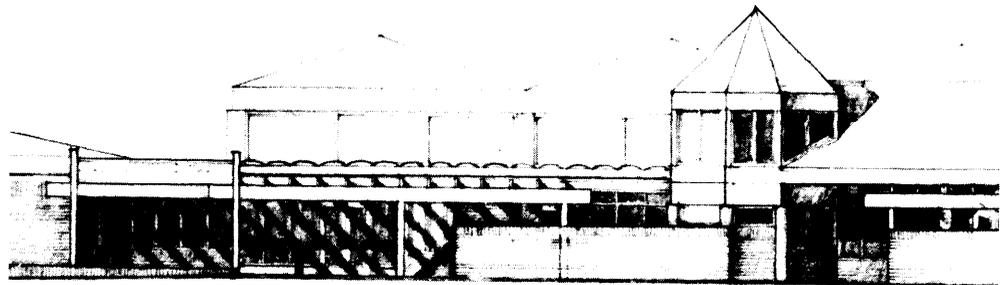




Section II: Design

Chapter 4: General Design





4-1 Using this Chapter

This chapter begins the process of design of the DYAC facility. Based on the activity and space program and site selection established in the previous two chapters, the District Engineer defines the Design Criteria Requirements and Pre-concept Control Data, and then proceeds to develop the Concept Design. This chapter provides the general design objectives and considerations essential to this criteria-setting and conceptual design work, some of which will have already been integrated into the program development, PDB and 1391 preparation. Reference to the key requirements for the individual spaces, presented in Chapter 5, and the space organization principles, in Chapter 6, will also be helpful at this conceptual design stage. Measures taken to meet these objectives and considerations should be documented in the Design Analysis prepared in accordance with ER 1100-345-700. This chapter, General Design, will continue as a basic reference for the District Engineer and their contracted architect/engineers throughout the final design development.

The Concept Design phase is the final opportunity for the Facility Engineer, Morale Support Activities representatives, and the youth, parents, staff and other interested groups on the installation to have input to the DYAC project development process. The Facility Engineer and MSA representatives should review the Concept Design with the District Engineer 'as it is developed, and should have a chance to give final approval at the completion of Concept Design, before Final Design proceeds. The youth, parents and others should provide input to this review through the User Committee, established in the programming phase, in dialogue with the Facility Engineer and MSA representatives. The issues, requirements and recommendations in this chapter should be considered by all of these people, to inform their review of the District Engineer's work and provide a grounding for their expectations of the Concept Design.

The general design considerations in this chapter are based on a number of objectives, discussed below, but emphasize the key design implications of the developmental needs of the youth. Tables 4-1, 4-2 and 4-3 provide a summary of the design implications of these developmental issues, which can be used as an organizing check-list in considering the design criteria and conceptual design. These tables introduce the most important concepts which are discussed in the remainder of this chapter, and at the beginning of the criteria for each of the primary activity modules in Chapter 5.

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4-2 Design Objectives

a. General Principles.

Certain recognized principles of professional design must be applied to the design of Dependent Youth Activity Centers:

Design Quality. Excellence of architectural design is the primary objective and will determine the value of the DYAC as a place for youth activities. The design should be informal, inviting, comfortable, and attractive, on the interior and the exterior. The design should promote social interaction, permit many activities to take place simultaneously, and express the nature of the activities.

Function. The second design objective is to provide a facility that meets the requirements of the installation's Youth Activities program, and can be flexible enough to accommodate changes in youth activities, and in the community's and youths' attitudes about programmatic and environmental needs.

Economy. The third objective is to provide the most economically effective facility with the least adverse environmental impact. To do so, the design process must weigh costs, values, and functional and social benefits, to analyze architectural, engineering, economic and environmental decisions. The use of local skills, stock products, and new materials and techniques to reduce costs should be investigated. Life-cycle cost analyses should evaluate initial costs, operating and maintenance expenses, and replacement costs over the life of the facility.

DYA-Specific Objectives. Beyond these general principles, the design objectives the DYAC should meet, discussed in the balance of this chapter, are those concerns specific to Dependent Youth Activities and its physical accommodation.

b. Serving Developmental Needs.

The primary purpose of the Youth Activity Center and the dominant objective of its architecture are to serve the developmental needs of the youth who will be using it. This principle should be fully appreciated by the designers of the DYAC and should enlighten their interpretation of the general design considerations and individual space criteria in this Design Guide. The requirements in the guide reflect these developmental needs; however, modifications can be justified if they better satisfy the needs in particular cases.



The emphasis on fostering the youths' development does not deny the multiplicity of objectives which are also of concern in designing a DYAC. Although the designers must consider the satisfaction of the needs of parents and other adults on the installation, the DYAC is not intended to serve a "baby-sitting" role. The facility must also provide for the DYA staff, but with the primary purpose of service to the youth. The esthetics of the building and the image of the Youth Activities Program it presents to the post are also important. Most importantly, the DYAC must be designed to offer opportunities and supports to the eligible youth of all ages for activities and experiences which enhance their growth and development.

To serve these needs, the designers must understand and consider how the youth will use the building to their benefit. The developmental needs, discussed in Chapter 2, are organized into three major categories: identity development, social development, and physical and cognitive development. Chapter 2 also discusses the activities which set programmatic requirements for the DYAC and issues of staffing, operating concerns, and the relationship of parents and other adults to the program, which should aid the designers in understanding the design implications of these objectives.

c. Motivation.

Together with understanding the developmental needs of the youth, the designers must consider what will motivate the youth to use the DYAC: The youth will use a Center because they identify with it and have made it their own. They should be given a role in running the place, through governmental bodies, meetings, and specific operations and maintenance tasks, and helping to create and continually modify the physical environment. Most importantly, this means making the activities and individual spaces reflect the youth—a place to do the eating, talking, being together, and other activities which are important to these ages.

It must be emphasized that it is impossible to predict exactly how the DYAC will be used, since youth are continually changeable, and what is successful for them one day will not be the next. The designers and operators of the Youth Activity Center must be prepared to accept that the place may work only partially, and that the design must be sufficiently flexible and changes continually made to adapt to the varying demands of the users.

d. Design Implications of Developmental Factors.

The physical design implications of these developmental and motivational issues are summarized in Tables 4-1, 4-2 and 4-3, and elaborated and explained in the remainder of this chapter. The tables link individual developmental issues to specific physical corollaries which implement or accommodate the need. They include the most critical issues to the successful design of the DYAC, but are by no means comprehensive. With the explanatory sections which follow, the tables can be used as a checklist by the designers to ascertain whether their concepts and designs fulfill these most significant design goals.

The design implications in the tables are organized into the major physical components of the DYAC: overall and site design, drop-in module, programmed spaces and large space. The developmental issues follow the three categories established in Chapter 2, and are represented by symbols as follows:

- ▮ Identity Development
- * Social Development
- ⊕ Physical and Cognitive Development

These symbols will also be found as marginal notes in the remainder of the Design Guide, keying significant design requirements to their primary developmental basis.

Table 4-1 Design Implications of Developmental Issues–Identity



<u>Key Developmental Issues</u>	<u>Design Implications</u>
<u>Identity Development</u>	<u>Overall and Site Design</u>
<p><u>All Ages:</u></p> <p>Focus for youth on post, separate from military.</p> <p>Place to identify with, individually and collectively.</p> <p>Separate identities for different ages and groups.</p>	<ul style="list-style-type: none"> ● Clear boundaries. ● Distinctive image. ● Oriented to youths' world. ● Role for youth in design and operation. ● Ability to affect their environment. ● Non-directive physical design. ● Distinct turfs. ● Individual elements dominate. ● Multiple entrances
<p><u>Adolescents:</u></p> <p>Testing divergent, changing roles.</p> <p>Extreme emotional responses.</p>	<ul style="list-style-type: none"> ● Ambiguous space definition. (see also Table 4-3, "Wide range of activities"). ● Wondrous image.
<p><u>Juveniles:</u></p> <p>Sense of industry, productivity.</p> <p>Sense of belonging to a group.</p>	



Drop-in

- Ability to affect their environment.

- Variety of turfs.
- Teens' own place.

- Convertible spaces. (see also "Separate identities," above.)

Programmed Spaces

- Distinct subspaces

- Multiple, simultaneous use of spaces.

- Acoustic separation for intense involvement.
- Places to display products, awards.
- Distinct subspaces.

Large Space

- Visibility of activities and trophies.

- Convertible from sports to social/cultural activities.

Table 4-2 Design Implications of Developmental Issues–Social



<u>Key Developmental Issues</u>	<u>Design Implications</u>
<u>Social Development</u>	<u>Overall and Site Design</u>
<p><u>All Ages:</u></p> <p>Opportunities for social interaction—try new situations, meet new people.</p>	<ul style="list-style-type: none"> ● Open image. ● Direct access from entry. ● Intervisibility. ● Approach without intrusion.
<p><u>Adolescents:</u></p> <p>Peer group interaction—groups and one-to-one.</p> <p>Heterosexual relationships, increasingly one-to-one as older.</p> <p>Independence, rebellion from parents, adults; development of self-discipline.</p>	<ul style="list-style-type: none"> ● Varying degrees of privacy and supervision. ● Suppress evidence of supervision for adolescents. ● Role for youth in design and operation. ● Visible outdoor activities.
<p><u>Juveniles:</u></p> <p>Peer group as context for play; single sex.</p> <p>Need for structure, rules.</p>	<ul style="list-style-type: none"> ● Supervision evident in juvenile areas.



Drop in

- Open and accessible.
- Snack area central.

Programmed Spaces

- Multiple degrees of privacy.
- Few acoustical separations.
- Places to see and be seen.
- Teens' own place.

Large Space

- Convertible from sports to social/cultural activities.

- Places for juvenile groups.

- Meeting, clubs, project spaces.
- Clearly defined, ordered spaces.

Table 4-3 Design Implications of Developmental Issues—Physical and Cognitive



<u>Key Developmental Issues</u>	<u>Design Implications</u>
<p>Physical and Cognitive Development</p> <p><u>All Ages:</u></p> <p>Wide range of activities, appropriate to different ages, groups.</p> <p>Physical activity, movement, aggressive urges (most pronounced in early adolescents).</p> <p>Eating is an important activity.</p> <p><u>Adolescents:</u></p> <p>Self-consciousness of bodily development, especially vis-a-vis the opposite sex.</p> <p>Development of abstract thinking, formal operations.</p> <p><u>Juveniles:</u></p> <p>Involvement in physical concepts and concrete operations; development of tool skills.</p> <p>Fantasy and imaginative play.</p>	<p>Overall and Site Design</p> <ul style="list-style-type: none"> ● Multiple, differentiated places. ● Three primary activity modules. ● Multi-use spaces. ● Functional separability. ● Outdoor extensions of indoors. ● Durable furnishings.



Drop-in

Programmed Spaces

Large Space

- | | | |
|--|--|--|
| <ul style="list-style-type: none">● Snack area central. | <ul style="list-style-type: none">● Multiple, simultaneous use of spaces.● Direct access and limited visibility.● Acoustic separation for intense involvement. | <ul style="list-style-type: none">● Convertible from sports to social activities.● Extensive storage for diverse functions. |
| <ul style="list-style-type: none">● Quiet reading area. | <ul style="list-style-type: none">● Spaces for gymnastics, ballet, active movement. | <ul style="list-style-type: none">● Accommodate active/aggressive sports functions.● Active storage for sports.● Snack area directly accessible. |
| <ul style="list-style-type: none">● Places for juvenile games. | <ul style="list-style-type: none">● Privacy for self-conscious physical activities.● Meeting, clubs and projects spaces.● Accommodate juvenile scale.● Meeting, clubs and projects spaces.● Spaces to encourage imaginative play.● Story-telling and directed games places. | <ul style="list-style-type: none">● Divisible for simultaneous activities, privacy.● Direct access to locker rooms. |

4-3 Designing the Site

Site planning and design must be in accordance with the approved Installation Masterplan and applicable portions of DOD Manual 4270.1-M, TM5-822-2, 5-822-3, and 5-830-1, and the completed Project Development Brochure. The major issues to be considered in the site design, specific to designing a DYAC and to its accommodation of the needs of its users, are as follows:

a. Relationship to the Surrounding Environment.

- (1) **Clear Boundaries.** The site should have identifiable boundaries, separating the youths' world from the rest of the post. This can be done with fences, walls, hedges, shrubs, use of grade changes, and the building walls themselves.
- (2) **Oriented to Youths' World.** The building should be sited and designed with views oriented to the immediate DYAC outdoor activity spaces, youth athletic fields, local swimming pools, schools and similar youth activities places, rather than out to the larger military environment. The site design should provide clear and easy walking access from the DYAC to these youth facilities, where they are nearby.

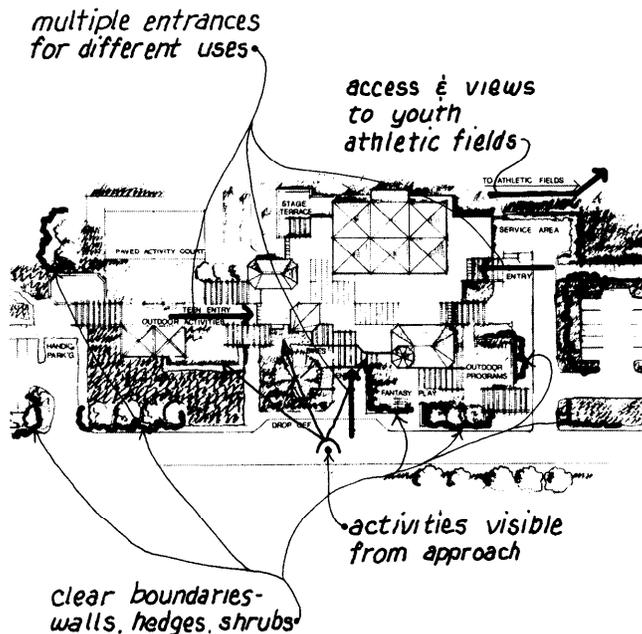


Figure 4-1 Site Design: Relationships and Access

b. Access and Entry.

- * (1) **Open Image.** The DYAC should present an open, inviting image to attract youth inside and to encourage newcomers or shy youth. This can be done by designing interior activity locations so visitors can see from the outside what is going on before they enter. Attractive outdoor activities and places for youth to hang out at the entrance area can reinforce this image. A billboard or marquee at the entrance could inform outsiders of events going on at the Center. The DYAC should feel like the clubhouse for entrance to all youth activities on the site.
- * (2) **Visible Outdoor Activities.** The outdoor activities on the DYAC site should be visible to passers-by, so the general post population can understand that the activities the youth are involved in are acceptable ones—basketball, projects, conversation, snacking, etc.
- (3) **Multiple Entrances.** There should be multiple entrances, clearly distinguishable, to accommodate the diverse user groups—teens, children, staff and visitors—or youth involved in multiple ac-

tivities. For example, their own separate entrance can be important to the teens, so they do not feel that they are entering a “children’s facility.” Similarly, athletes should enter directly into the large space and locker rooms, rather than going through main entry and lounge areas.

(4) Vehicular Separation. Separate paths and spaces should be provided for pedestrian access, vehicular drop-off and parking, and servicing—for safety and ease of operation. Different parking areas might be reserved for different users. A separate parking area for teens would reinforce their identification with the DYAC and reflect the key role their cars and parking area play in their activities. Parking area design should comply with TM 5-822-3, Parking for Nonorganizational Vehicles.

c. Outdoor Activity Spaces.

+ **(1) Multiple, Differentiated Places.** A variety of outdoor activity spaces near the DYAC building are required to accommodate the multiple uses and users. They should have characteristics appropriate to their respective functions—hard-surfaced sports and games areas, intimate patios for social interaction, grass and soft surfaces for children’s play. They should be designed to be flexible, and provide a range including:

- +** • Hard-surface area for basketball, volleyball, children’s games, and dancing. For the larger DYAC’s, this area should accommodate regulation sports activities, but, most importantly, it should have the equipment and capability to support a variety of active functions.
- *•** Terraces for social activities, conversation, eating, parties, snacking, barbecues and performances. Partial screening should permit different degrees of intimacy and group interaction.
- +** • Children’s play space, to encourage imaginative play.
- +** • Projects areas, as extensions of indoor programmed spaces, for gardening, large artwork and sculpture, scout meetings and projects, dance and gymnastics.

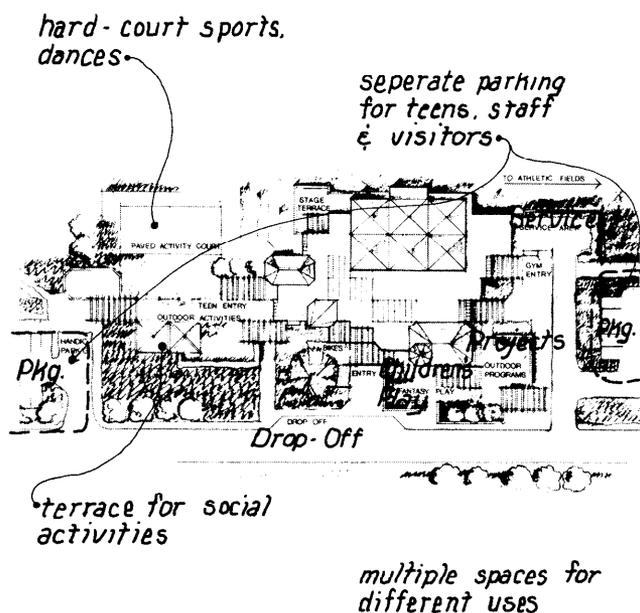


Figure 4-2 Site Design: Outdoor Spaces

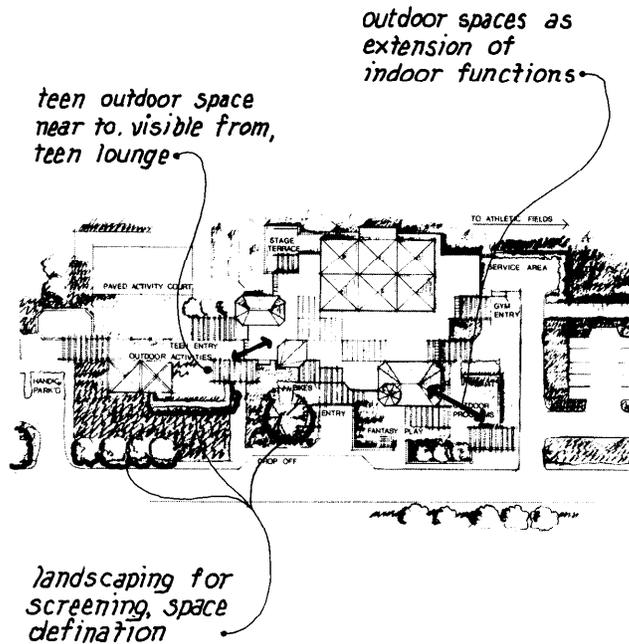


Figure 4-3 Site Design: Indoor Relationships, Landscaping

- + (2) **Outdoor Extensions of Indoors.** The outdoor spaces should be contiguous, visible, and directly accessible to the corresponding indoor function areas. This requires zoning of the plan for the primary functional modules. For example, the teen lounge area should relate directly to the teens' own outdoor patio and activity space.

d. Landscape Design.

- (1) **Landscaping Defines Spaces.** The landscaping can define and separate the outdoor spaces and the overall DYAC site, screen areas that need privacy or protection, and characterize each area.
- + (2) **Durable Furnishings.** The equipment and furniture used in the outdoor spaces should be durable and require little maintenance, to stand up to heavy use. They should be designed to perform different functions for different activities—perhaps with adaption and modification by the youth themselves. The design should be different from furnishings elsewhere on post, to distinguish the DYAC's unique character.

- (3) **Lighting for Night-time Use and Safety.** Outdoor lighting should permit active night-time use of the spaces for sports, parties, dances, etc. It should improve safety by providing sufficient general illumination to allow visibility in all activity areas and paths where users are likely to go. The lighting can define function areas by creating separate pools of light of different quality appropriate to each activity—through different intensities, color, mounting and design of fixtures. Lighting may also help project the distinct visual image of the DYAC to the broader post population.

4-4 Designing the Overall Building

The following discusses the most important design considerations which affect the whole of the DYAC and the organization of its components.

a. Identity and Image.

(1) **Distinctive Image.** The DYAC should have an image that is architecturally distinctive, not associated with other structures and functions of the installation, to give the youth a sense of identity separate from the world of the post, on which they have such a subordinate role. It should be evident the facility is the youths' place.

(2) **Wondrous Image.** The building should present a wondrous, fantastic image, full of surprise and excitement. This can be done with fanciful forms and spaces; romantic elements such as turrets, arches and balconies; unexpected innovative designs; mysterious facades, revealing the true character by surprise; or other architectural inventions.

(3) **Individual Elements Dominate.** It is easier for the users to identify with the individual places where specific activities and events relating to them happen. Therefore, for DYAC's larger than residentially-scaled neighborhood facilities, the individual sub-elements of the building, rather than the whole, should dominate the image. This may involve expression of whole modules like the drop-in center, individual spaces like the projects room or billiards area, or special features like fireplace chimneys, lofts, or skylit spaces.

* (4) **Open Image.** The building should be open, revealing activities and their participants to the approaching and entering visitors. It should be designed to present activities which are attractive to the youth and which are acceptable to adults and parents.

(5) **Ability to Affect their Environment.** The design of the building should invite the youth to be involved in "making it their own place". Forms and structure deliberately left incomplete, unclosed spaces, potential attachments for platforms or partitions, and easy means of adding decorations, will permit the youth to do their own finishing, furnishing and decorating.

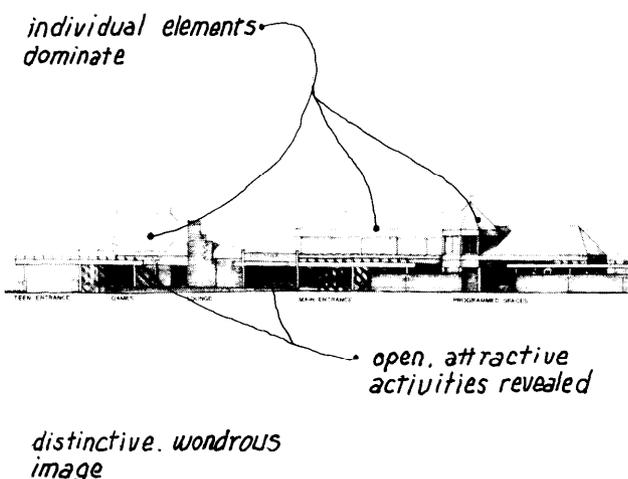


Figure 4-4 Overall Building Design: Image

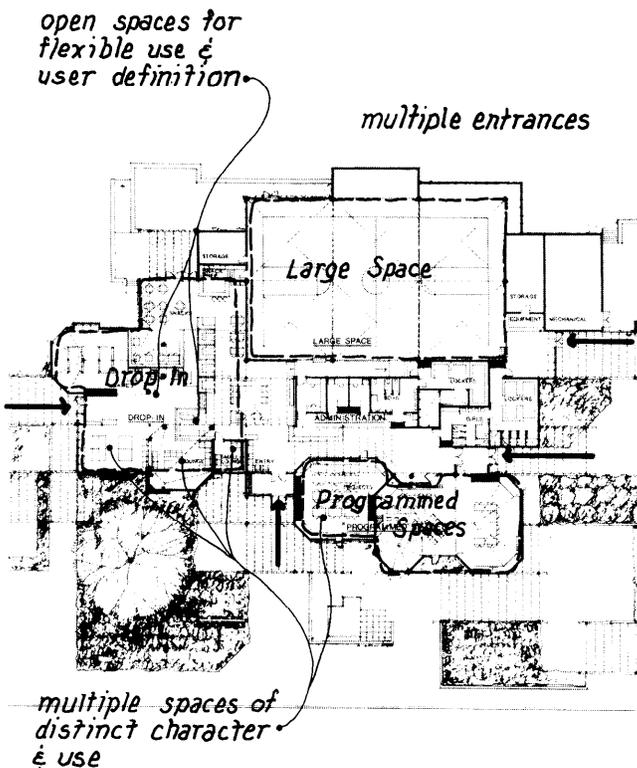


Figure 4-5 Overall Building Design: Multiple Space

b. Multiple Spaces and Uses.

- + (1) **Three Primary Activity Modules.** Most of the programs in the DYAC take place in the three primary modules—drop-in, programmed, and large space. This division reflects the diverse activities and needs of the users—from intimate social interaction to league basketball games to handicrafts projects—as discussed in Chapter 2. There will tend to be some primary associations of user groups with different modules: the teens will tend to feel much of the drop-in module is “their turf”; the younger children will spend most of their time in supervised activities in the programmed spaces; and the athletes will dominate the large space much of the time. This does not deny the multiple uses and users of each of these modules.
- | (2) **Distinct “Turfs”.** The DYAC should provide multiple and diverse spaces to permit different user groups, whether age or activity based, to identify with “their turf”. These spaces should present distinct identities, through special configuration, degree of closure, fenestration, lighting, furnishing and finishes, aggregation and distance between spaces, etc., to accommodate and encourage different activities and user associations.
- | (3) **Multiple Entrances.** Several entrances directly into different functional areas for different users will reinforce the distinctness and sense of multiplicity of the DYAC units.
- + (4) **Multi-use Spaces.** The spaces of the DYAC must permit different and changing activities, because youth are unpredictable and ever-changing. The spaces should be flexible, with movable or removable equipment and furnishings, so a ping-pong room can be transformed into a disco, for example.
- | (5) **Ambiguous Space Definition.** Some of the spaces should be ambiguously defined, open to and overlapping with adjacent spaces, so the space and its uses are a matter of continual reinvention by the users, and multiple relationships between areas are possible. This does not mean the spaces should be characterless; rather, they should have strong character and many features in order to foster different uses and multiple options. This openness will also make it easier to enter and interact with the users already in the spaces.

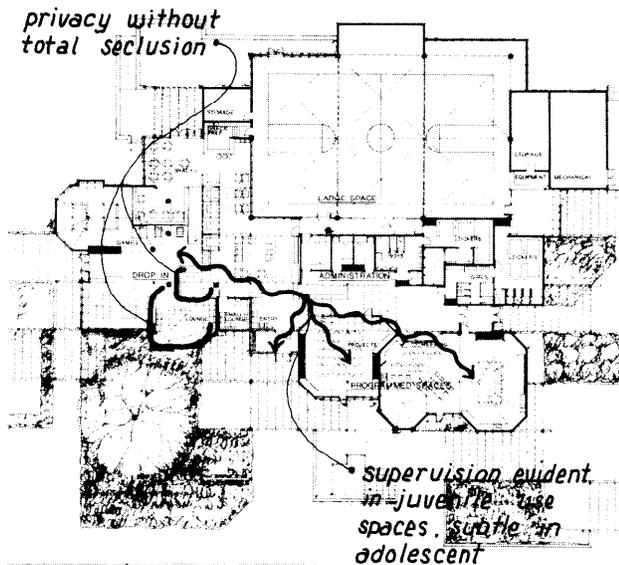


Figure 4-6 Overall Building Design: Supervision

c. Supervision and Control.

- * (1) **Varying Degrees of Privacy and Supervision.** The DYAC should offer the youth varying degrees of privacy and supervision in the places for activities and interaction. Different functions, size of group, age and level of responsibility, require different degrees of control and freedom from intrusion in different parts of the facility.
- * (2) **Supervision Evident in Juvenile Areas.** Adult supervision should be clearly in evidence in the areas used most by the juveniles, particularly the programmed spaces, but also parts of the lounge and snack areas. Children of this age need and want this control, and to know adult assistance is available when required. This can be accomplished by good overview and tight control of access to these spaces by the supervision desk personnel, or by having adults in the spaces being used by these children.
- * (3) **Suppress Evidence of Supervision for Adolescents.** For the adolescents, adult supervision must be more discrete and less threatening. The importance of personal interaction, activity free from intrusion, and a sense of control for the teenagers, must be balanced with the need for some adult supervision and regulation so the program will be acceptable to parents and the installation command. The supervision should offer the youth privacy without total seclusion. Partially enclosed alcoves and changes in level can provide a sense of privacy without denying all supervision. Relative distance from the supervision desk will also lessen control.
- | (4) **Non-directive Physical Design.** The DYAC design should avoid being overly directive as to the use of the facility. It should encourage the youth to decide how the spaces are used and where activities take place, rather than having the architect predetermine the operation. This can be accomplished through such elements as incomplete construction, ambiguous spaces, opportunities to hang decorations and displays anywhere rather than in fixed places, movable building elements and furnishings, and open field design to be filled in by user creativity.

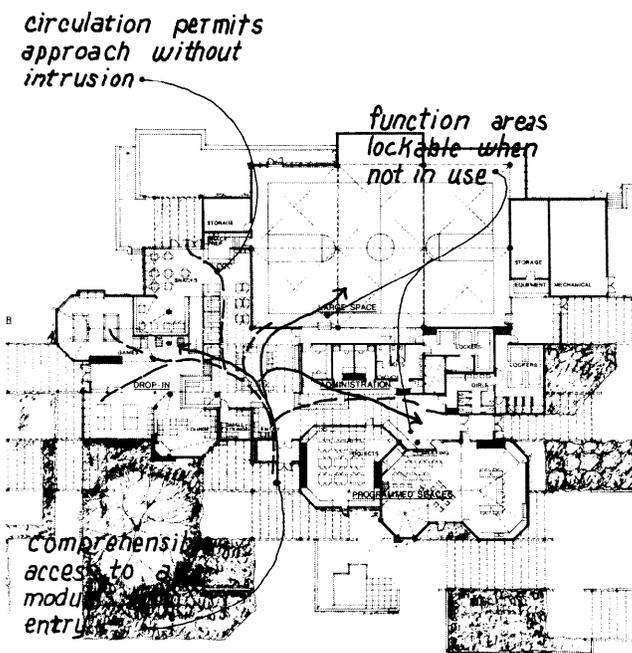


Figure 4-7 Overall Building Design: Circulation

(5) Role for Youth in Design and Operation. Involving the youth, particularly teenagers, in the design and operation of the DYAC is a direct means of making them feel that the place is theirs, and that they are not being unduly controlled by the staff or the building. Representation in the physical design decisions will help the youth understand why the building is the way it is. Opportunities for roles in management of the DYAC functions and in supervision of activities can increase identification and help to achieve less intrusive control.

d. Access and Circulation.

- * **(1) Direct Access from Entry.** Direct, readily understandable access to all primary activity modules from the entry area is designed to help potential users understand, and encourage them to use, the full range of activities of the DYAC.
- * **(2) Approach without Intrusion.** The circulation system should be designed so a visitor can easily approach and comprehend the various activity spaces without feeling he is intruding or has to make a commitment to enter and join. This makes it easier for newcomers and others reticent about joining on-going activities. Circulation paths that skirt semi-open spaces or run in the midst of activity areas, and ample glazed areas to reveal indoor activities, help further this goal.
- + **(3) Functional Separability.** The circulation system should be designed so that certain areas can remain open and active while others, such as the programmed spaces and large space module, can be closed off.

e. Visual Relations and Sequences.

The DYAC should be an open environment to permit visual communication between different activity spaces and from entry and circulation areas, and encourage interaction and understanding the opportunities available. This design goal can be described by a Sequence of Viewpoints from several locations outside and inside the building, and the scenes that should be visible from each (see figure 4-8 for location of viewpoints):

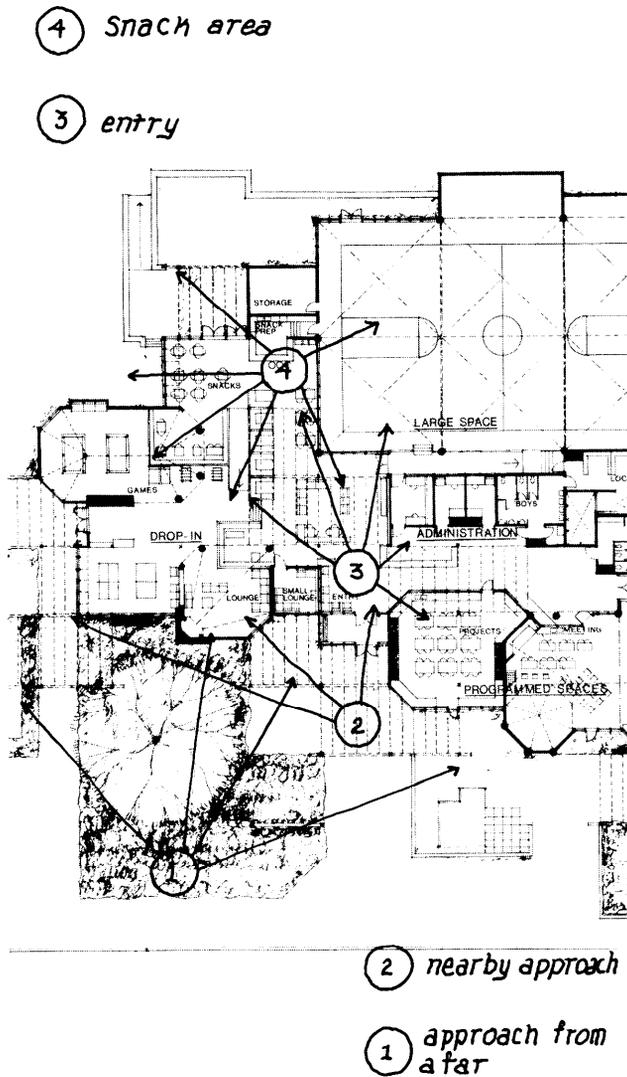


Figure 4-8 Overall Building Design: Sequence of Viewpoints

Viewpoint 1—Approach from Afar: Distinctive Image. The approaching visitor should see that the DYAC is a distinct precinct from the rest of the post, where youth are most important. He should have a sense of the distinctive image of the building and its major component modules. The defined boundaries, the main entrance “gate” with its marquee or signboard, and possibly secondary entrance paths should be seen from this point. Identifiable spaces, sub-spaces or elements which are meaningful to the youth, and some “acceptable” outdoor activities, should also be evident.

*** Viewpoint 2—Nearby Approach: Open Image.** The visitor coming up to the main entry area of the DYAC can view enough of the outdoor activity spaces and a sampling of the indoor activities to know what is going on. It is important that adult passersby find these activities acceptable. This view should include the outdoor entry space and children’s play area, and possible the outdoor projects spaces, patio and hard-court area. Indoors, the view should reveal the entry lobby, reception/supervision desk, and some lounge space; it may also include some views of programmed activities, games room, snack area, and large space activities.

*** Viewpoint 3—Entry: Intervisibility.** From the entry lobby the visitor should have an overview of the range of activities and their participants, and the organization of the spaces and access paths to them. He should see the reception/supervision desk, part of the lounges, snack area and games rooms, and some part of the large space and programmed spaces activities. He should see an announcement board and some seating for use by waiting visitors. He also should be able to see anyone approaching the DYAC, and activity in the outdoor entry space.

*** Viewpoint 4—Snack Area: Places to See and Be Seen.** From this focal space the user should be able to view most of the activity spaces of the building, and all the component parts of the drop-in center—snack preparation and eating, games, small and large lounges. He should be able to see what is happening and who is present in the large activity space, the main entry, and the “teen lounge” entrance. This is a spot to see and be seen. Some of the outdoor terrace access and possibly the hard-court activity space should also be visible. However, within this same area, the user should be able to retreat to a place of partial privacy and protection from total exposure.

4-5 Designing the Interiors

Design of the individual interior modules and spaces is discussed in Chapter 5, which includes: primary design considerations linked to the developmental issues of Tables 4-1, 4-2, and 4-3; function and space allocations, with size ranges in square feet; space organization and functional relationships; and other critical dimensional and technical recommendations. General issues of interior design concerning finish details and furniture selection are discussed below:

a. Finish Details.

Finishes must be appropriate for the design functions of the building and spaces and for the desired image of the place. Special finish details, which apply in addition to the general criteria below, are described in Chapter 5.

(1) Materials. Select materials based on maintenance qualities considering the anticipated use, life cycle cost impact, fire and other safety requirements. Use local materials to the greatest extent practicable. Long-life materials such as stone, tile, wood, plastic and vinyl, should be used where they will not become quickly outdated. When change is anticipated, painted surfaces and removable coverings are relatively easy and inexpensive to refurbish and can be kept fresh and up-to-date in appearance. Coordinate the color and texture of materials to complement the overall building design and image desired.

(2) Color. Use of color in Army facilities is limited to a practical number selected from Federal Standard 595A, Colors. General guidance for color selection is provided in TM 5-807-7, Colors for Buildings. Color should be used to stimulate human physical and emotional reactions and to enhance the overall functionality of the building. In critical seeing areas, glare and great brightness differences, both in lighting system and in the color of walls, floors, furnishings and equipment, should be avoided.

(3) Signage. Specify signage as an overall system in conjunction with exterior signage on the site and with identification criteria in EM 1110-1-103, Design for the Physically Handicapped. Coordinate final detail needs of the using service at the local level. The system should assure maximum economy, ease of procurement and installation, and standardization of application throughout the building. It must inhibit vandalism but be flexible enough to enable the addition or deletion of information.



The use of symbols instead of words is recommended where possible. Where words are required, use an easily read letterform such as Helvetica Medium. Letter sizes are designated by the height of the capital letters. Typical uses are 1" for interpretative signs, and 2" for directional and identification signs. Locate signs between 40 and 52 inches high, and, at doors, on wall adjacent to the strike jamb of the doorway. If symbols are used in addition to words, locate above. If an access symbol is required to identify a feature for handicapped persons, locate it below. Signs should be illuminated to provide adequate comprehension, either by room lighting or by special sign lighting.

The types of signs to be considered for provision in the DYAC include: Facility Identifier Sign, with times of operation and special events; Activity Locator Signs, for key building spaces, activities and personnel; Identification Signs, for space reserved for staff, handicapped, or certain activities; Directional Signs; Notice Boards, to readily accommodate changing information and help control clutter; Safety Markings, to emphasize location of exits, hazards, fire protection and other safety equipment; Wall Graphics, for decoration or significant information.

b. Furniture Selection.

Selection of furniture to be procured separately by the using service must be carried out as part of the overall building design and put in a format that can be readily understood by installation personnel, who are responsible for procurement and the placement and utilization of the furniture after delivery. Placement plans, catalog illustrations, material and color samples, together with source data and cost estimates, should be developed as appropriate to accomplish this objective.

Final selection must be based on the needs established during the planning stage and the estimates provided as part of the 1391 support data. Preliminary schedules should be reviewed carefully, coordinated again with the local using service, and selections made from the latest mandatory source catalogs. Specific furniture and equipment recommendations are found in Chapter 5, divided into three categories: "fixed equipment", "furnishings and portable equipment", and "either fixed or portable". These categories reflect source of procurement funds: fixed equipment is normally provided by construction funds; furnishings and portable equipment are normally supplied

by the using service. For variable items, the decision on which funding source applies should be based on consideration of overall construction cost and likely approvable total budget, availability of other funds from military and non-military sources, and which source can best provide the items in question.

Furniture selection should be based on the following general criteria:

(1) Appearance. Furniture is an integral part of the overall building design and should be closely coordinated with the selection of colors and finish materials for consistency in appearance and quality. Clear relationship between the furniture finish schedule and the building finish materials should be evident.

(2) Durability, Comfort and Safety. Careful attention must be given to all interior furnishings to insure that the type of furniture chosen conforms to standards of durability, comfort and safety appropriate for the use they will receive. Being generally mobile, furniture parts that receive the most wear should be replaceable, and finishes should sustain regular cleaning. Colors, textures, sizes, proportions and shapes are important comfort factors that should be considered. Furniture and equipment must withstand loading conditions without damage. Edges and surfaces should be smooth and rounded. Materials must be flame-retardant.

(3) Mobility and Interchangeability. Most interior furnishings should not be of a scale which would require more than two persons to relocate them, or be so complicated as to require an undue amount of time to assemble or disassemble. Whenever possible, care should be taken to choose multipurpose furnishings aesthetically suitable for a variety of needs and activities. Stackable and foldable furniture should be considered for reducing bulkiness in storage and transport where such requirements exist.

4-6 Special Considerations: Renovating Found Space

Designing a DYAC as a renovation of an existing "found" building follows most of the same objectives and requirements described for new construction. The very choice of renovation as opposed to new construction provides certain advantages and features which affect the design. The renovation work is likely to be of a scale that the youth themselves can be involved in. The "found" building in a housing neighborhood is typically more in keeping with the residential scale of its surroundings, and its retention helps preserve installation history and character. Renovation also often presents a low-cost potential for providing DYAC facilities that new construction cannot meet. However, some particular constraints and opportunities do pertain to planning and design for this type of facility, as discussed below.

a. Building Suitability and Selection.

The first step in the process of developing a DYAC facility in found space is for the Morale Support Activities staff, together with the Facility Engineer, to review and evaluate possible available structures. The key evaluation criteria to be considered include:

- The structure may be permanent, semi-permanent or temporary.
- The site location criteria are the same as for a newly constructed DYAC building (see Chapter 3), but may not be as fully realized, given the location constraints of available buildings. The location benefits must be balanced against the quality and adaptability of the available sites, facilities and utilities, and the economic benefits of renovation versus new construction.
- The structure should be large enough to accommodate most of the programs and spaces desired for the particular DYAC facility, as defined in the process of Chapters 2 and 3.
- The physical conditions and environmental systems of the building must make it suitable for remodeling. Open interior space makes the building more flexible for reuse and easier to renovate.
- The renovations required to meet DYAC programmatic needs must be accomplished within the budget limitations set by Army regulations for additional investment, relative

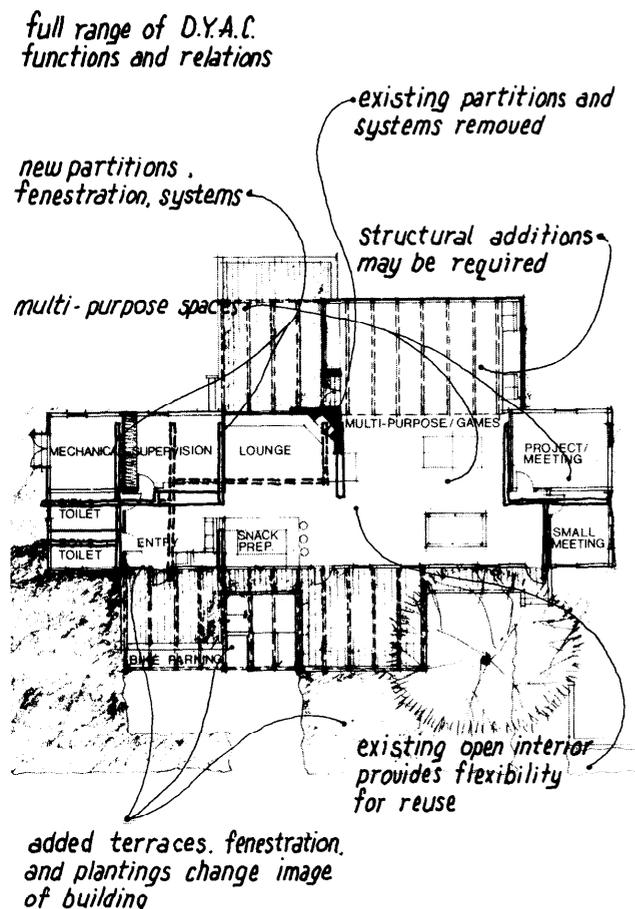


Figure 4-9 Renovation Considerations



to the type and value of the facility. Only part of the desired renovations may be able to be done, or the work may need to be supplemented by staff and youth efforts—and the decision must be made whether this is adequate to meet Youth Activities desires and needs.

b. Renovation Alternatives and Priorities.

Once a “found” building is selected, the decision must be made about how it can best serve Youth Activities, given the constraints of the structure and the compromises that may have to be made. Accurate survey drawings of the building, showing the size of the existing spaces, the location of walls, windows and doors, and the structural and environmental systems, are required. Alternative patterns fitting function to space should be developed, according to the design guidelines presented in this chapter and Chapter 5. This will involve consideration of possible modifications to the building—removal of walls, combination or division of spaces, changes of windows and entrances, relocation of building support systems and additions outside the original structure. The relative costs of these alternative renovations, and their benefits in terms of completeness of program accommodation, must then be weighed. Priority choices will be needed as to what is financially feasible and what compromise on program accommodation is acceptable.

c. Renovation Design and Implementation.

The following goals and considerations should help guide the special design and implementation of renovating found space:

- The general desired pattern of types of spaces, character, relationships, sequences, and views should apply to renovation as to new construction.
- Redesigning interior partitions, spaces and circulation may still not provide the exact programmatic match of spaces and relationships required to meet DYAC needs. Additions beyond the existing volume, of enclosed space and open terraces, may be needed to augment the available space to reach an acceptable level of accommodation.

- Since existing buildings generally place limitations on spatial manipulation, multiplicity of places, and expression of subspaces, character changes may depend on small-scale divisions, decoration and furnishing.
- The image of the building must be transformed, both exterior and interior, to distinguish the DYAC from the former image and its military connotations. This can be accomplished by interior painting, decorations, furnishings and idiosyncratic building additions, and exterior space additions, terraces and pergolas, new entrances and fenestration, plantings, and outside walls and fences.
- Existing building renovation provides the possibility for volunteer work involving the youth themselves, which will help them sense the place as their own and identify with it. There is more potential for continuing adaptation and modification in an old building than in a new one built specifically for a certain program, because it seems less sacrosanct and is already a compromise renovation and therefore easier to imagine changing again.

4-7 Designing the Environmental Systems

The following design considerations apply to all the spaces within the Dependent Youth Activity Center.

a. Plumbing.

(1) Plumbing will be in accordance with TM 5-810-5 and DOD 4270.1-M. Specifications will be in accordance with the CE 300 series (Corps of Engineer Guide Specifications).

(2) Gas fittings as required will be in accordance with TM 5-810-6.

(3) Water supply facilities as prescribed in TM 5-813-5 and TM 5-813-6 will be provided. The specifications shall be in accordance with CE 500 and CE 501. Domestic hot water supply at 100° F shall be provided.

(4) Sanitary sewers shall be as prescribed in TM 5-814-1 and the specifications will be based on CE 500 and CE 600.01.

(5) Conservation of water shall be a consideration of prime importance in the design of the facility, as discussed in DOD 4270.1-M.

b. Mechanical.

(1) Heating, ventilating, and air conditioning (HVAC) will conform to the applicable portions of DOD 4270.1-M, TM 5-810-1 and TM 5-785. Heating and air conditioning load calculations will be in accordance with the procedures of the latest ASHRAE Handbook of Fundamentals. The "U" values for exterior walls, ceilings and floors will be in accordance with DOD 4270.1-M. (Although air conditioning is not authorized for DYAC facilities, it may be provided using non-authorized funds).

(2) Specifications will be in accordance with the CE 301 series.

(3) Inside design temperatures shall be as follows: Winter inside design temperature is 68° F.; fresh air will be limited to 10 cfm per person, for energy conservation purposes. Summer inside design temperature is limited to 78° F. where the building is air conditioned, or 10° F. below the outside air temperature where mechanical ventilation is used for cooling.



c. Electrical.

(1) Lighting levels will conform to IES standards and DOD 4270.1-M except where specific space types and requirements are not adequately covered in the IES handbook and additional reference is made in Chapter 5.

(2) Electrical design will conform to DOD 4270.1-M and TM 5-811 through 4.

(3) Electrical symbols will conform to ANSI Standards Y32.2 and 32.9.

(4) Specifications will be in accordance with the CE 303 and CE 1600 series.

(5) System characteristics will be selected to provide for the most efficient and economical distribution of energy in accordance with DOD 4270.1-M.

(6) Convenience outlets shall be provided in adequate supply and appropriate types and locations for all equipment requiring power supplies. Total power requirements should be identified by the Project Development Brochure stage, and specific convenience outlets by the end of Concept Design. The designer should interface with the using service to determine the exact number and location of equipment and outlets, particularly for user-furnished equipment.

(7) General fire and safety requirements should be in accordance with DOD 4270-1.M, the requirements of the National Fire Protection Association (NFPA) and TM 5-812-I and TM 5-813-6.

(8) Emergency power will conform to the requirements of NFPA Standard No. 101 for exit and emergency lighting systems. Auxiliary power requirements for fire alarms, exit lights and emergency lighting systems will be provided in accordance with appropriate NFPA Standard.

scaping may permit orientation and fenestration for direct gain solar exposure, wind protection and wall shading. Compactness of layout and differential treatment of the different facades of the building can be economical ways of making major energy conservation gains. Life-cycle costing of mechanical and electrical systems in relation to other building feature options is also important for energy-efficient design.

d. Energy Conservation.

In these days of decreasing energy resources, it is critical that the design of the DYAC make every effort to minimize energy expenditure. Although there are no unique energy conservation requirements or considerations for the DYAC, all the approaches generally applicable should be considered in the design. These affect building orientation, layout and enclosure, insulation and glazing, HVAC and lighting systems. The exploitation of local climate conditions, topography and land-

4-8 Designing for the Physically Handicapped

The DYAC must be designed to serve all the eligible youth population, including those with physical and mental handicaps. As these youth frequently cannot take advantage of programs oriented to the general population, special programs will be provided for their needs. The design of the DYAC must take into account the physical accommodation of any such special programs, as well as provide a barrier-free, accessible environment that will enable the handicapped patrons and employees to utilize the entire Youth Activity Center, facilitating the enjoyment of the full range of Youth Activities programs provided. The design must comply with the requirements of ER 1100-1-102, and EM 1110-1-103, Design for the Physically Handicapped.

4-9 Designing for Life Safety

The DYAC must be designed to ensure the physical safety of all its users. It must conform to the safety, seismic, and fire protection design requirements of DOD 4720.1-M, the NFPA Life Safety Code, Standard No. 101, and TM 5-812-1. The variety of activities, potential maximum occupant and structure loads, and fire hazards, must be considered in design of building layout, circulation, exits, fire detection, alarm, suppression and other systems.