GENERAL DESIGN CRITERIA

This chapter presents the major, general design considerations which affect the entire building and site.

701 Serving Developmental Needs
702 Barrier-Free Design and Mainstreaming
703 Energy-Conscious Design
704 Life-Cycle Economy
Serving Developmental Needs

Issue

General principles of professional design, which should be recognized in any architectural or landscape architectural project, must be applied to the design of child-care centers, including to their outdoor play yards and the rest of the site.

Discussion

Excellence of design is the primary objective, for the quality of the environment of the Child Care Center will greatly influence its value as a place for child-care and child development activities. The design should be informal, warm, inviting, and comfortable to children, their parents, and staff (criteria for each of these qualities are given in the relevant design patterns below, e.g., Child-Scaled Environment; Building as a Friend; Friendly Faces Entry Sequence, etc.). To assist in this general objective of design quality, criteria for the selection of architects and other design professionals are given in Responsibilities and Use of the Guide.

The primary purpose of the Child Care Facility—to serve the developmental needs of children of different ages and cultural backgrounds—must be the dominant objective of its architecture. This objective must be fully appreciated by any architect or other design professional who intends to be involved with the design of any architecture for children.

Developmental needs are organized in three main categories: physical or motor; intellectual or cognitive-perceptual; and social including emotional.

Designing environments for children means designing for a balance between these three areas of development. Too often environments are planned with only the physical needs in mind—this is especially apparent in the greater proportion of indoor child-care space often given to a motor activities room and the almost exclusive design of outdoor play environments for physical, rough and tumble chasing play. But all environments for children—indoor and outdoor; child-care centers, outdoor play environments and other types of children's buildings, and all buildings in
which children spend a sizable proportion of their time--must be designed with all three areas of child development firmly in mind. This consideration has not only influenced the generation of the below design criteria, but it should also be used as a general criterion for evaluating concept designs and approving proposals for new construction, renovation, or adaptive reuse of found space.

The principal developmental needs are discussed in more detail above in the 200 section. This section should be read before working with any of the planning and design patterns below, for it is part of the framework for interpreting the patterns and seeing their relative importance.

A developmental orientation, operationalized through intensive use of the research literature on child development, early childhood education, and child-environment relations, has influenced every part of this Design Guide. The guide is organized to reflect the developmental needs of different children--both in the planning guidelines, in the site design criteria, in the individual space criteria, and in the design guidelines for organizing the building and play yard as a whole. However, should the designers of a
Child Care Center feel that modification of certain specific criteria or patterns is required for better satisfaction of developmental needs, such modifications can be justified on this basis.

RELATED ITEMS
NATURE OF CHILD CARE, PROGRAMS, AND FACILITIES
CHILD-SCALED ENVIRONMENT
BUILDING AS A FRIEND
FRIENDLY FACES ENTRY SEQUENCE
ISSUE

BARRIER-FREE DESIGN AND MAINSTREAMING ARE REQUIRED BY MOST STATES.

DISCUSSION

Military Child Care Centers must be barrier-free for all persons including the handicapped and able-bodied persons with temporary restrictions. This includes physically handicapped and those with other handicapping conditions like perceptual handicaps, hearing disabilities, etc. Handicapped persons should be able to act independently in order to pursue opportunities which would normally be afforded able-bodied persons.

Design for the physically handicapped is discussed in detail in ER 1110-1-102 and EM 1110-1-103. In short, sites and buildings must be organized in the early stages of design to ease access and egress in and around the facility. Level changes must be negotiable by persons—children, staff, parents—who use wheelchairs, crutches, or braces. Toilet rooms must be located, sized, and equipped to accommodate handicapped men and women. Provisions must be made for parking wheelchairs and for seating crutch and brace users in waiting areas, in parent/staff areas, and in other adult spaces. Considerations must also be given to hard-of-hearing and visually handicapped persons.

In addition, provisions should be made so that physically and mentally handicapped children can be mainstreamed into the regular program of the child care center, that is, there should not be a separate building for handicapped children, and not even a special space or program where they are segregated from other children. Special resources are necessary, however, to support teaching staff if more than one or two moderately handicapped children are included among the children. If sufficient children on a base are handicapped (the national average is about 1 in 10 children having some form of handicapping condition, most of which are minor), a special resource space may be created for use by an itinerant professional with the children.
For more information on the design of buildings and outdoor play yards for all handicapped children, see Moore, Cohen, Oertel, and van Ryzin (1979), and Cohen, Beer, Kidera, and Golden (1979).
All segments of our society and economy must conserve on energy use if we are to survive.

Discussion

Buildings used for child-care services will be designed, constructed, and operated to conserve energy resources to the fullest extent possible, while providing a healthy and developmentally-appropriate environment for children. Renovations and new construction will conform to the requirements of DOD 4270.1-M for energy conservation, and will be responsive to the latest thinking, information, and criteria of relevant energy conscious texts and design guides (e.g., Watson, 1979; Mazeira, 1979).
MILITARY BUILDING DESIGN MUST CONSIDER NOT ONLY THE INITIAL COST OF CONSTRUCTION, BUT ALSO THE COST OF OPERATION, MAINTENANCE, AND CUSTODIAL CARE PROJECTED OVER A 25-YEAR LIFE OF THE BUILDING.

To provide an effective, developmentally-oriented facility at the most economical cost and least adverse environmental impact is an important overall design objective. To do so, the design must be determined by studies that balance cost with social and environmental values. In developing designs, the potential of alternative systems and components should be analyzed for their impact on life-cycle economy. This should include selection of structural systems, exterior and interior finishes, utility systems, and all other parts of the building and site design and development. These studies should also investigate the use of local skills, stock products, and new materials and techniques to reduce costs. An important part of this can be the use of Reserve Corps of Engineers and parents to build some of the outdoor play equipment, indoor equipment and furnishings, storage units, shelves, light-weight movable partitions, etc. (see DEVELOPMENTALLY-APPROPRIATE PLAY YARDS, FLEXIBLE FURNISHINGS). Life-cycle cost analyses should appraise initial costs, operation and maintenance expenses (including energy costs), and replacement costs over the life span of the Child Care Center, i.e., over a 25-year estimated life of the facility, before cumulative functional changes would dictate major facility and site changes.

ENERGY-CONSCIOUS DESIGN
DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
FLEXIBLE FURNISHINGS