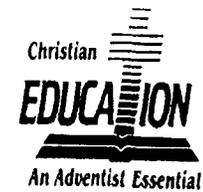


ELEMENTARY SCHOOL BUILDING GUIDELINES



Office of Education
North American Division

1998

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100. INTRODUCTION

102. Purpose

The purpose of this manual is to provide assistance to small elementary schools that are considering the need to construct a new building or to do extensive remodeling of an existing building. Following these guidelines should enable a school constituency to carefully plan and implement the construction of a new school facility.

104. Scope

The guidelines in this manual are specifically designed to aid in the construction of a new facility for a school of one to three teachers. Sample floor plans for such schools are included in the appendix.

200. PRE-PLANNING

202. Consultation with the Conference Superintendent

It is always good procedure to discuss the need and proposals for a new school building with the conference superintendent. The superintendent will be a good source for information and can give valuable assistance in planning as well as in construction.

204. Needs Assessment

The school board should appoint a committee to conduct a needs assessment to determine if there is a need to remodel or construct a new building. The committee should survey the entire school constituency to study such areas as the condition of the present building, enrollment trends, future growth, available resource people, community financial resources, and constituency interest in building a new school.

206. Educational Specifications

Educational specifications describe in narrative form the desired educational program for a proposed facility. They do not include architectural drawings or specific plans. Neither do they describe an instructional program in detail. They do include brief statements describing the desired educational program and the spaces needed to implement the program. The educational specifications should communicate the desires for a certain educational program to the architect, or in the absence of an architect, to the builder.

The administrator and/or teacher(s) should be closely involved in developing the educational specifications. They are best qualified to describe the activities that may take place in the classroom.

208. Financial Plan

A sound financial plan is a necessity for planning and erecting a new school facility. It should include sources and methods for fund raising, a time schedule for raising the funds, and a proposed schedule for construction. It may include provisions for borrowing funds within denominational guidelines. No construction should begin until all financial and building plans have been approved and secured as specified by the North American Division.

The plan should include suggestions for the quality of materials to be used in construction, type and quality of equipment to be purchased, and any provisions for volunteer labor.

All costs for the building should be included in the financial plan. These include such costs as land acquisition, site preparation, architect's fees, permits, soil tests, and miscellaneous expenses in addition to regular construction costs. It is always wise to include a contingency fund for unexpected expenses or change orders.

300. SITE LOCATION AND DEVELOPMENT

302. Location

The school should be located in a healthy and safe environment in as pleasant surroundings as possible. Disturbing noises and unpleasant odors should be taken into consideration. Traffic patterns may be detrimental in some locations.

When more than one church is in the school constituency, it is usually better to locate the school apart from any of the churches. In a one-church constituency, the school is often located close to the church. The school site should be readily accessible to as many church members as possible.

304. Size Recommendation

It is recommended that the site for a small school should contain a minimum of three to five acres whenever possible. Future enrollment should be taken into consideration in selecting a site.

When selecting a new site for a school, the following factors should be taken into consideration: location, accessibility, shape, topography, cost, soil condition, sub-surface conditions, expandability, cost development, utilities, maintenance, safety factors and landscaping.

306. Safety Factors

Since most students will be transported to school, it is essential to plan for safe walking, driving, and parking areas. Special attention should be given to loading and unloading areas. One-way traffic is advised where possible. Special provisions should be made for handicapped persons. An observation window between the classroom and the hall or foyer adds security.

Special care should be given to safety factors in planning and providing for playground and recreation areas. Both grassy and hard surface areas are needed for a variety of physical activities. Soft-wells should be provided under play equipment.

Exterior lighting should be planned to give adequate lighting for persons attending evening functions. Good exterior lighting is also a factor in preventing vandalism.

Depending on the location of the school, a fence surrounding the site may be necessary for student safety and for protection against vandalism.

308. Handicapped Accessibility

Planning committees should make sure that all site and building plans and construction comply with local, state and federal regulations where applicable.

310. Future Expansion

The site should be large enough to allow for future buildings, and school buildings should be planned to allow expansion on at least one or two sides of a building. Utility lines should be located and sized to allow for future expansion.

312. Playground Areas

A playground area of sufficient size to meet the physical activity needs of the students enrolled should be provided. It should include both grassy and hard-surface areas. The area should be well-drained, and located on the back side of the building, if possible. Playground areas should be planned and developed as an integral part of the site plan.

314. Playground Equipment

Playground equipment should be suitable for the size and age level of the students. It should be made of quality materials and be sturdy and safe in all aspects. Soft-wells must be provided under each piece of equipment. Six-to-eight inches of soft material (such as sawdust or inter-locking, sponge-like squares) are recommended. Special attention should be given to the needs of smaller students for suitable play equipment. Local or state codes may require special areas, equipment, and fencing for kindergarten students.

316. Landscape Design

A great deal of attention should be given to the landscape design. Landscaping efforts should be made to minimize the need for manual labor. All plantings should be considered from the standpoint of the maintenance they require as well as their adaptation to soil, exposure, proximity to play areas, etc. Existing trees and shrubs should be integrated into the plan if this can be done to advantage. Plantings can provide protection against wind, sound, and dust, as well as provide coolness and shade. Site development should make provisions for outdoor education.

Since landscape design can add so much to the beauty of the school, adequate funds for it should be provided in the original plans.

318. School Sign

An appropriate and descriptive school sign which identifies an SDA school is a vital part of a landscape design.

320. Flag Pole

A flag pole designed for flying a state and United States flag should be located near the front entrance to the school.

400. CLASSROOM GUIDELINES

402. Size

The basic classroom should contain a minimum of 1000 square feet. This size will accommodate a full class of students and will provide adequate space for storage and various instructional activities.

404. Windows

Windows need to be designed to provide adequate natural light and ventilation and be energy efficient. Provision should be made for covering windows to darken the classroom. Safety glass should be used throughout the building.

406. Lighting

Quality of light is more important than quantity of light. Glare should be controlled. Brightness levels should be approximately 50-55 foot candles for a typical learning task. Specialized learning areas may require special lighting.

408. Climate Control

There is a connection between learning efficiency and temperature and humidity levels. Regardless of outside temperature, the interior temperature should always be comfortable, and the relative humidity level should be satisfactory. Drafts should be avoided. Individual room controls are more satisfactory than centrally-located controls in a multi-room facility.

410. Aesthetics

Beauty has great emotional and cultural value for students and teachers. Beauty does not have to be expensive. Use stimulating colors with deep color tones used sparingly. Carpet classrooms with durable quality materials that is pleasing to the eye.

Bulletin boards should provide opportunity for teacher and students to add to the aesthetic quality of the classroom. Chalkboards, regular or dry-marker type, should not detract from the beauty of the room.

412. Acoustics

Proper placement of acoustical material contributes greatly to sound conditions. Carpeting is highly efficient as an acoustical

material. Acoustic control involves not only the individual room, but also reduction of sound transmission from outside the classroom.

414. Wiring for Technology

Provision for present and future use of technology services and equipment must be included in school planning. It is relatively inexpensive to provide ample conduits and outlets during construction. Wiring should include provisions for computers, telephones, video projection, satellite equipment and future technology. Conduits installed for future use should be at least two inches inside diameter.

416. Media Space

In a one-room school, media space must be included. Adequate adjustable shelving is very important and it must be at proper height levels for all age levels of students. Space should be provided for audio-visual equipment and material as well as technology equipment and services. In schools with more than one classroom, a separate room may be provided for media services. (See Section 506.)

418. Science Space

Each individual classroom should include an area for science. Space for storing equipment and materials should be included in this area with provision for laboratory experiments and demonstrations.

419. Music/Art Space

Provide space in the building design for art and music instruction and activities, if space is not provided in the regular classroom.

420. Storage Space

Storage should include space for instructional materials, physical education and play equipment, art and music supplies, student's personal belongings and lunches, and seasonal materials. Some of the storage space should include locking provisions. Some storage space is also needed outside of the classroom for bulky materials, extra textbooks, and janitor and maintenance materials.

422. Sink

Each classroom should include an adequate sized sink with a drinking fountain.

500. OTHER SPACE NEEDS

502. Office

Each teacher needs a private office, large enough to accommodate a desk and chair, filing cabinet, shelves, and storage cabinets. Each office should have a window to the classroom and a private entrance/exit door. Acoustical and visual privacy is important to the design.

504. Teacher Work Area

This work area is a separate, enclosed space used for instructional tasks which cannot be done in the classroom. It needs to be large enough for several persons to use at the same time. This room may also be used for additional storage of classroom materials. It should include perimeter shelving, cupboards, ample counter space, at least one sink, and work tables. It should be well-lighted, have sufficient electrical outlets, and be easily accessible from the classroom(s).

506. Media Center

The design of the media center will depend on the size of the school, its philosophy and its instructional program. The media center may be in the classroom or in a separate room. It is not necessary that all instructional materials be kept in the media center. If not, their location should be indicated in the catalog.

A variety of equipment and learning aids is required for a media center. Tables, chairs, and other furniture suitable for different age groups must be provided. Ample adjustable shelving space is a must. Portable shelving or carts make it easier to take materials to a classroom. Display or bulletin boards are needed.

The impact of new technology calls for increased wisdom in planning for the media center in a small school. Computers with a dedicated phone line are a must.

508. Multi-Purpose Room

Many small elementary schools do not include a gymnasium due to financial considerations. In the absence of a gymnasium, a large multi-purpose room may be designed as open space to allow students to use it for physical education or recreation in inclement weather. With tables and chairs, it can be used for the lunchroom. This room could be used to supplement instructional space for such curriculum areas as computers/technology, science, music, and art.

Ample storage space should be provided, and furniture and equipment should be easily moved. Heating, air-conditioning, ventilation, electrical services and plumbing, acoustics, lighting, and safety provisions should be carefully planned. A portable stage may be provided. The multi-purpose room could also be used by the church for fellowship dinners, seminars, board meetings and various programs.

510. Health Space

An appropriate space easily supervised by the teacher should be provided where a student who becomes ill can lie down. A lockable storage area is necessary for health supplies.

512. Auxiliary Storage Space

The planning committee should ensure that more than adequate storage space is included in the original design. Special storage conditions are required for items such as chemicals, paint, and other combustible materials.

514. Rest Rooms

Provision must be made in the rest rooms for handicapped persons. The entrance should be designed so no one can see into the rest room when the door is opened.

The following items are needed in the restrooms: two toilets, a urinal in the boys' rest room, one sink, soap dispensers, waste containers, a separate container labeled for personal product disposal, shelf, hand-drying facilities, mirrors (appropriate height level for elementary students), warm water, thermostat for temperature control, a good ventilating fan, and a floor drain.

516. Custodial/Maintenance Area

A separate room should house custodial and maintenance equipment and supplies. The room should be large enough to provide some working space and contain a service sink with hot and cold water, shelves, cabinets for storage and racks/ hangers for custodial equipment. If light maintenance is to be done in the room, provide adequate counter space. If combustible materials or chemicals are to be stored in this area, the room should be fireproofed according to state and local codes.

518. Hallways

Hallways should be at least eight feet in width. The hallway is usually the best location for a refrigerated drinking fountain.

520. Kitchen

A kitchen can add great flexibility to a school's instructional program and services and should be given serious consideration. If it cannot be completed in the original plan, at least the space should be provided and provision made for plumbing and electrical services. The kitchen may be included in a multi-purpose room.

The kitchen should be equipped with stove, refrigerator, microwave, ample cabinets and counter space with a double sink. A dishwasher is optional.

524. Lockers

Provide for students' books, lunches, coats and other personal belongings in a cloak room, open wall boxes, or – where appropriate – lockers.

600. MECHANICAL/UTILITIES

602. Codes

It is imperative that all mechanical and utility services be designed and installed in compliance with local, state and national codes. Only licensed contractors or personnel are to install these services.

604. Heating, Air Conditioning and Ventilation

Heating, air conditioning and ventilating systems should yield sufficient capability to meet the requirements within the building during the period of occupancy and under extremes in local weather conditions without sustained operation beyond the rated capacity of the system. An adequate system provides a temperature of 70 degrees in the classrooms measured 60 inches above the floor and provides fresh air at a minimum rate of 10 cubic feet per minute (CFM) per person in classroom areas. Various areas of the school may call for special heating and ventilation provisions. Provision should be made for possible future building expansion.

606. Electrical

Main service panels should be installed to prevent access by unauthorized persons. All branch panels should be flush type and lockable.

Switches should be provided at the entrance to all spaces in the building, and placed on the knob side of the door entrance. Every instructional area should be provided with numerous duplex receptacles. Other spaces may also call for extra outlets. Gymnasiums or multi-purpose rooms should be wired for the use of audio-visual equipment.

The electrical system should be designed to provide for future building expansion such as two-inch conduits to all instructional areas.

608. Plumbing

Where possible, plumbing and sewer connections should be made with city services. Private wells or septic tank systems must comply with state and/or local county code regulations.

610. Energy Conservation

School buildings should be designed with energy-efficient materials. Vestibule doors, insulation, natural lighting, variable exhaust systems, minimal ventilation, efficient heating systems, thermopane windows, and accurate thermostats with functional

control valves are some of the "built-in" items that are capable of conserving energy.

700. SAFETY AND SECURITY

612. Telephone

Provide a telephone system with access to areas such as the office, classroom(s), kitchen, media center, workroom, and gymnasium or multi-purpose room. Provision should be made on the main telephone for a teacher to be able to talk privately.

A separate, dedicated phone line should be considered for connecting computer modems for web and on-line services.

702. Occupational Safety and Health Act (OSHA) -- *U.S. only*

All schools must comply with the provisions of OSHA, both federal and state (if enacted), such as upholding the safety and health standards established, and the record keeping requirements. The school must provide a safe and healthful place to work, and must be free from recognized hazards that are causing, or likely to cause, both death or serious physical harm.

704. Canada

Compliance with provincial safety and security regulations is required. Each province may have unique regulations.

706. Fire Protection System

A fire protection system which meets all applicable codes must be installed.

708. Doors

Each classroom must have at least two exits. Doors should be wide enough to move equipment easily, and placed to prevent traffic congestion. All doors are to be sturdy material, and fire-rated doors. Exit doors to the outside are to be equipped according to code.

710. Windows

The number and size of windows may be determined by lighting, heating, air-conditioning, and ventilation specifications. They should be as energy efficient as possible and use safety-rated glass. Windows properly designed may serve as additional exits in case of emergency.

712. Safety Inspections

Consultation with fire and health inspection officials as building plans are being developed is highly recommended. This would minimize health and safety risks regarding fire safety, asbestos, water, radon levels, food preparation areas, and hazardous materials.

714. Security

A good design plan provides for good school security. External security provides protection for the school plant and grounds. Internal security measures provide for the safety of students and teacher(s). A system providing for supervision of school entrances during school hours should be included.

800. GENERAL GUIDELINES

APPENDIX A

802. Insurance

An insurance policy to cover the school during construction must be secured before construction begins. The school board must verify that all construction workers are covered by insurance, either through their own company or by the school. Volunteer workers need to be insured.

804. Building Materials

All construction materials should be of good quality, energy efficient where applicable, and meet code requirements. Good quality exterior materials help to protect the interior. Quality materials reduce future maintenance costs. Exterior and interior finishes should be as maintenance-free as possible.

806. Roof

Avoid building designs with a flat roof. Experience has shown that flat roofs invariably have leaking problems. A quality roof is a sound investment.

810. Entryways

Entryways with two sets of doors assist in energy conservation and comfort. A covered entryway provides welcome protection for loading and unloading during inclement weather. Entryways can add to the attractiveness of the school, avoid direct entrance to a classroom, and provide display space.

812. Schematics

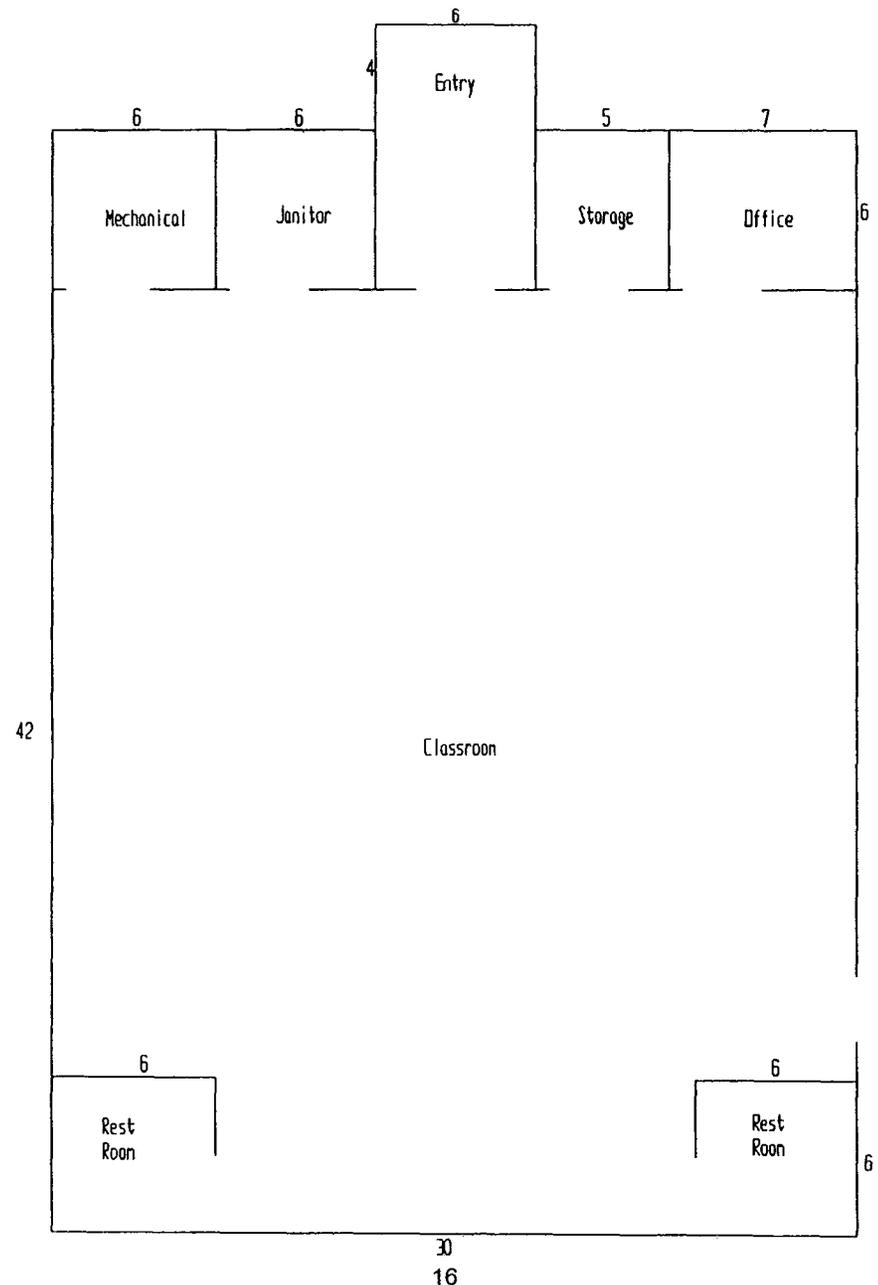
When the school facility is completed, blueprints and schematic drawings are to be organized and kept in a safe place where they will be available for future use in locating all utility lines and services for repair or updating.

814. Evacuation Routes

All rooms should post evacuation route(s) to the nearest outside exit.

Dimensions in Feet

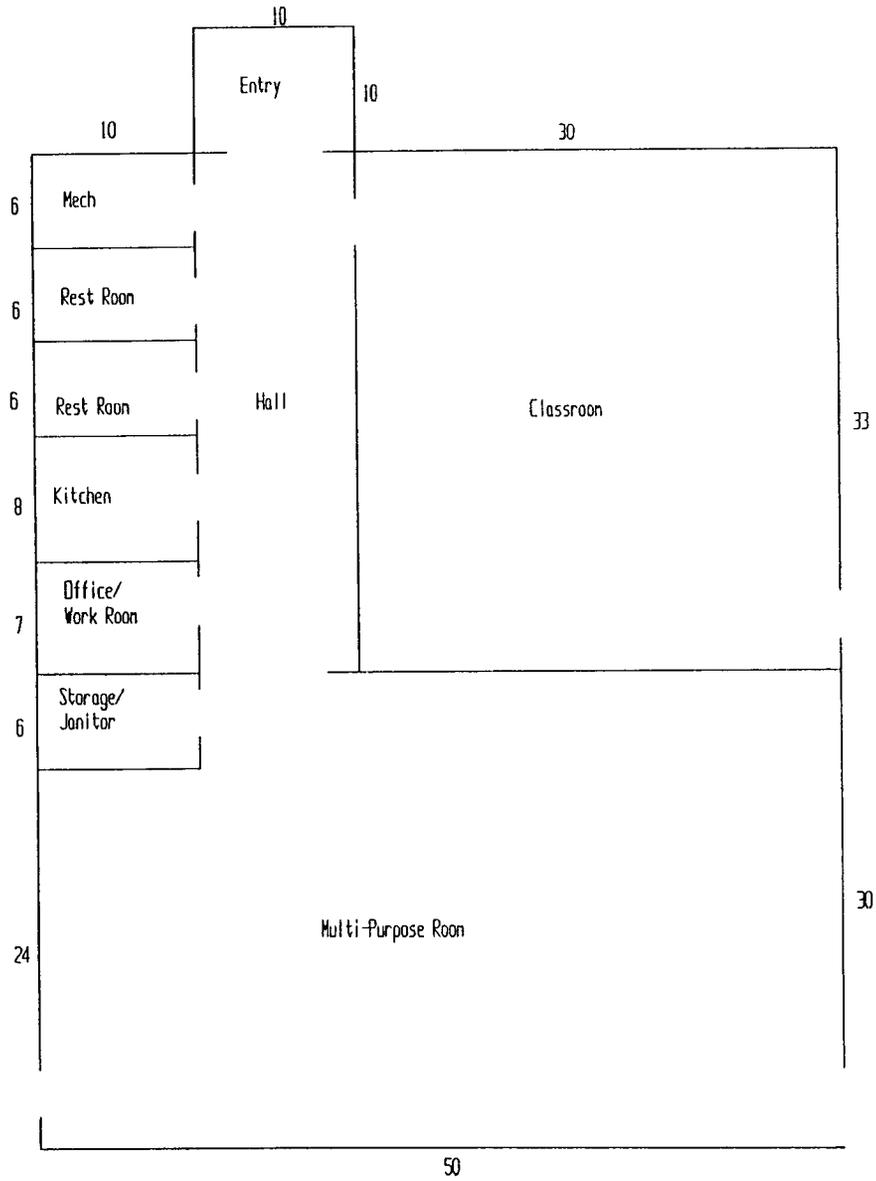
One-Classroom - 1



APPENDIX A

Dimensions in Feet

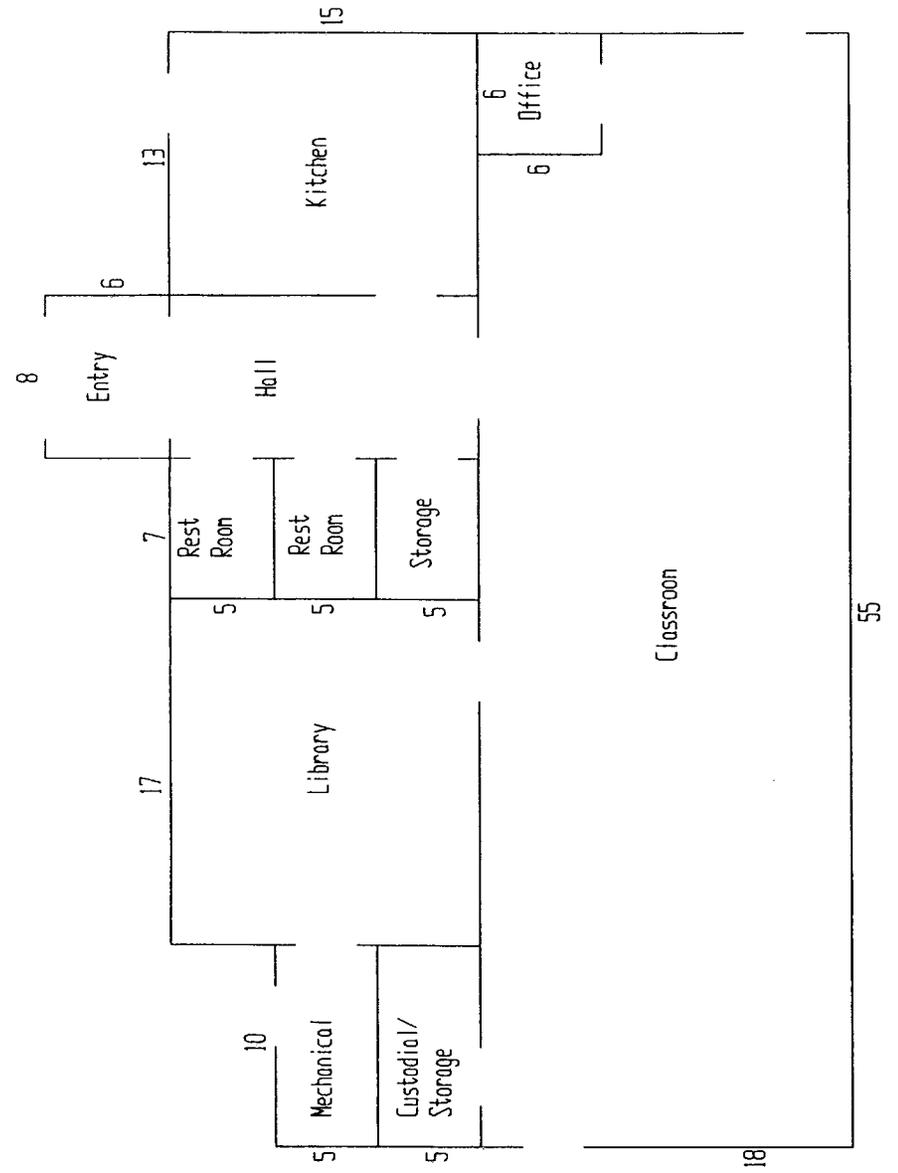
One-Classroom - 2



APPENDIX A

Dimensions in Feet

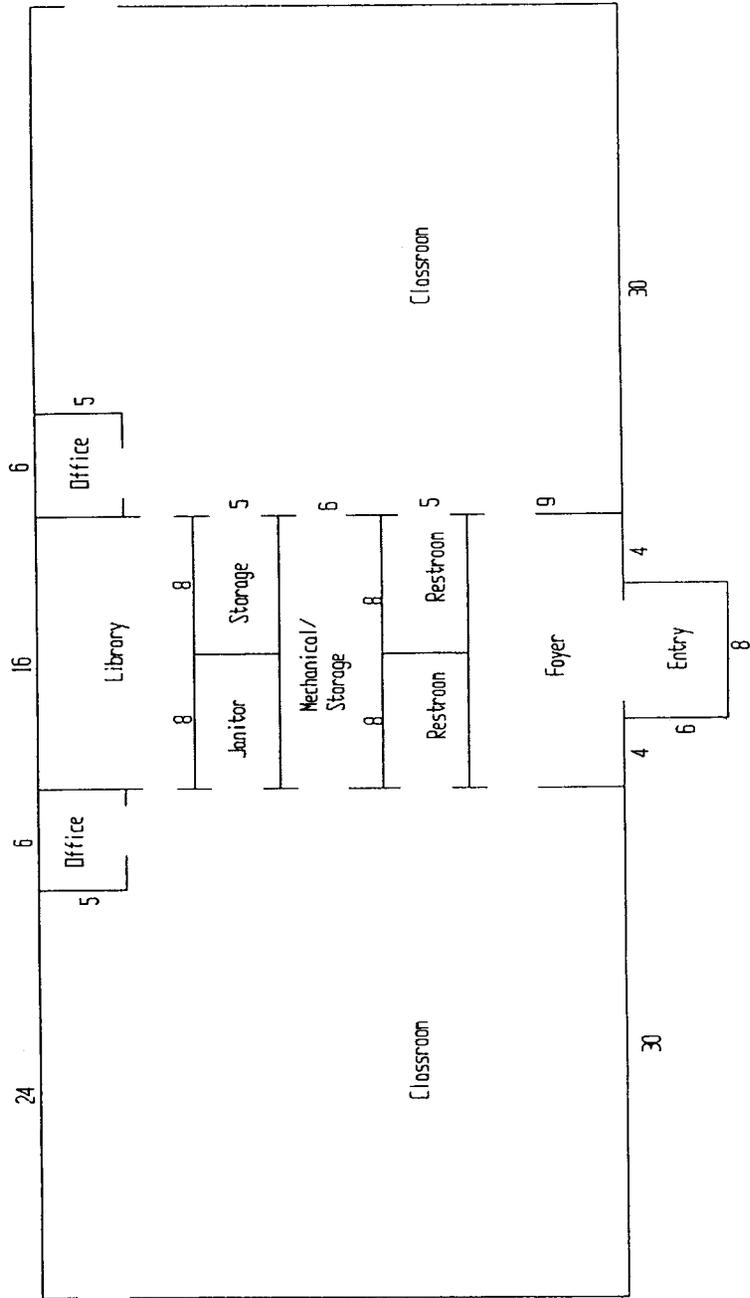
One-Classroom - 3



APPENDIX B

Dimensions in Feet

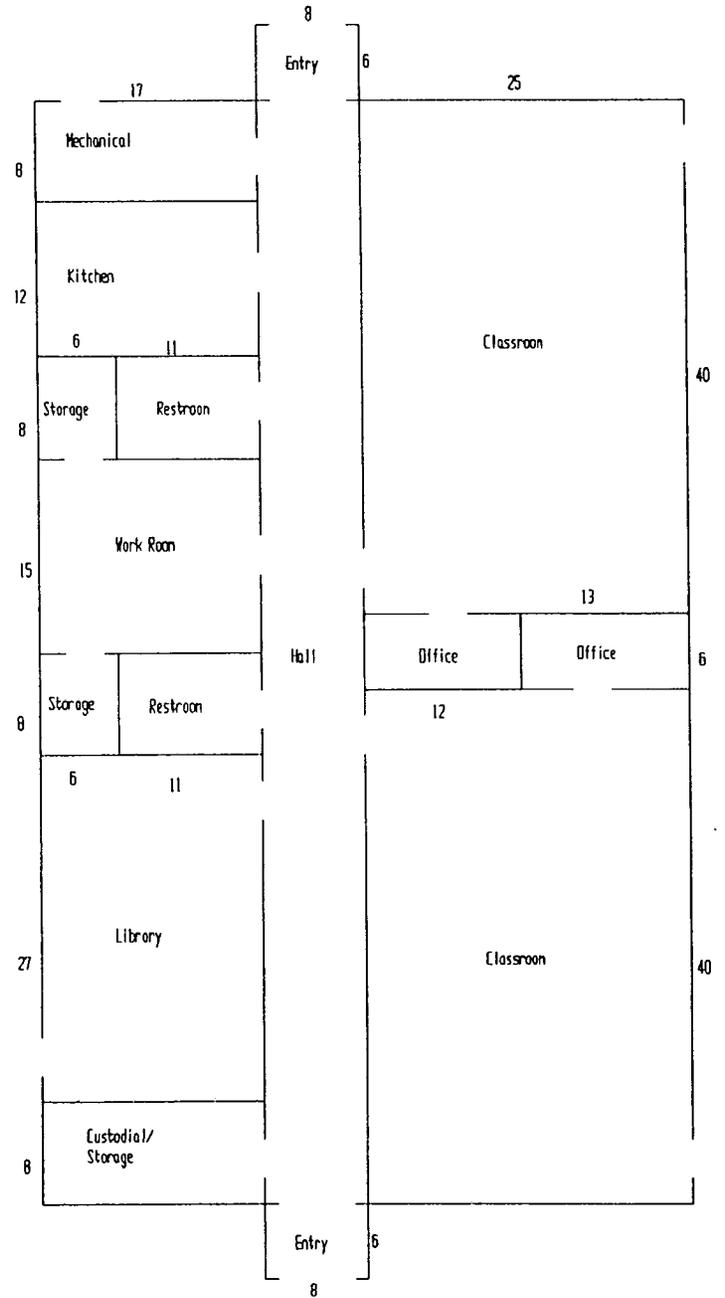
Two-Classrooms - 1



APPENDIX B

Dimensions in Feet

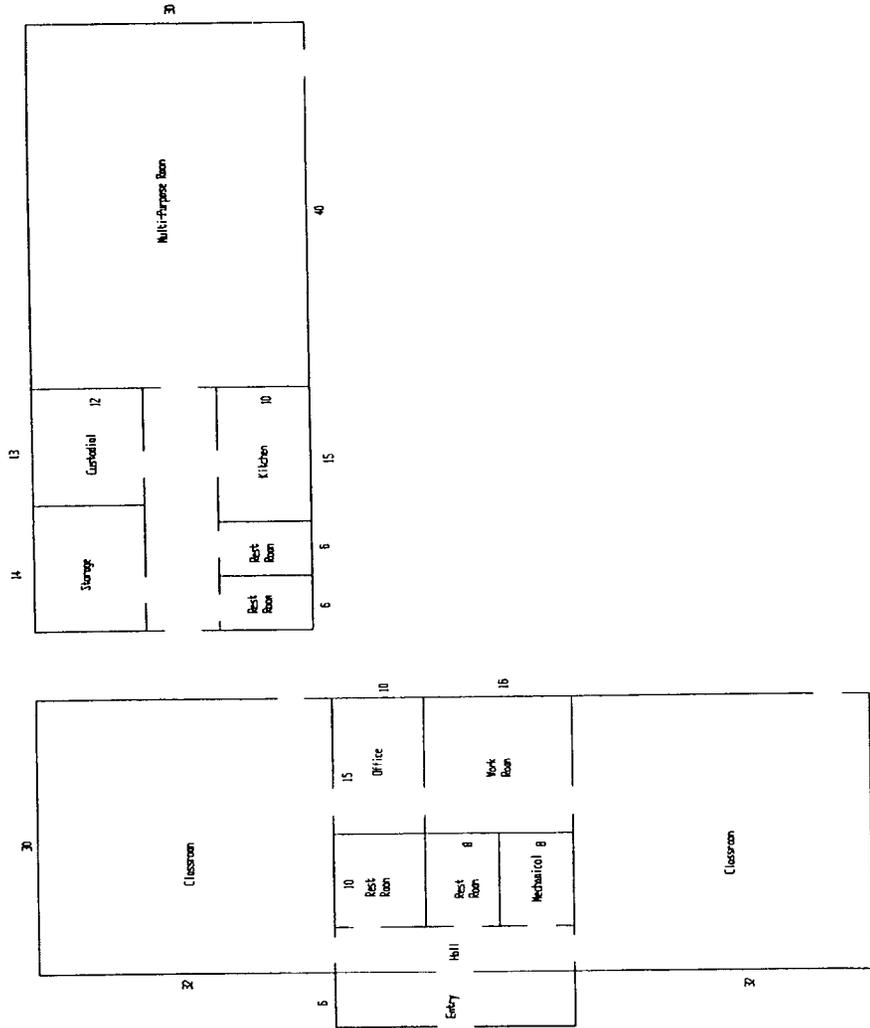
Two-Classrooms - 2



APPENDIX B

Dimensions in Feet

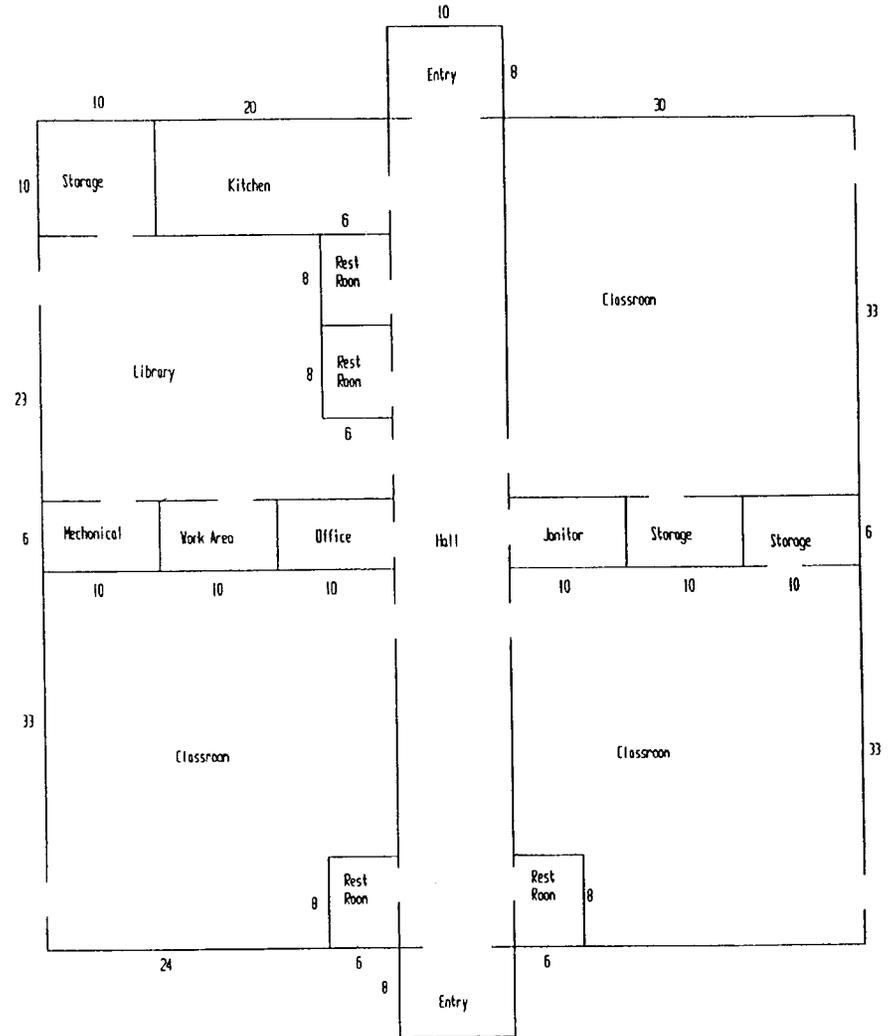
Two-Classrooms - 3



APPENDIX C

Dimensions in Feet

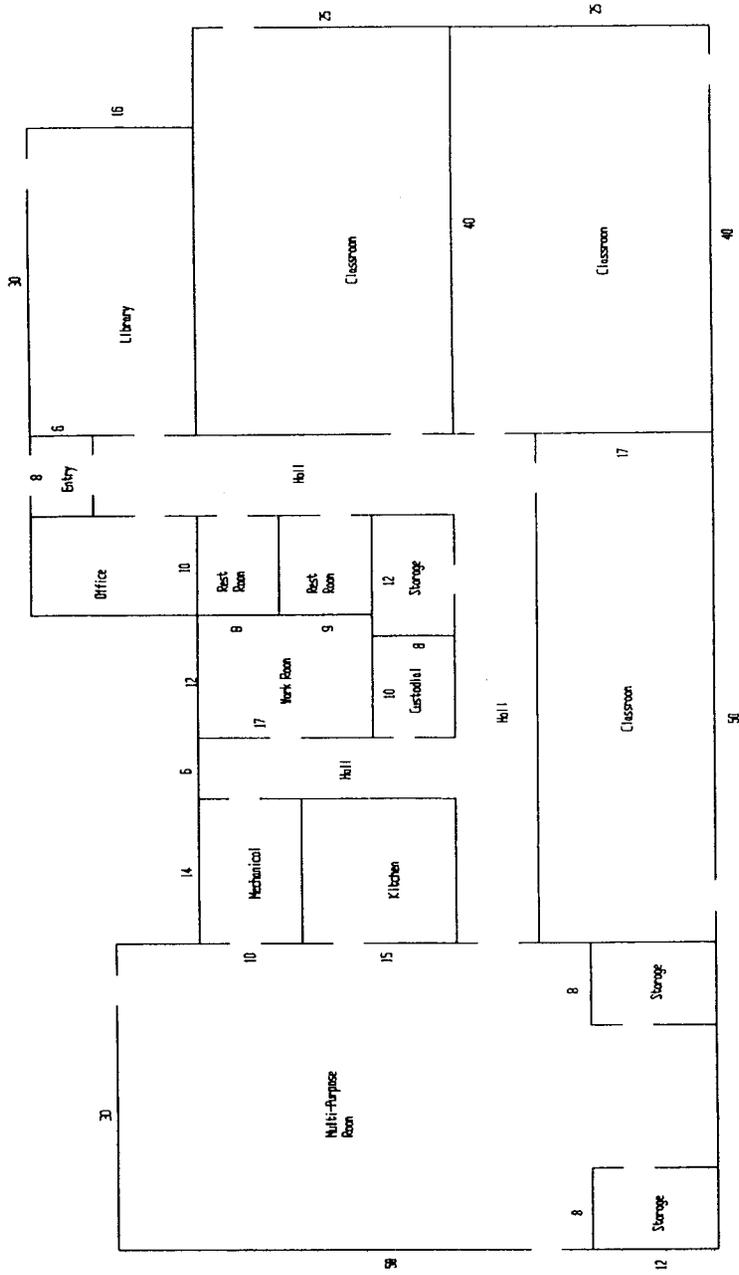
Three-Classrooms - 1



APPENDIX C

Dimensions in Feet

Three-Classrooms - 2



APPENDIX C

Dimensions in Feet

Three-Classrooms - 3

