the facility, to direct various groups, and to regulate vehicular traffic on the site. In some cases

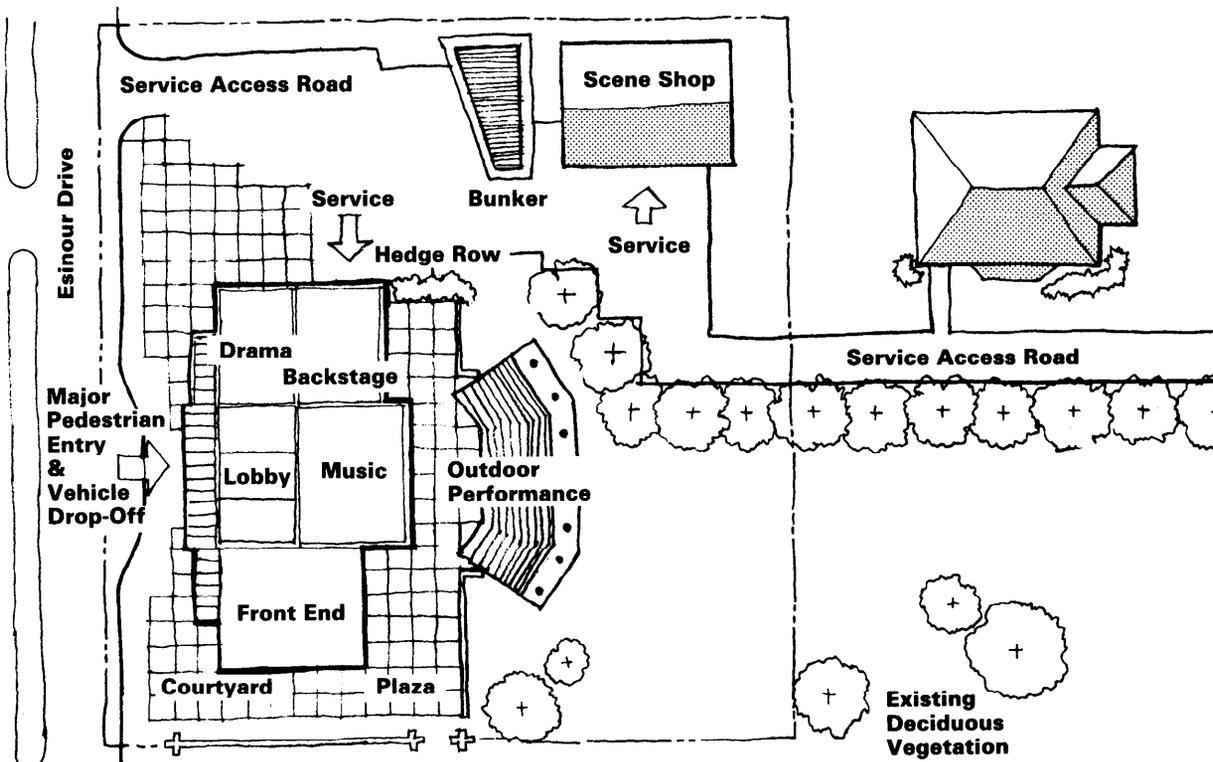


FIGURE 2-9.1 SITE PLANNING

the design of the building itself will be adequate signage to identify the structure. Traffic control and other directional signage should be simple, easily read and large enough to be seen from a moving vehicle.

2. Lighting

In general refer to the guidelines established in DOD 4270.1-M and TM 5-803-3. A combination of exterior and interior lighting should improve the relaxed atmosphere surrounding a performance. The tone of lighting design should surpass the strictly functional security and safety lighting required of all buildings.

3. Other Furnishings

The colors, shapes, scale and placement of benches, bollards, handrails, steps and other gradechange "edges" should enhance the feeling of public space that is both part of the Music and Drama facility and the street. Extensions of indoor public spaces are to be paved and furnished with consideration for visitors in "dress" attire.

Typical site plan development will include new plantings of trees, shrubs and grass, and where possible the preservation of existing vegetation. For guidance see TM 5-830-1 and 4 and TM 5-803-3. Planting design should consider the selection of plant materials which are readily available and easily maintained and compatible with the environment. The ultimate growth characteristics of all planting should be considered, as well as their effect on the micro-climate.

E. IMAGE

The impression created by the building and site is as important to program success as it is to the more general goal of design quality. Persons approaching the site by car normally view the building from an oncoming angle of 30 to 45 degrees. This oblique view of the facility gives a person his first impression of the structure and signals him to prepare to turn into the entry drive. For this reason location of parked cars, stands of trees or shrubs, or obscuring landforms should be taken into account. Traditionally, people gathered in a forecourt or inside a lighted lobby visible from the street serve as a

D. PLANTING

theater's most inviting advertisement. Since the largest element of a theater building is always windowless for light and sound control, the lobby or entrance foyer will be the element which visually and physically connects the facility to the outdoors and the street. The public approach to the Music and Drama Center should be especially inviting and in the spirit of an arts oriented facility.

The influences of local architectural traditions should be considered, as well as significant historical and cultural landmarks with which the population already identifies. The facility must have an architectural integrity of its own; it is unwise to parrot the design style and details of an authentic historic building. New and old will both suffer in the comparison. Respect for neighboring facilities of historic importance should be maintained by thoughtful use of compatible or sympathetic forms, details, textures, colors and materials.

Climatic conditions will also affect the final design's appearance according to the degree of shading, openness, wind exposure, and softening influence of landscape elements.

2-10. ENVIRONMENTAL SYSTEMS PLANNING

Performance facilities pose unusual problems for mechanical systems design; normal practice will not suffice. The mechanical engineer for an MDC should demonstrate qualifications similar to the architect's, and begin his work very early in the design process to ensure its integration, careful detailing, and ultimate efficiency. Technical criteria are noted in Chapters 3 and 4 and several Technical Manuals, while DOD 4270.1-M states Army-wide policies. From the planner's viewpoint, the using service should understand the characteristics of properly operating systems in relation to the functional requirements of performing arts activities. These are discussed in Chapter 3 and broadly categorized below.

A. HVAC

Every MDC will require air conditioning in its

construction, designed to overcome the high heat gain from lighting instruments, large crowds and physical effort. In the closed, windowless environment, the system also provides ventilating air changes and maintains year round constant relative humidity. Particular attention is paid the air distribution subsystem in performance spaces to minimize noise transmission and noise generation. Air movement must be carefully regulated to prevent drafts that cause curtains to billow, scenery movement, and acoustical aberrations.

All mechanical equipment should be as remote from performance areas as possible, preferably independent of the main building structure. Economy demands consideration of incremental capacity to deal with large variations in load, seasonally and daily. Finally, given the installed capacity of air handling equipment, its potential should be explored as an emergency exhaust system in case of fire.

B. ELECTRICAL

Power service requirements are established by a relatively high peak demand resulting from lighting, electro-mechanical devices, and air conditioning. Adequate allowance must be made for reserve and future capacity, and flexibility in power distribution with a proper selection of voltages.

Design of theatrical lighting systems is the province of special technical consultants, and functionally separate from the ordinary building system. But the same standards of safety and workmanship apply to both. The using service will identify in its functional requirements all known special equipment loads and voltages. It will also specify any unusual illumination requirements in work areas and accessory spaces, and note outdoor spaces to be developed with lighting and/or power supply.

C. PLUMBING

Standard technical criteria apply to plumbing, water supply and sanitary waste disposal. However, the functional requirements of backstage and public facilities must be delineated by the using service. In particular, provision of sufficient lavatory basins in makeup rooms, toilets and showers for the cast and for the stage crew, and laundry hook-ups in wardrobe maintenance

| Utilities | | | | | | | | | | | SEWER | WATER | FUEL | POWER | | | | | | | | |
|----------------|------------------------|---------------------------|------------|-----------|--------------------------|---------|-------------|----------|----------------------|--------|-------|-------|--|-------|-------------------------|--|--|--|--|--|--|---|
| Storm Drainage | Sanitary Waste Removal | Water for Fire Prevention | Cold Water | Hot Water | Cooling Air Conditioning | Heating | Ventilation | Lighting | Emergency Generators | Motors | | | | | Communications/Security | | | | | | | |
| | | | | | | | | | | | | | Latitude | | | | | | | | | System Selection & Load Factors LOCATIONAL CONTEXT |
| | | | | | | | | | | | | | Climate | | | | | | | | | |
| | | | | | | | | | | | | | Water Supply Line Availability | | | | | | | | | |
| | | | | | | | | | | | | | Power Supply Line Availability | | | | | | | | | |
| | | | | | | | | | | | | | Storm/Sanitary Sewer Infrastructure | | | | | | | | | |
| | | | | | | | | | | | | | Existing Mechanical Plant | | | | | | | | | |
| | | | | | | | | | | | | | Proximity to Fire Fighting Station | | | | | | | | | |
| | | | | | | | | | | | | | Local Fuel/Energy Sources & Availability | | | | | | | | | |
| | | | | | | | | | | | | | Facility Growth Potential | | | | | | | | | |
| | | | | | | | | | | | | | Micro-Climate | | | | | | | | | |
| | | | | | | | | | | | | | Prevailing Winds | | | | | | | | | |
| | | | | | | | | | | | | | Vegetation | | | | | | | | | |
| | | | | | | | | | | | | | Soil Type | | | | | | | | | |
| | | | | | | | | | | | | | Depth to Water Table | | | | | | | | | |
| | | | | | | | | | | | | | Topography/Slope | | | | | | | | | |
| | | | | | | | | | | | | | Watershed | | | | | | | | | |
| | | | | | | | | | | | | | Use/Activity Types | | | | | | | | | BUILDING FACTORS |
| | | | | | | | | | | | | | Number of Occupants | | | | | | | | | |
| | | | | | | | | | | | | | Hours of Operation | | | | | | | | | |
| | | | | | | | | | | | | | Heating Design Temperature | | | | | | | | | |
| | | | | | | | | | | | | | Cooling Design Temperature | | | | | | | | | |
| | | | | | | | | | | | | | Mechanical System Efficiency | | | | | | | | | |
| | | | | | | | | | | | | | Solar Energy Assist | | | | | | | | | |
| | | | | | | | | | | | | | Building Orientation | | | | | | | | | |
| | | | | | | | | | | | | | Configuration | | | | | | | | | |
| | | | | | | | | | | | | | Volume | | | | | | | | | |
| | | | | | | | | | | | | | Surface Area | | | | | | | | | |
| | | | | | | | | | | | | | Fenestration Area/Type | | | | | | | | | |
| | | | | | | | | | | | | | Thermal Coefficients | | | | | | | | | |
| | | | | | | | | | | | | | Materials Selected | | | | | | | | | |

TABLE 2-10.1 ENVIRONMENTAL SYSTEMS PLANNING INFORMATION NEEDED

areas are to be called out. Public toilets must include provisions for physically handicapped, drinking fountains made available in the foyer, and the possible inclusion of a unit kitchenette considered for extended use of public areas. Janitor's closets with mop sinks should be located near public facilities and backstage at stage level.

D. FIRE PROTECTION

Life safety precautions and property protection will strictly adhere to Chapter 8 of National Fire Protection Association's Standard No. 101. System considerations are detailed in TM 5-812-1 and their application prescribed by DOD 4270.1-M.

The using service in coordination with facilities engineers should be particularly clear as to the classification of assembly occupancy and stage types; these determine the kinds of construction and protective devices required. Fire protection subsystems include extinguishment (automatic or manual sprinklers, fire extinguishers and hose standpipes), smoke and heat detection and venting, and manual or automatic alarms. Exit directions and emergency illumination assist occupants to reach safety without panic. Containment of fire and smoke is a function of fire resistant construction, opening protectives and self-closing doors, and a fire curtain installed in a proscenium stage with flyloft.

E. LIFE CYCLE COSTS

For each installation, selection of environmental system components should include analysis of long term cost over the life of the building. This approach compares initial installed cost with the ongoing cost of operation and maintenance adjusted for inflation. An increase in first cost can sometimes be shown to result in overall savings. Using service and design personnel should both be involved in these decisions, since the special technical and functional criteria for MDC systems must not be compromised for minor hypothetical savings. Detailed analysis of alternatives is recommended.

2-11. INTERIOR PLANNING

Interior design features are to be developed in conjunction with architectural design. All features of the building relative to the interior design, whether they are furnished and installed as part of the construction contract or later provided by the using service, should be developed as an overall scheme. Standard practice for military construction projects requires that when estimating the cost of interior design components, all items of equipment and furnishing which are permanently built-in or attached to the structure are normally considered part of the construction contract. Items which are loose, portable or can be detached from the structure without tools, are generally provided by the using service under separate contract. Interior building surfaces, paint, floors and signage will be specified as part of the construction contract in coordination with the overall design.

A. ESSENTIAL ELEMENTS

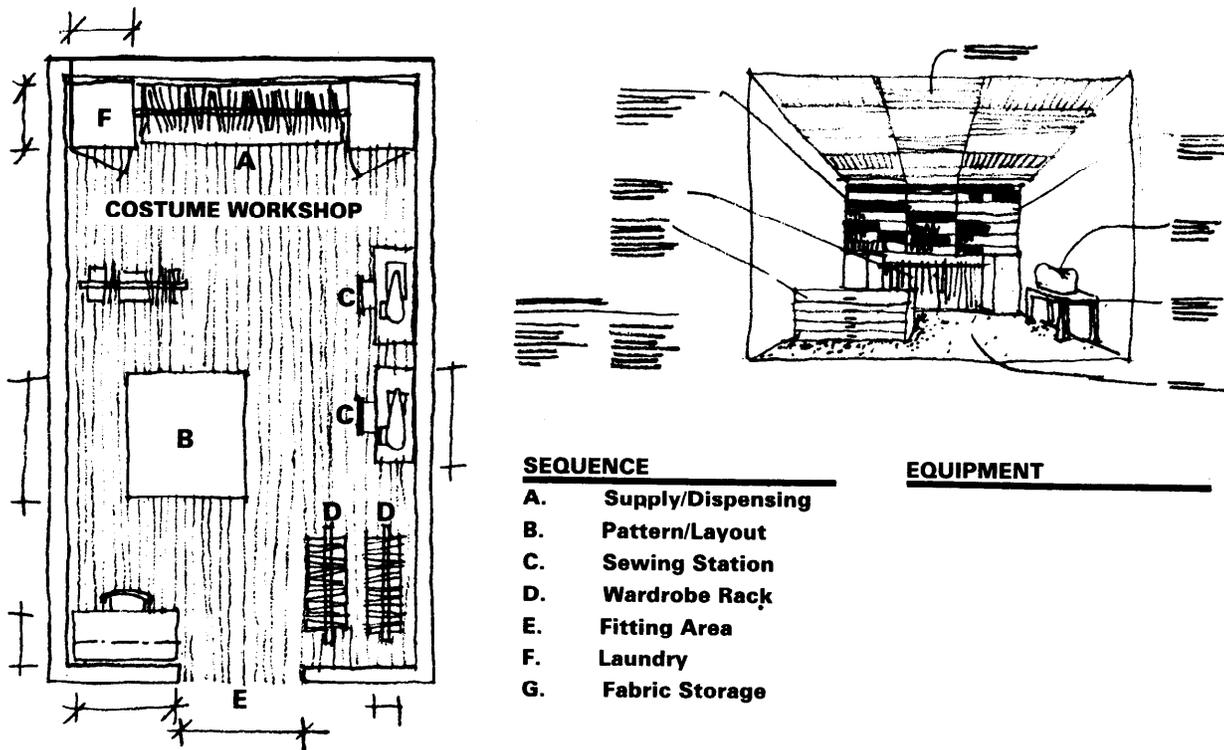
In the planning stage, the using service must be able to identify the furnishings and appliances needed to carry out supporting activities, although the items themselves need not be selected until a preliminary architectural design has been made. However, provisions for certain kinds of furnishings affect the architectural design, as noted in section 2-8, and should be chosen early. These include major appliances, vending machines, office machines, power tools and knock-down furnishings that require storage.

B. FITTINGS AND FURNISHINGS

A tabulation of room contents accompanying each space use description is the most satisfactory means of accounting for furnishings. It will also assist the designer to understand the activities contemplated and lend substance to decisions about functional space configurations. Compiling a list might also help identify redundancies and those purposes which might be better served by built-in cabinetwork, closets or shelves.

C. FINISHES

In performance space, finish materials, colors, textures and details are normally chosen to support the architectural design idea, tempered only by practical and technical considerations which affect acoustics and lighting. It is this practical



| SEQUENCE | EQUIPMENT |
|----------|-------------------|
| A. | Supply/Dispensing |
| B. | Pattern/Layout |
| C. | Sewing Station |
| D. | Wardrobe Rack |
| E. | Fitting Area |
| F. | Laundry |
| G. | Fabric Storage |

FIGURE 2-11.1 INTERIOR PLANNING

aspect that is appropriately noted as functional requirements. Certain uses may require specific finishes (e.g., smooth plaster for film projections, impervious finishes near washbasins). The using service should make plain its concern for low maintenance and durability, or if judged desirable, ease of replacement.

Finally, the using service should not hesitate to indicate the impression it wishes to convey; ceremonial, warm and inviting, elegant, contemporary, etc. These qualities may, in fact, have functional significance to program goals. Planners should refrain from stipulating color schemes, specific materials or brands on a purely personal, preferential basis.

D. SPECIFIED ATTRIBUTES

Chapters 3 and 4 will provide data concerning required criteria and details of functionally critical elements. These will include criteria for seating, wall construction, resilient dance floors, and illumination levels.

Specific finish attributes are also governed by

regulations for life safety (flame spread and smoke production rates) and safe, barrier-free access (non-skid ramp surfaces, panic hardware, exit identification). Such considerations override all others.

E. MANDATORY SOURCES

Sources for selection and procurement of furnishings are listed in the GSA periodical listings of National and Regional Federal Supply Schedules, and the general GSA catalog. Procurement from these sources by the using service is mandatory provided the items available meet requirements.

2-12. COMPLETION RECORDS

A. GENERAL REQUIREMENTS

Individual projects will require the assembly of completion records prepared in accordance with AR 415-10 and current Engineering Regulations. Generally, the material to be included in these records will cover major design intention for the utilization of interior spaces and built-in design features. Records are turned over at the end of construction and include as-built drawings, equipment manufacturers' warranties and maintenance instructions, parts lists, valve and switch schedules, etc.

B. OPERATING MANUAL/USERS GUIDE

Since there is such a large proportion of special equipment and custom design involved in the MDC, an extra effort should be made to correlate normal completion records with additional useful information in a readable format.

It should include a summary of how the program and functional requirements were developed, memoranda of subsequent design reviews, recommendations of consultants, and modifications introduced during construction. Since the facility occupants may be new to it, every piece of information that can add perspective will be a valuable aid to making the best use of it.