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ABSTRACT

Facility specifications for regional planning centers for hearing impaired children are presented which are said to reflect the belief that the development of school facilities should be generated by educational objectives. The proposed regional programs would draw children from a number of counties and local school districts to a centrally located school facility. Educational considerations including characteristics and educational needs of children with hearing impairments, professional staff, evaluation, diagnosis, research, school family relations, learning activities, and organizational factors are discussed briefly. Conceptual plans and facility specifications are given with regard to architectural considerations, instructional learning areas, a children's educational evaluation center, an administration area, a learning resources center, service areas, outdoor areas, and a mobile unit. Components of the instructional learning areas such as large group area, instructional unit area, tutorial area, counseling area, teacher planning area, learning experiences center, and special facilities are discussed and diagramed. Offices, conference areas, research areas, and a professional library are projected and schematized for the evaluation center. Other areas such as the service and outdoor areas are similarly described and illustrated.

(GW)

ED 067782

# EDUCATIONAL SPECIFICATIONS

STATE OF ILLINOIS

7

ED 067782

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APPENDIX

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## PREFACE

This document was prepared as part of the statewide action of Illinois to expand and to improve the educational programs and services for children handicapped by loss of hearing. It was believed that, in order to support the regional planning of the State and to provide an additional tool for the improvement of the educational program, school facilities for hearing impaired children should be designed to meet the specific purposes of the educational program.

The Educational Consulting firm of Davis MacConnell Ralston, a division of Westinghouse Learning Corporation, was retained to develop such designs. The Consultants recognize the importance of the educational plans and understand that the development of school facilities must generate from these plans. School facilities must work for the program and the staff of professionals charged with the responsibility of program implementation. The facility specifications contained in this document reflects this and the particular plans for the education of hearing impaired children and youth in Illinois.

These specifications were prepared in cooperation with the Division of Special Education of the Office of the Superintendent of Public Instruction and the Chicago Board of Education as well as with personnel working with hearing impaired children throughout Illinois. Supportive data was obtained from the report of the Illinois Commission on Children, A Comprehensive Plan for Hearing Impaired Children in Illinois, and published and unpublished studies from the State of Illinois.

We respectfully submit these specifications as additional support for the development of your program and gratefully acknowledge the valuable assistance of the many persons who gave freely of their time and talent in the development of these Educational Specifications, specifically,

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Assistant Director, Deaf and Hard of Hearing  
Department of Special Education Program Development  
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State Department of Education

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Deaf and Hard of Hearing  
Department of Special Education Program Development  
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State Department of Education

Respectfully submitted,

Donn L. Wadley, Consultant  
DMR/WLC

## INTRODUCTION

### Date of Legis- lative Action

The growth and development of the educational program for children with in the State of Illinois covers many years and many difficult periods. considered a major breakthrough as each succeeding step was contributor success of the program of special education is so because of a long suc working at all levels in private, and public sectors to gain effective public recognition of the needs of children of all backgrounds faced w public or private schools.

1943

Although the single results may not have been dramatic, they have paved opportunities for the children. The net result of supportive legislat Illinois stands out as one of a very few states that believes sufficien child to support financially the education of its children with special leader in this program that dates back through many years but specific enacted a law providing a major plan for financial support to school di special education classes for children ages 3 through 21.

1947

Transportation reimbursement for non-resident children attending progr one of the provisions of legislation in 1947. This had the effect of b improving the organization of groups of children by increasing the numb

1957

By 1957, laws were written permitting joint agreements among school dis dation of programs by allowing two or more districts to work together i grams thus providing an organizational structure by which special educa regions.

1963

Each additional legislative act focused more directly on particular nee designed for hearing impaired children was passed increasing the amount programs for hearing impaired children.

1964

The State Department of Public Instruction revised the Special Educatio minimum standards for education programs for the hearing impaired. As tions:

An Advisory Council was appointed to study and upgrade the prep

A required minimum of six elementary classes and a pre-school w program with provision for the secondary level. Minimum standa and supervision of the program by an educator of the deaf became

## INTRODUCTION

Development of the educational program for children with special learning handicaps in Illinois covers many years and many difficult periods. Not any one item can be a breakthrough as each succeeding step was contributory to the one following. The aim of special education is so because of a long succession of individuals and groups in private, and public sectors to gain effective legislation, financial support and fulfillment of the needs of children of all backgrounds faced with limitations to their success in schools.

Results may not have been dramatic, they have paved the way toward better educational opportunities for the children. The net result of supportive legislation to date is that the State of Illinois is one of a very few states that believes sufficiently in the quality of the individual child to finance the education of its children with special learning handicaps. Illinois is a state that has a long history of special education that dates back through many years but specifically to 1943 when the Legislature passed a major plan for financial support to school districts that conducted approved special education classes for children ages 3 through 21.

Reimbursement for non-resident children attending programs in other school districts was provided by legislation in 1947. This had the effect of broadening the population base and increasing the number of groups of children by increasing the number of children accepted.

Legislation was passed in 1955 permitting joint agreements among school districts. This stimulated the consolidation of school districts allowing two or more districts to work together in conducting special education programs and the development of an organizational structure by which special education services could be expanded by

legislative act focused more directly on particular needs. In 1963, legislation specifically for the hearing impaired children was passed increasing the amount of reimbursement for pre-school and secondary level hearing impaired children.

The Board of Public Instruction revised the Special Education Rules and Regulations to establish standards for special education programs for the hearing impaired. As a result of these new Rules and Regulations

A Council was appointed to study and upgrade the preparation of teachers of the deaf.

A minimum of six elementary classes and a pre-school were specified for an approved program for the secondary level. Minimum standards for evaluation were established and the requirement for certification of the program by an educator of the deaf became required.

1965 In 1965, State agency personnel appealed to the Illinois Commission on Children for bringing focus to crucial statewide needs of children with hearing impairments. This request and established a Committee on the Hearing Impaired to study the needs and conditions for action.

1965 Also in 1965, House Bill 1407 was passed making mandatory that all school districts prepare educational programs for all special education children by July 1, 1969. Each district must prepare and submit planning guidelines to the State Superintendent of Public Instruction by July 1, 1967. Such guidelines had to be consistent with the Rules and Regulations of the State Board of Education.

1967 The Committee on the Hearing Impaired completed its study in 1967 and made its report to the Commission. This report reinforced the need for comprehensive regional programs.

1968 The Commission published their committees' study in A Comprehensive Plan for Hearing Impaired Children in Illinois. Significant recommendations were made by the Committee as means of improving educational services to all children within the State and the regional planning process. The major responsibility for implementing legislative acts and assisting in the development of plans for the education of hearing impaired children rests with the Office of the State Superintendent of Public Instruction. The specific task of day to day work with local districts, regional planning, and coordination of university training programs with educational programs for children is accomplished through the Department of Special Education and Evaluation.

1969 One of the recommendations of the Illinois Commission resulted in Senate Bill 324 which transferred responsibility for developing rules and regulations for hearing conservation with the Department of Health and the State Superintendent of Public Instruction. SB 324 made mandatory that all children in any child care program, public or private, shall receive hearing screening during their first year in any such program. A comprehensive approach by all State agencies is required to fulfill this commitment by the State.

Working committees have been established by the Department of Special Education and Evaluation to assist in the overall program development. The Committees do not have authority but serve in an advisory capacity. Members of the Committees are drawn from the professional, university, public schools and private sectors as well as parents of hearing impaired children and the deaf community itself. Committees for the following

Teacher Preparation  
Audiological Services to Children  
Regional Supervisors of Educational Program Development

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r Preparation  
ogical Services to Children  
al Supervisors of Educational Program Development

Research  
Administration and Finance

The major State Advisory Council on the education of hearing impaired, Commission, is in the process of organizing itself through the efforts in cooperation with the Department of Children and Family Services.

The design for education of hearing impaired children is moving ahead about handicapped children, from the results of better research on how ment of technological advances and from the desire to have all children society as possible. Legislation of the past three decades has made po changes. Commission studies, committee reports and concerns of parents awareness of the critical nature of the problems of hearing impairments program improvements possible.

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problems of hearing impairments of the children and are making

## IMPLICATIONS FOR REGIONAL PLANNING CENTER

Because of the handicap imposed by a hearing impairment upon language and communication, the hearing impaired child requires instructional approaches supplemented by appropriate educational tools. In order for a child, a comprehensive educational program must involve a multitude of services including vocational counseling and research. Such services are not meant merely to supplement aspects of any program for the hearing impaired but are pre-requisites to its success.

Until minimum standards were established in 1964, many hearing impaired children were in day class programs scattered throughout the State. Many of the hearing impaired children in metropolitan areas of Illinois are currently enrolled in day class/school programs for fulfilling the necessary pre-requisites. The remainder of the hearing impaired children, those from small urban and rural areas that make up the majority of the State, are in residential school or in small day class programs. Although both the residential and day class programs offer some distinct advantages both encounter serious obstacles to true educational program.

Residential facilities are generally located far from the child's community and limit contact with his family as well as with the hearing world. The limited student body in day class programs restrict the in-depth educational programming essential for the hearing impaired child.

Hard of hearing children also have need for specialized educational opportunities. Children in small urban and rural areas are generally characterized by: inadequate diagnostic procedures, inadequate diagnosis or continuous evaluation services, and insufficient resources. With proper planning the hard of hearing child should be able to participate in educational programs supplemented by a variety of services such as: auditory instruction with amplification, resource room instruction, increased use of media, and speech therapy. These children, with exceptions, would be expected to remain within their school districts which would require consultative and evaluative services from the central region.

If all hearing impaired children, whether from the large urban, small urban or rural areas are to participate in educational programs designed to provide for their optimal educational development, new approaches must be investigated, devised, evaluated, developed and implemented.

## ICATIONS FOR REGIONAL PLANNING CENTER

a hearing impairment upon language and communication and the resultant social development, the hearing impaired child requires specific educational tools. In order to accommodate such a program must involve a multitude of services ranging from early identification with State and local resources, including pre-vocational and . Such services are not meant merely to supplement the instructional program for the hearing impaired but are pre-requisites to its ultimate success.

Established in 1964, many hearing impaired children were educated in small day classes throughout the State. Many of the hearing impaired children within the few day classes currently enrolled in day class/school programs that have the potential to provide the necessary requisites. The remainder of the hearing impaired children, especially in rural areas that make up the majority of the State, are educated in the State residential class programs. Although both the residential and the small day class programs encounter serious obstacles to truly comprehensive educational

programs, many are located far from the child's community and home, thereby restricting the child's contact with the hearing world. The limited student populations of small day class programs make such educational programming essential for the hearing impaired.

There is a need for specialized educational opportunities. Programs for these areas are generally characterized by: inadequate identification and lack of continuous evaluation services, and insufficient educational planning. The hearing child should be able to participate in the regular school program and receive services such as: auditory instruction with amplification, educational tutoring, increased use of media, and speech therapy. These children (with but a few exceptions) remain within their school districts which would be provided with special services from the central region.

Whether from the large urban, small urban or rural areas of Illinois, programs designed to provide for their optimal learning opportunities, must be identified, devised, evaluated, developed and implemented.

The most likely answer seems to be a program located within a short distance of and their families to provide daily, or, at the maximum, weekly involvement with one consisting of sufficient class units to make financially and organizationally educational and diagnostic program.

In order to broaden the enrollment, a population base of larger scope would be necessary. Agreements with a larger number of county units would be essential. Such a program with provisions for the accommodation of a proportion of residential children, would be a program in its orientation and mode of operation. It would be located immediately adjacent to a part of one or more public schools. This type of program can most effectively be implemented through regional planning and might be cooperatively financed by local and federal funding.

The significant aspects of such a regional educational program would include:

- a comprehensive hearing conservation program
- a pre-school program which includes parental instruction, home visitation and garden classes
- a program of language, speech, and subject matter for those hard of hearing in their local public school
- a centralized facility for children with severe communication problems needing skilled auditory and visual instruction
- extended educational levels to enhance individual progress and learning development
- use of the newest concepts in educational procedures, instructional media and materials
- curricular and extra-curricular interaction with hearing children
- extended educational provisions for children with multi-learning handicaps
- pre-vocational and vocational opportunities and counseling for intermediate students
- effective coordination of teaching practices with curriculum planning
- inclusion and involvement of the child in the day to day activities of his family
- increased home-school contact, parent education and counseling
- an interim program for severely hard of hearing children who require full-time instruction with specially trained teachers

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regional educational program would include:

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instruction  
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ons for children with multi-learning handicaps  
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ers

In addition, a regional program would provide in-depth and continuing diagnostic and evaluation including:

- screening and early identification of children with hearing loss in coordination with state services
- a source of recommendations concerning medical treatment, educational and auditory
- a coordinating and consulting service for local-based education and therapy programs of hearing children
- a center for basic and applied research
- a teacher training center
- comprehensive educational evaluations
- consultant otological and medical services
- vision screening and ophthalmological referral

#### EDUCATIONAL CONSIDERATIONS

The proposed regional programs would draw children from a number of counties and local schools to a school facility centrally located within a public school building. Children would attend an Education and Evaluation Center designed specifically for their education and evaluation. At this Center, a coordinated program under the direction of a qualified educator of hearing impaired children by a staff of qualified professionals would be possible.

Planning along the lines of the Committee Report has progressed in all counties of the State to a greater extent than others. Planning parameters for a Regional Center have been suggested and include:

- a. Provision for the education of deaf children from the pre-school through the secondary level.
- b. Capability of enrolling a minimum of 80-100 children who live within an approximate radius of two hours from school.
- c. Provision for residential arrangements for those who need it only during the regular school year with all children required to return home over weekends.

Increasing the number of children can bring an increase in the number of levels required in an educational program for each child. Additional instructional units, staff and professional personnel will be employed. Diagnostic personnel can be added to the staff. Expanded learning experiences and programs, in-depth diagnostic and evaluatory sequences can result from more centralized programs. Necessary centralization may result from the cooperative efforts of many school districts. Increased educational opportunities for all the children. Such cooperation may necessitate new organizational consideration and planning for sources of personnel, income, materials, and equipment and construction of facilities designed to the educational program.

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ing for sources of personnel, income, materials, and equipment and the location and  
ies designed to the educational program.

All of these concerns, are presently being considered by regional planning committee progressing to the point of needing educational facilities. Pressures for enrollment Bill 1407 are taxing school district educational space.

School facilities must be designed to accommodate the educational program. In order the characteristics of the program and characteristics of the children and youth within school must be described. This section of the document will provide this detailed

#### I. CHARACTERISTICS OF CHILDREN WITH HEARING IMPAIRMENTS

<u>Degree of Loss Along a Continuum from Slight to Profound</u>	<u>Effect of Loss or Understanding</u>
Slight 16 dB to 29 dB (ASA)* Mild 30 dB to 44 dB (ASA)	May have difficulty hearing faint May have some difficulty in school Understands conversational speech feet and face to face May miss as much as 50% of discussion faint or not in line of vision May exhibit limited vocabulary and
Marked 45 dB to 59 dB (ASA)	
Grey Area for Responsibility	
Severe 60 dB to 79 dB (ASA)	Likely to have defective speech. Likely to be deficient in language Evidences of limited vocabulary. May hear loud voices one foot from May identify environmental sounds May discriminate vowels but not a Speech and language defective and if loss was present prior to one year
Profound 80 dB or more (ASA)	

\*American Standards Association figures are used only for purposes of describing a range of loss. The International Standards Organization publish ranges for degree of loss but are not included in this document.

being considered by regional planning committees. Plans are educational facilities. Pressures for enrollment created by House educational space.

accommodate the educational program. In order to accomplish this, characteristics of the children and youth who will occupy the of the document will provide this detailed description.

#### HEARING IMPAIRMENTS

from Effect of Loss or Understanding of Language and Speech

May have difficulty hearing faint or distant speech.  
May have some difficulty in school situations.

Understands conversational speech at a distance of about 3-5 feet and face to face

May miss as much as 50% of discussions if voices are faint or not in line of vision.

May exhibit limited vocabulary and speech anomalies.

Verbal communication must be loud to be understood.  
Difficulty in situations requiring participation in group discussions.

Likely to have defective speech.  
Likely to be deficient in language usage and comprehension.  
Evidences of limited vocabulary.

May hear loud voices one foot from the ear.  
May identify environmental sounds.  
May discriminate vowels but not all consonants.  
Speech and language defective and will not develop spontaneously if loss was present prior to one year of age.

May hear loud sounds, more aware of vibrations than tonal pattern.  
Relies on vision, rather than hearing as primary avenue of communication.  
Speech and language defective and will not develop spontaneously if loss present prior to one year of age.

figures describing a range of loss. The International Standards Organization also but are not included in this document.



avail along a continuum of hearing in identifying degree of loss, and while important the generalized terms are useful in education planning. While important for diagnosis, think educationally in two categories, deaf and hard of hearing. Children with hearing loss are considered deaf; with mild or moderate loss as hard of hearing. Characteristics as a deaf child and needs the benefit of a program designed for this as a hard of hearing child.

ing potentials for learning, influenced by such factors as degree and age of onset of ability, physical capabilities and home environment, as well as possible limitations or learning handicapping conditions. It is essential that all children with a hearing education relevant to their changing functional needs on the basis of their individual needs about educational program should be made in connection with an evaluation of how with the hearing loss rather than by degree of loss alone.

#### Multiple Handicaps

of a survey questionnaire conducted through the Illinois State Department revealed that Special Education needs. All but a few are in school programs of some type. However, that present programs are inadequate and that new types of learning situations should be suited to the needs of these children with multiple problems. Utilization of an individualized approach should be the first consideration and also new types of educational approaches in suitable forms are essential.

#### EDUCATION OF CHILDREN WITH HEARING IMPAIRMENTS

Objective:

Instruction in language and concept development utilizing combined visual and oral with auditory and speech training. The earlier this training is begun, the better the chances to develop adequate language and the input of knowledge. Since the language that children require language is now thought to be transitory reaching a peak around age two to three and then declining thereafter, early education of the hearing impaired child becomes imperative.

Education of the very young deaf child is usually begun with a strong auditory-oral approach. However, there will be a wide variation in the educational needs of hearing impaired children. Individual differences will demand that full use be made of both the auditory and visual channels in learning.

For most hearing impaired children, the auditory channel, even though impaired, will initially be the primary modality for language learning. For these children, full utilization should be made in the use of modern amplification equipment and in the training of the residual hearing at home and at school.

For other hearing impaired children, vision will be the primary avenue for language learning. For some children, combined visual methods of instruction should be considered, using both oral and manual communication (fingerspelling and/or language of signs) in the most effective manner possible, at home and at school. The time for incorporating this combined method of communication instruction should be based on a thorough evaluation of the child.

Grouping is extremely important in the education of deaf children. Effective grouping is complicated by a combination of factors including age, onset of loss, secondary handicaps, mental capabilities, language facility, and communication skills. Although it is generally agreed that class units ought to contain 6 to 7 children, a sufficient number of units are necessary to provide a range of placement opportunities as well as allowing ease of mobility as a child grows in any one of these factors and requires a new learning unit. For deaf children, a minimum of 12 to 15 units appear to be necessary to provide flexibility in program variations.

It is important that this child develop a familiarity with the culture of the hearing world by direct participation in daily family activities and through interaction with hearing siblings and peers. Activities in the home and neighborhood may diminish the potential cultural handicap of the deaf child.

The deaf child should be given every chance to participate in the opportunities of his community as soon and as much as possible. To this end, deaf children can best accomplish this in day class programs in his community area. Although integration of deaf children in regular hearing classes at school is a long and difficult process, involvement with hearing children is not. Highly successful classes of deaf children, able to associate at will with hearing classes, may be a more valuable program than a pretense of integration. Providing opportunities for participation in hearing group activities when the child feels he wants to, may offer greater success than any other design.

One of the prime causes of difficulty in providing programs for deaf children is the sparsity of the deaf population. Various incidence figures are reported for the deaf, depending upon methods of testing and criteria used to define "deafness". Based upon K-12 public and private school enrollment figures for the United States for 1964 of 48,200,000 and comparable figures for programs for the deaf, the incidence is approximately .05% or 5 in 10,000.

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<sup>1</sup> A Comprehensive Plan for Hearing Impaired Children in Illinois, Illinois Commission on Children, May 1968, p. 75

These figures become meaningful educationally when considering the optimum class size of 6 to 7 children per unit. A community of 25,000 population might expect to have approximately 3 deaf children. Other extrapolated ratios of total population to deaf children are 50,000/6; 100,000/12.5; 250,000/30; 500,000/62.5

#### Hard of Hearing Children Require:

Comprehensive services. Children with mild to moderate hearing impairments do develop some language and communication skill. The child may have limited information input unfamiliar in its content resulting in confusion in concept formation. However, some of these children may have defective language and communication and must often develop additional communication skills through use of amplification and specialized instruction. Comprehensive medical, audiological, evaluative and educational services are essential.

All hard of hearing children should be considered to be the responsibility of the local school district. Some other hard of hearing children need full-time programs of specialized teaching for at least a part of their school years. Severely hard of hearing children, for example, often require extensive programs in special classes for a number of years with gradually decreasing amounts of special work and increasing participation in regular classes.

Because the hard of hearing child develops some language independently, his real needs are frequently overlooked, a situation that often compounds his problems. Counseling and guidance services are important to develop a good attitude of self in the child with mild hearing loss.

There is confusion in incidence figures available concerning numbers of hard of hearing children attending regular school classes. However, a general estimate of 5% is used by many sources. A spectrum of educational services are needed in most special education districts.

#### Multi-Handicapped Children Require:

An enriched school setting. Increasing numbers of hearing impaired children are identified as multi-handicapped. Providing an effective learning situation for children with combinational effects of deafness and mental retardation, language disorders, emotional disturbance, cerebral palsy, and visual impairment requires some advance thinking and development.

Programs must be designed to develop language and communication skills for deaf children while at the same time prepared to do so within the framework of the secondary handicap.

Use of many manipulative materials and instructional aids are essential.

The tasks facing educators of these children are:

- developing appropriate diagnostic procedures, providing con
- developing specialized instructional programs and appropriate
- defining reasonable limits regarding the types and degrees of served in the various educational programs.
- participating in the placement in appropriate programs and fa profit from educational programs under their direction.

### III. PROFESSIONAL STAFF CONSIDERATIONS

Curriculum coordinators and supervisors should be experienced teachers and have other qualifications. It is their responsibility to maintain consistency in procedures, provide a stimulus for development of curriculum development, encourage in-service programs, and perform a leadership role for the classroom teachers.

An adequate number of qualified teachers should be employed. However, teacher attrition prevails due to the expansion of existing programs, the attrition. There is an additional problem, the need to upgrade teacher professional competence in keeping with new techniques and research is impaired.

Universities and other training institutions may undertake to all in the profession, but they cannot do this alone. The schools must have a single experience of all in the teacher preparation programs is to provide day classroom observation and practice teaching opportunities with various abilities and age levels. To provide selective placement to enable in a variety of teaching experiences, and to observe optimal administrative practices, a specialized facility needs to be available.

The basic staff for such a facility should include the following:

ors of these children are:

ate diagnostic procedures, providing continuous evaluation procedures.  
ed instructional programs and appropriate learning facilities.  
limits regarding the types and degrees of multi-disabilities that can be  
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onal programs under their direction.

#### DERATIONS

and supervisors should be experienced teachers of the deaf in addition to  
ns. It is their responsibility to maintain instructional quality, guide  
es, provide a stimulus for development of new ideas and techniques, direct  
encourage in-service programs, and perform as program coordinators responsi-  
achers.

alfied teachers should be employed. However, an acute shortage of trained  
the expansion of existing programs, the establishment of new ones and teacher  
additional problem, the need to upgrade the general quality of teaching and  
in keeping with new techniques and research in the education of the hearing

raining institutions may undertake to alleviate these shortages and weaknesses  
hey cannot do this alone. The schools must cooperate, for the most important  
in the teacher preparation programs is the extent and quality of the day by  
n and practice teaching opportunities with a broad range of students of different  
. To provide selective placement to enable students to observe and participate  
experiences, and to observe optimal administrative, supervisory and diagnos-  
ized facility needs to be available.

a facility should include the following:

### 1. Central Staff

- Educational director of the hearing impaired.
- Evaluation team: social worker, pediatric audiologist, psychologist, hearing impaired, vision consultant.
- Parent-infant educators.
- Nursery-kindergarten teachers.
- Full staff of teachers at all levels.
- Teacher aids.
- Curriculum coordinator.
- Media Specialist.
- Vocational coordinator.
- Speech therapist.
- Miscellaneous staff drawn from the public school (with supplemental deafness provided): gym instructors, art and music personnel, etc.

### 2. Local School Districts or Special Education Districts Staff

- Teachers of the hard of hearing would be employed by their local districts.
- Resource teachers of the hearing impaired at the secondary level in specialty such as math, science, English, language, etc.

### 3. Consultants

- An acoustical engineer is essential for consultant service on audio installation of equipment.
- Other professional consultants as indicated.

## IV. EVALUATION AND DIAGNOSTIC CONSIDERATIONS

In order to provide the most nearly complete educational program possible, programs should contain special diagnostic and training services. Pre- and post-school counseling, communication and language training for parents and children should be included in the school program. All children within the Region should have access to these services.

Director of the hearing impaired.  
Team: social worker, pediatric audiologist, psychologist, educator of the  
deaf, vision consultant.  
Special educators.  
Kindergarten teachers.  
Teachers at all levels.

Coordinator.  
Therapist.  
Coordinator.  
Therapist.

Staff drawn from the public school (with supplemental in-service training regarding  
deaf): gym instructors, art and music personnel, recreation and shop instructors.

#### Districts or Special Education Districts Staff

Those hard of hearing would be employed by their local districts to work at all levels.  
Teachers of the hearing impaired at the secondary level would teach in an area of  
interest such as math, science, English, language, etc.

An audiologist is essential for consultant service on auditory amplification, and  
special equipment  
Special consultants as indicated.

#### DIAGNOSTIC CONSIDERATIONS

Provide the most nearly complete educational program possible for hearing impaired children,  
and obtain special diagnostic and training services. Programs should contain special  
communication and language training for parents and children prior to the child's enrollment  
program. All children within the Region should have access to this service.

Basic to the program is a diagnostic-evaluation process focused on educational implementation conducted by a child-study team. The team should include an educator of the hearing impaired, psychologist, audiologist, social worker, medical and other professional personnel as members of the team should be qualified in their own fields with special training and experience with hearing impaired children. Provisions should be made for utilizing consultants as needed. Communication with all members of the child-study team is essential for efficient program operation. Observation of children, especially young children, should be an integral part of the process.

#### V. RESEARCH CONSIDERATIONS

Despite educational developments, the average deaf child and adolescent remain severely deficient in language and communication. These deficiencies are reflected in an educational retardation from two to four years. Revisions in method and curriculum and the development of diagnostic instruments are of major need. There is a dearth of new instructional procedures or materials in all areas of communication development. Academic instruction in regular elementary and secondary education has made great strides, yet there is little evidence that these instructional techniques are being applied or even experimented with in classes for the deaf.

It is believed essential that the following be undertaken:

1. controlled experimentation with and evaluation of new materials and techniques that have been developed in other programs.
2. the development of original techniques and materials to facilitate acquisition of language.
3. comprehensive curriculum planning for pre-school, elementary, junior and senior high school levels; and
4. close contact with continuing developments in regular education.
5. language learning of deaf children.
6. systematic auditory learning.

Areas of investigation of the effects of deafness and the psycho-social implications are of great importance as well as urgent. Research regarding psychological aspects, social maturity, attitudes toward deafness, school and classroom organization; parent-school relationships; administrative and supervisory aspects.

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team should include an educator of the hearing impaired, a psy-  
ker, medical and other professional personnel as necessary. All  
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ts of deafness and the psycho-social implications are numerous as  
psychological aspects, social maturity, attitudes, and adjustment;  
parent-school relationships; administrative and supervisory practices;

the teaching, learning process, and conceptual development. They are characterized as: (1) basic, as contrasted with practical; (2) practical, as distinct from controlled and experimental; (3) systematic and underdeveloped; (4) retrospective; (5) cross-sectional; and (6) non-existent in its application in the instructional realm.

It would seem that soundly-based, productive research, both basic and applied, requires a combination of a strong regional program in cooperation with a university department to include: a sufficiently large population of deaf children at the university; well-trained diagnostic, supervisory, and instructional personnel; competent research training program; and the extensive resources of a university with its specialties in the deaf and related fields, such as learning disabilities, linguistics, psychological, educational psychology and programmed learning.

The purpose of the evaluative and research planning must be related to the deaf child in which the child with a hearing impairment learns. It must provide evidence and be useful in the development of an educational program supportive of the child.

## VI. SCHOOL-FAMILY CONSIDERATIONS

Children, whether handicapped or not, have individual personality differences. Each child has his problems according to his own pattern. The ability of a child with impairment to make successful adjustments will depend to a great extent on his and his family's capacities. One of the most important factors in framing a child's attitude is the attitude of his parents.

It is almost universal that parents experience great fear and anxiety in first having a child with a physical, mental or emotional disability. Therefore, it is essential that services to parents of hearing impaired children are vital. By providing early help to parents, many problems will be minimized. Since many parents receive their information from personnel who are involved in establishing the diagnosis of hearing impairment, there is a need for this personnel to counsel with the parents. When it is no longer feasible to provide counseling in a medical setting, parents often need help in contacting community counseling services.

Training can be started in infancy, but the parents must be taught how to help their child. Proper help can be given to parents early, educational deprivation can be minimized.

process, and conceptual development. They are characterized as being: (1) applied, basic; (2) practical, as distinct from controlled and experimental; (3) sparse, undeveloped; (4) retrospective; (5) cross-sectional; and (6) descriptive, and almost application in the instructional realm.

Community-based; productive research, both basic and applied, would best result from a strong regional program in cooperation with a university having a deaf education program; a sufficiently large population of deaf children at all ages and grade levels; administrative, supervisory, and instructional personnel; competent researchers and a research program; and the extensive resources of a university with its specialists in the education of deaf children in fields, such as learning disabilities, linguistics, psycholinguistics, psychology, and programmed learning.

Evaluative and research planning must be related to the determination of the manner in which a hearing impaired learns. It must provide evidence of the child's growth and development of an educational program supportive of that growth.

## CONCLUSIONS

Hearing impaired or not, have individual personality differences. Each child will meet his own pattern. The ability of a child with impaired hearing to make use of his hearing will depend to a great extent on his and his family's attitudes about his hearing. The most important factors in framing a child's attitude is likely to be the parents.

It is important that parents experience great fear and anxiety in first learning that their child has a physical, mental or emotional disability. Therefore, it is at this point that the hearing impaired children are vital. By providing early services to these children, the anxiety will be minimized. Since many parents receive their first contact from medical personnel involved in establishing the diagnosis of hearing impairment, there is a definite need for a counselor to counsel with the parents. When it is no longer feasible or necessary to provide services in a medical setting, parents often need help in contacting and making use of other services.

Deafness is often identified in infancy, but the parents must be taught how to help their child. If the child is not referred to parents early, educational deprivation can be minimized.

One of the most important areas where parental help is needed is in the relationship between themselves and their child at a very early age. When this is an early experience of the child is more likely to be effective. When it is not, it cannot make up those lost years. Special instructions for parents, observation involving children and adults, and video taped sessions are a few suggestions.

The child does not live in a hearing, speaking world and his method of communication is not forced into isolation or into association only with other individuals.

## VII. LEARNING ACTIVITIES

Children engage in different experiences at various ages. No two children are alike and come to the same point of exhibiting interest in the same activity at the same time. Differences are considered essential in planning educational programs and activities. As far as possible, additional staff, a variety of items to learn about and experience, and allows individuals to work by themselves or in different size groups are provided to meet the developmental needs of each child.

Piaget has done extensive research in this field and offers the following stages of development. Notice he provides age ranges and suggests that expected developmental patterns may be within a time/growth span. The developmental stages generally follow an orderly pattern.

Sensimotor - Preverbal Intelligence: Coordination of sense impressions and responses or fixed ways of responding; Generalized behavior and seeking innovation.

Pre-Conceptual Symbolic - Symbols established to represent his world. Age 2 to 4 years.

Intuitive Thinking - Objects and acts are seen as functions of the ego and are not reversible. Age 4 to 8 years.

Concrete Operations - The ability to give thought to objects and acts while using symbols that represent these objects. Age - 8 years to 11 years.

where parental help is needed is in the development of communication at a very early age. When this is accomplished, the educational help is likely to be effective. When it is not done, it is very difficult to give instructions for parents, observation of teaching situations and video taped sessions are a few suggested methods.

The deaf speaking world and his method of communication should be such that he can get into association only with other individuals with hearing impair-

ences at various ages. No two children will grow at the same rate and have the same interest in the same activity at the same time. Individual differences in planning educational programs and should be supported in every variety of items to learn about and experiment with and space that allows children to develop or in different size groups are essential in providing for individual differences.

This book is in this field and offers the following generally held categories of developmental stages and suggests that expectations for specific activities should be based on a time/growth span. The developmental process of children does

1. Coordination of sense impressions and movements; Habit formation and stereotyped behavior and seeking innovation. Age - 0 months to 3 years.

2. Ability to use symbols established to represent his world. Age - 3 years to 5 years.

3. Abstract concepts are seen as functions of the ego and are subjective. Age - 5

4. Ability to give thought to objects and acts while manipulating objects and symbols. Age - 8 years to 11 years.

The activities generally associated with these categories are suggested here as a guide to the specification of school facilities and not as a program curriculum. It is not a complete list, but must be added to according to the needs of

Pre-School

Educational objectives:

- Stimulating communication
- Capitalizing on residual hearing
- Increasing attention span
- Increasing auditory discrimination
- Assisting children to organize interests toward purposeful behavior
- Enhancing the process of observation and discovery
- Increasing the rate of concept development
- Increasing and developing comprehension
- Increasing knowledge
- Equipping the child to more effectively functioning within his environment

These objectives may be translated into the following functions and activities:

<u>Function</u>	<u>Activities</u>
Socialization	Play including running, jumping, climbing, games
Motor development	Cutting, pasting, threading, constructing, painting
Auditory and Visual Development	Auditory discrimination, listening and matching speech patterning activities with real objects pictures.
Concept formation	Identification, recall, transfer of one task to another, recognition of similarities and differences, color, shape, size, dimensionality, space relationships, directionability.
Communication Skill Development	Conditioning responses to sounds and sights.
Self Expression	Play acting, dress up, gym, rhythm, art.

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d to more effectively functioning within his environment

anslated into the following functions and activities:

Activities

Group Size

Play including running, jumping, climbing, games

Small (6-8 children)

Cutting, pasting, threading, constructing,  
painting

Individual

Auditory discrimination, listening and matching  
speech patterning activities with real objects or  
pictures.

Individual or small group

Identification, recall, transfer of one task to  
another, recognition of similarities and differences  
color, shape, size, dimensionality, space rela-  
tionships, directionability.

Individual or small group

Conditioning responses to sounds and sights.

Individual or small group

Play acting, dress up, gym, rhythm, art.

Individual or small group.

Primary

Educational objectives:

- Stimulating communication
- Capitalizing on residual hearing
- Increasing attention span
- Increasing auditory discrimination
- Assisting children to organize interests toward purposeful behavior
- Enhancing the process of observation and discovery
- Increasing concept development
- Increasing comprehension
- Developing basic skills of communication
- Increasing knowledge
- Equipping the child to more effectively function within his environment

These objectives may be translated into the following functions and activities:

<u>Function</u>	<u>Activities</u>
Socialization	Play and work activities; organized play groups, rhythms, committee endeavors or building, painting
Motor development	Puzzles, drawing, constructing
Auditory and Visual Development	Listening to records and tape recordings, viewing film and filmstrips, relating to sound and sight out of doors in other areas.
Concept formation	Discrimination, use of printed materials, number relationships
Communication Skill Development	Developing speech patterns, writing, number reading.
Self Expression	Play acting, dress up, gym, rhythm, art

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ted into the following functions and activities

Activities

Group Size

<p>y and work activities; organized play games,          thms, committee endeavors or building,          nting</p>	<p>Small group or large group          (6-8 or 12-18 children)</p>
<p>zles, drawing, constructing</p>	<p>Individual or small group</p>
<p>tening to records and tape recordings, view-          film and filmstrips, relating to sound and          ht out of doors in other areas.</p>	<p>Individual or small group</p>
<p>crimination, use of printed materials, number          ationships</p>	<p>Individual or small group</p>
<p>veloping speech patterns, writing, numbers,          ding.</p>	<p>Individual or small group</p>
<p>y acting, dress up, gym, rhythm, art</p>	<p>Individual or small group</p>

Intermediate

Educational Objectives:

- Increasing knowledge
- Enlarging communication
- Capitalizing on residual hearing
- Increasing attention span
- Improving auditory discrimination
- Increasing observation
- Enlarging concepts
- Increasing comprehension
- Improving communication skills
- Exploring pre-vocational interests
- Stimulating creativity
- Enlarging recreational skills
- Providing opportunity for self government
- Equipping the child to more effectively function within his environment

These objectives may be translated into the following functions and activities:

<u>Function</u>	<u>Activities</u>
Socialization	Committee planning, decorating areas, group affairs, dances, clubs, organizations.
Motor Development	Work with a variety of media, equipment, tools, physical activities, gym, swimming.
Auditory and Visual Development	Listening to records and tape recordings, using films and filmstrips, video tape, producing auditory and visual materials.
Concept formation	Use of a variety of printed materials both visual and auditory.
Communication Skill Development	Language development, story form, number use, science facts, and speech training.
Self Expression	Play acting, gym, art, rhythm, self government.

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into the following functions and activities:

Activities

Group Size

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Small group or large group

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cal activities, gym, swimming.

Individual, small group or  
large group

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and filmstrips, video tape, producing  
ry and visual materials.

Individual, small group or  
large group

a variety of printed materials both  
and auditory.

Individual or small group

ge development, story form, number  
cience facts, and speech training.

Individual or small group

cting, gym, art, rhythm, self government.

Individual or small group

### VIII. ORGANIZATION CONSIDERATIONS

To facilitate the development of each facet of the regional program statement should be made although the final refinement of this must be made in each region responsible for the development of the regional plan. This is in summary of the preceding sections of this document.

The following sections are quoted directly from the Illinois Commission on Hearing Impaired Children in Illinois, to establish the premise for the

Regulatory and coordinating functions should be supplied for these programs through a professionally qualified staff in the Office of the Superintendent of Public Instruction. In addition, there must be established in the State an Advisory Council for the Education of Hearing Impaired Children, with coordinating and development responsibilities. This would develop coordination between the Office of the Superintendent of Public Instruction and local programs and other State Departments which have some administrative responsibility for education of hearing impaired, such as the Department of Social and Family Services (School for the Deaf) and the Department of Corrections (hearing impaired children in their institutions). This Council should include the heads of all regional and State school programs for the hearing impaired in the State, professionally qualified personnel in the ancillary fields of psychology and audiology, and such other professionally qualified personnel as might seem desirable. This Council should advise the Department of Public Instruction of new programs, standards for programs, certification requirements, and all other pertinent matters:

Coordination of the Regional Programs on a statewide basis with the services of other State agencies dealing with hearing handicapped children should be effected by regular action of the Advisory Council for the Education of Hearing Impaired.

The proposed system should result in coordinated programs for hearing impaired children throughout the State of Illinois. The regional schools, the State schools, and the schools of Chicago would be able to provide a sound educational program for these children.

of each facet of the regional programming, a design or problem solving through the final refinement of this must come from the individuals and groups in the development of the regional plan. A tentative structure is offered in the sections of this document.

Adapted directly from the Illinois Commissions' A Comprehensive Plan for Illinois, to establish the premise for the proposed regional design to follow.

Supporting functions should be supplied for the entire State by fully qualified staff in the Office of the Superintendent.

In addition, there must be established within the Advisory Council for the Education of Hearing Impaired with coordinating responsibilities. This would develop greater coordination with the Superintendent of Public Instruction, Regional and other State Departments which have some administrative responsibility of hearing impaired, such as the Department of Children (School for the Deaf) and the Department of Mental Health (Children in their institutions). This Council should include regional and State school programs for the hearing impaired in addition to fully qualified personnel in the ancillary services such as counseling, and such other professionally qualified personnel as needed.

This Council should advise the Departments on establishment of standards for programs, certification requirements for personnel, and other related matters.

Regional Programs on a statewide basis with programs and services of the State agencies dealing with hearing handicapped children should be developed under the action of the Advisory Council for the Education of the

This would result in coordinated programs for hearing impaired children throughout Illinois. The regional schools, the State school, and the local schools should be able to provide a sound educational program with appropriate

ancillary services for these children from the time of identification of hearing handicaps through academic and vocational programs. The staff in the Office of the Superintendent of Public Instruction and the Advisory Council for the Education of the Hearing Impaired should insure high educational standards in all of the programs and provide the necessary flexibility for transferring children from one program to another whenever necessary.

Direction toward an organized regional plan began in 1964 with the establishment of a minimum size for programs or a plan for achieving it as set forth in the Special Education Rules and Regulations for approved reimbursable programs. These minimal standards are as follows:

Rule 3.08 - Programs for deaf children shall have a minimum of six classes at the elementary level in addition to a preschool class.

Rule 3.09 - Programs for deaf children having less than the minimum number of classes will be approved for reimbursement only if these classes are part of a comprehensive, long-range developmental plan which has been approved by the Division of Special Education.

In 1969, HB 1407 made mandatory the education of handicapped children, thus requiring school districts to participate in regional planning for the hearing impaired child.

Regional planning committees developed in most regions through action of the local directors of special education with support from parents who are now determined to have good educational programs for their children on a statewide basis.

The Illinois Commission report directed attention to the critical needs of hearing impaired children and gave further leverage toward coordinated regional programs. Among the recommendations of the Commission Study are those items pertinent to this document which are quoted below:

Comprehensive educational programs should be developed on a regional basis. The complexity of the educational problem demands that specialized equipment as well as special facilities be provided.

A spectrum of services should be provided ranging through specialized centers, special rooms, itinerant and tutorial programs in order to meet the needs of every child.

Each regional program should develop special diagnostic and training service to provide special counseling for parents and communication and language training prior to the child's enrollment in the school program.

Since programs for the hearing impaired are more costly than most special education, increased financial support is essential. The Office of the Superintendent of Public Instruction should devise a program for increased State support for approved hearing impaired programs.

With the above providing an overall plan, each region is now developing along guidelines that allow for specific regional needs to be met. It is proposed that the services provided at the regional level be coordinated by the Advisory Council composed of the Directors of Special Education from each of the cooperating special education districts within the regional district. Services provided by State and local agencies would give support in an integrated plan set forth by the Advisory Council. The overall administrative functions would be carried out by the office of one of the local superintendents. The actual administration of the regional center for diagnostic and evaluative work and the educational program would be the responsibility of the regional Director.

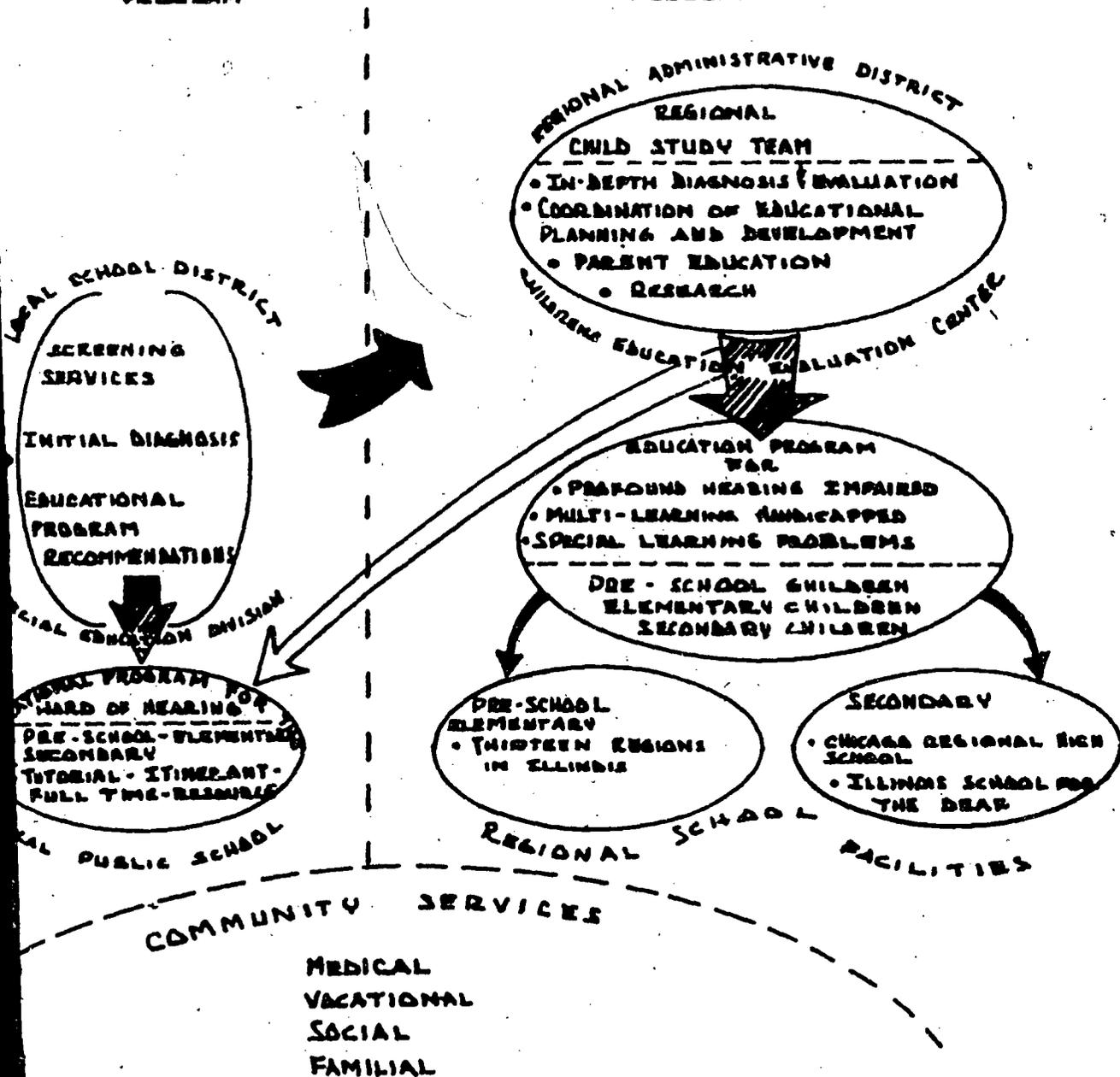
The local school district would maintain programs for their hard of hearing children, but the deaf child would be educated in the regional educational center. All children within the region would have access to the Children's Educational Evaluation Center for diagnosis and evaluation of their educational and physical needs. Diagram I represents this schematically. Diagram II specifically illustrates the inter-relatedness of the regional services from referral to placement and educational program.



DIAGRAM I  
 Regional Organizational Plan  
 For Hearing Impaired Children  
 State of Illinois

LOCAL EDUCATION PROGRAM

CENTRALIZED EDUCATIONAL PROGRAM



COORDINATED SUPPORTIVE SERVICES

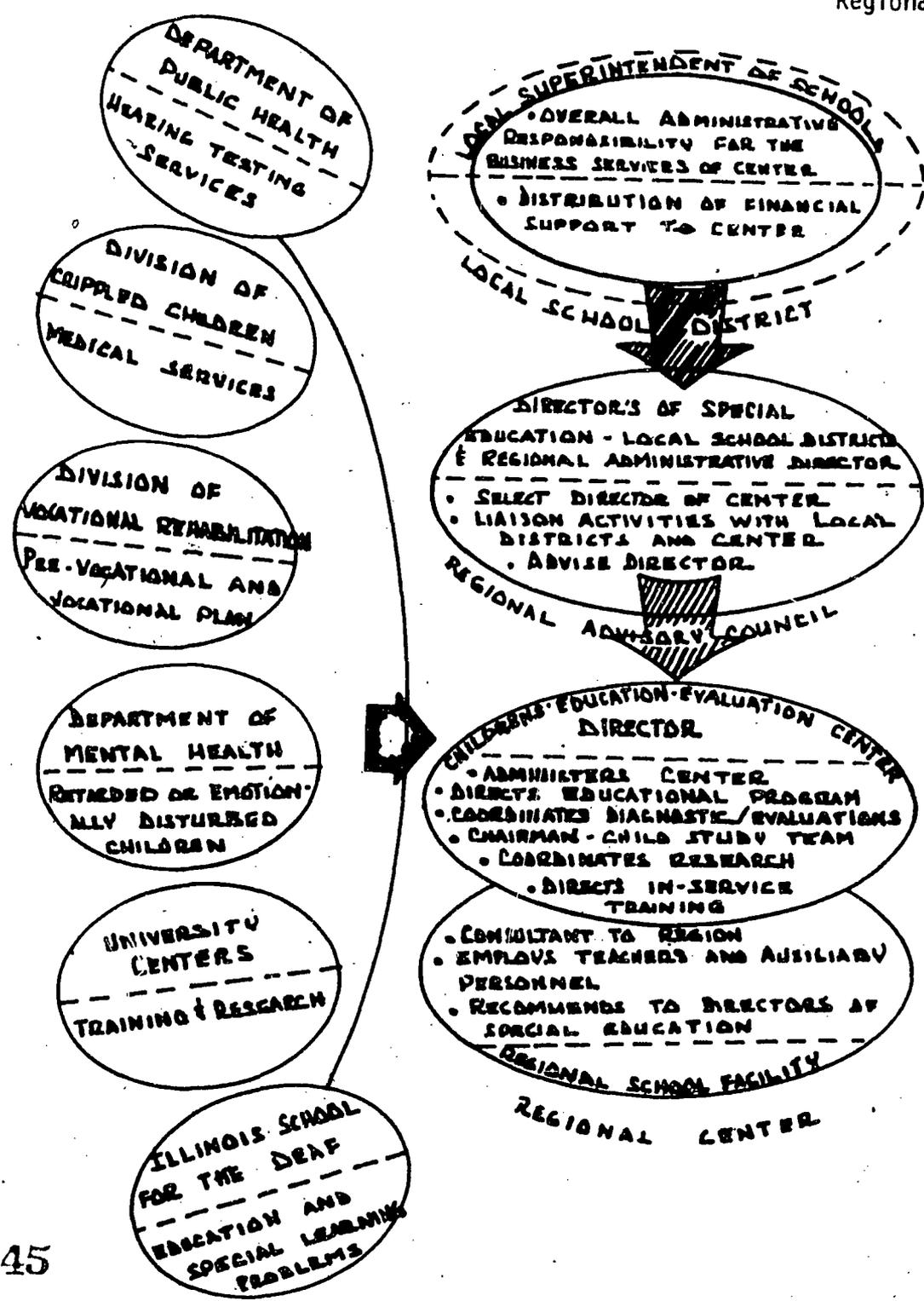
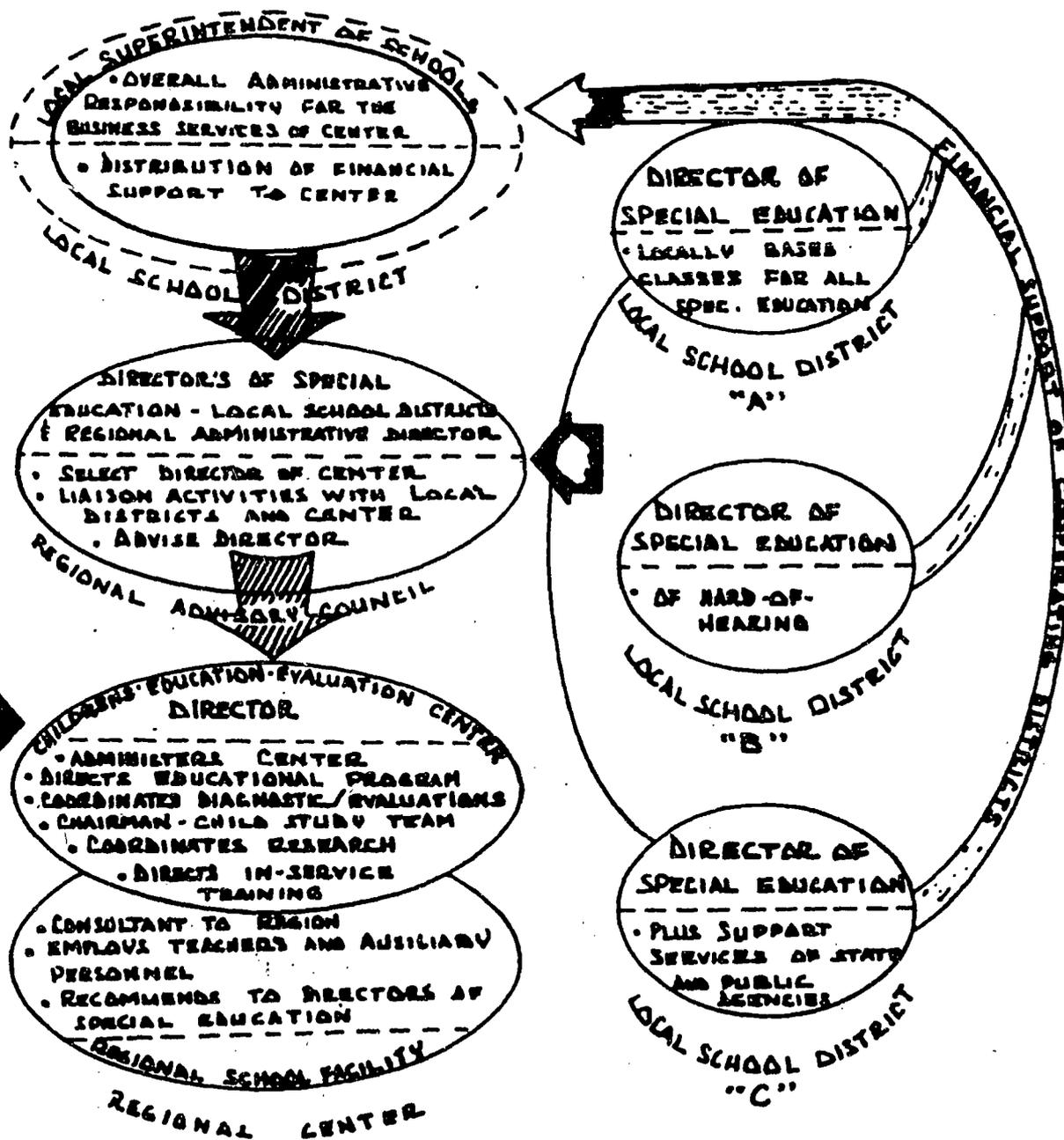


DIAGRAM II  
 Organizational Plan for Administration  
 of  
 Regional Diagnostic and Educational Center  
 State of Illinois



The State Department has now activated a Committee to study administration and the financing of these regional programs. It is recognized that some building program will be necessary if the regional plan is to be fully realized. This may be developed in a three phase program:

- Phase I - A functional regional administrative framework on a multi-county basis.
- Phase II - Employment of the Coordinator and the establishment of an evaluation center or service to determine the incidence as well as the needs of the children in the area.
- Phase III - Area funding for the development of a centralized educational facility with instructional media and equipment center.

### IMPLICATIONS FOR REGIONAL FACILITIES

Since each child has varying potentials for learning, a spectrum of services should require specialized educational and diagnostic facilities, effective instruction in order to meet the needs of every child. In addition to the program in a special classes for children with moderate to mild hearing losses are necessary along with for infant and parent education.

Facilities should be planned to utilize to the fullest extent possible existing special common use areas such as gyms, lunch rooms, auditoriums, etc. However, the special program for hearing impaired children makes equipment and facility details essential areas for hearing children. Auditory and visual features for safety of the and diagnostic areas, media resources for children and teachers, and other specific

### GENERAL SPECIFICATIONS

#### INSTRUCTION OF THE HEARING IMPAIRED

Deaf education, like that of hearing education, has taken the position that greater the learning process by the student must occur if he is to function successfully. opportunities for individualized instruction at the pre-school, elementary and secondary available. The facility design should allow for regrouping of students from class study to tutorial assistance. Areas for medium size group activity and assembly should ability of being restructured to meet new demands of the educational program.

#### FACILITY IMPLICATIONS

Instructional areas should have a building system designed that will allow new space. Space should be easily divisible. Interior space utilization and designs should include movable cabinets, flexible lighting systems, heating/ventilating and plumbing systems should have complete audio/video capacity and flexibility for movement. Group study control should be designed adjacent to larger play/work areas. Small conference areas as a part of the group study area to accommodate individual children. Attention must be given to the school to acoustic and visual features.

### *IMPLICATIONS FOR REGIONAL FACILITIES*

ing potentials for learning, a spectrum of services should be provided. This includes educational and diagnostic facilities, effective instruction, and tutorial programs for every child. In addition to the program in a specialized center, special programs for children with moderate to mild hearing losses are necessary along with a pre-school program and a tutorial program.

ed to utilize to the fullest extent possible existing space that provides classrooms, gymnasiums, lunch rooms, auditoriums, etc. However, the specialty of the educational program for hearing-impaired children makes equipment and facility details essentially unique from instructional facilities for hearing children. Auditory and visual features for safety of the children, evaluation of hearing, and resources for children and teachers, and other specific facilities.

### *GENERAL SPECIFICATIONS*

#### **HEARING-IMPAIRED**

of hearing education, has taken the position that greater self-determination in the student must occur if he is to function successfully. To accomplish this, individualized instruction at the pre-school, elementary and secondary level must be provided. The design should allow for regrouping of students from class study to individual study. Areas for medium size group activity and assembly should have the capacity to meet new demands of the educational program.

have a building system designed that will allow new space configurations. The design should be flexible. Interior space utilization and designs should include and accommodate lighting systems, heating/ventilating and plumbing systems. Study carrels should be provided with video capacity and flexibility for movement. Group study areas with acoustical treatment should be adjacent to larger play/work areas. Small conference areas should be designed in every area to accommodate individual children. Attention must be given throughout the design to visual features.

#### PROGRAM RESEARCH AND EXPLORATION

All children will receive instruction according to their ability to: (1) understand concepts. As a part of the educational process, learning concepts can contribute to language development. Concepts may occur in situations associated with the manipulation of items necessary for the completion of a physical task.

Methods of improving instruction, the learning skill process and concept development for hearing impaired children can result as a part of research in manipulative and learning associated with physical tasks.

#### *FACILITY IMPLICATIONS*

An Exploration Center for Research should be designed to provide students an opportunity to explore their own areas of interests. Research planning should be developed jointly within the Children's Center staffed with professional researchers and instructional teams in the ECR.

Fixed TV cameras with remote control capacity plus movable cameras should be provided along with video recorder/playback units.

Office space for members of a child-study team should be provided as well as conference rooms.

#### USE OF COMMON FACILITIES

The majority of hearing impaired children can use various school facilities originally designed for hearing children, such as physical education, library and multi-media, auditorium, student union, and other facilities. All areas mentioned, except physical education and lunchroom, should be designed to allow use at any time by any child. Lunchrooms should be designed to handle the needs of plus one-fourth of the hearing impaired children in a building at the same time. Specialized areas should be programmed one period a day for complete use by hearing impaired children. Other areas should be programmed for the remainder of the day. Block time use of specialized areas should be provided for use by hearing impaired children.

#### *FACILITY IMPLICATIONS*

Educational facilities for hearing impaired children should be related as closely as possible to those of the other children. Access to the gymnasium, library and multi-media area should be provided in all areas.

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struction according to their ability to: (1) understand and (2) communicate. process, learning concepts can contribute to language development. Building ons associated with the manipulation of items necessary for the completion

on, the learning skill process and concept development for hearing impaired of research in manipulative and learning associated experiences.

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ontrol capacity plus movable cameras should be programmed for this space with

child-study team should be provided as well as conference areas.

ed children can use various school facilities originally designed for hearing cation, library and multi-media, auditorium, student activity and lunchroom ed, except physical education and lunchroom, should be non-programmed (unscheduled), y child. Lunchrooms should be designed to handle one-half the hearing population impaired children in a building at the same time. The physical education period a day for complete use by hearing impaired children and for use by small er of the day. Block time use of specialized areas should be available every children.

ing impaired children should be related as closely to the common areas serving the gymnasium, library and multi-media area should be direct for all children

## RESIDENTIAL FACILITIES

A five day residential plan for children whose home is too far for daily transport. Children would remain "in" during the week and go home on the weekends.

### *FACILITY IMPLICATIONS*

A residential or boarding facility should be provided. This may take the form of or rented by the regional educational unit and staffed by adults, university students.

## INSTRUCTION OF HEARING IMPAIRED CHILD WITH SECONDARY LEARNING PROBLEM

Children with hearing impairments and other learning disorders have special facilities in their learning capabilities and instructional activities. Planning for these children follows these general guidelines:

### Secondary Disorder

Educable Mentally Handicapped

Trainable Mentally Handicapped

Orthopedically Handicapped

Partially Sighted

### General Program and Facility Considerations

Study in self-contained classroom  
Participation in activity-study  
Integrated with hearing children  
community contacts.

Study in self-contained classroom  
Participation in activity-study  
Integrated with EMH deaf and regular  
wherever possible.

Integrated with regular deaf and  
some academic study.

Participation in activity-study program

Integrated in regular deaf classroom  
education, with hearing for some

Participation in activity-study program

\* Activity-study: Participation in social development experiences in groups. Social activities can include play, music, rhythms, films, etc. Study experiences include cognitive activities or with class group.

children whose home is too far for daily transportation may be necessary.  
ing the week and go home on the weekends.

ity should be provided. This may take the form of cottages either built  
tional unit and staffed by adults, university students or other personnel.

#### CHILD WITH SECONDARY LEARNING PROBLEM

ts and other learning disorders have special facility requirements based  
and instructional activities. Planning for these children should follow these

#### General Program and Facility Considerations

Study in self-contained classroom.

Participation in activity-study program.\*

Integrated with hearing children for physical education,  
community contacts.

Study in self-contained classroom.

Participation in activity-study program.

Integrated with EMH deaf and regular deaf, with hearing children  
wherever possible.

Integrated with regular deaf and hearing for physical education,  
some academic study.

Participation in activity-study program.

Integrated in regular deaf classes, with hearing in physical  
education, with hearing for some academic study.

Participation in activity-study program.

in social development experiences in groups. Social development activities  
s, films, etc. Study experiences include cognitive development individually

Secondary Disorder

Mildly Emotionally Disturbed

General Program and Fa

Require quiet study and  
Integrated in regular  
physical education.  
Participation in activ

Mildly Perceptually Handicapped

Integrated in regular  
physical education,  
Participation in activ

FACILITY SPECIAL CONSIDERATIONS

DOORS

Exterior door openings, as well as many of the interior doors to ins  
should be wide enough to accommodate wheelchairs.

RAMPWAYS

Wherever possible, rampways should be utilized to connect different  
building is multi-storied, an elevator should be installed which wou  
pedically handicapped students.

TOILETS AND SHOWERS

Some toilets should be equipped with pull-bars. Showers in the gym s

ALARM SYSTEM

Fire alarm and disaster alarm system should be equipped with visual s

ILLUMINATION

Proper lighting is a part of safety. Its importance as a principle o  
emphasized. Highest standards of lighting are needed to ease the tas  
highest levels of performance.

order

### General Program and Facility Considerations

y Disturbed

Require quiet study area.  
Integrated in regular deaf classes, with hearing in physical education.  
Participation in activity-study program.

ly Handicapped

Integrated in regular deaf classes, with hearing in physical education, with hearing for some academic.  
Participation in activity-study program.

### CONSIDERATIONS

openings, as well as many of the interior doors to instructional areas and toilets, enough to accommodate wheelchairs.

ble, rampways should be utilized to connect different levels of the building. If a multi-storied, an elevator should be installed which would be available to the ortho-icapped students.

s  
ould be equipped with pull-bars. Showers in the gym should have pull-bars.

disaster alarm system should be equipped with visual signaling devices.

g is a part of safety. Its importance as a principle of planning cannot be over-ighest standards of lighting are needed to ease the task of seeing and to maintain the of performance.

*VIDEO SYSTEM - DIAL RETRIEVAL SYSTEM*

The facility should be equipped for closed circuit TV monitors in each instructional area. Some of these should be remote-controlled TV cameras.

To accommodate the likelihood of data retrieval, each instructional area should be equipped with a dial access unit. Visual signals should be installed in each instructional area to indicate an intercommunications announcement or a telephone call.

## FACILITY SPECIFICATIONS

### ARCHITECTURAL CONSIDERATIONS

The school of the future must, like the processes it houses, permit change in response to modifications in the educational program. A facility for these qualities; adaptability, flexibility, and rearrangeability of interactions. Much of this can be planned in the initial structure through the utility components. Fixed, or permanent walls are not prerequisites of a portable walls and folding walls can allow greater flexibility within space sound control where essential. Soft floor coverings, acoustically planned provide the necessary sound attenuation qualities required. Moveable furniture for fluidity in space.

Physically separated areas of the facility must receive special design considerations. Groups of children may move freely among the areas without the use of external corridors.

Color and finishes of walls, ceilings, furniture and equipment should be chosen to create a free environment.

The demand for spaces created by the educational program yields certain implications for the facility. A number of these characteristics will apply to all aspects of the design of any portion of the facility and of the facility as an entity.

Specific architectural considerations are described in this chapter to assist in meeting design requirements to the educational program design.

### *FACILITY SPECIFICATIONS*

st, like the processes it houses, permit change of interior spaces  
s in the educational program. A facility for hearing impaired children must have  
ty, flexibility, and rearrangeability of interior spaces to accommodate modifica-  
planned in the initial structure through the use of systems for wall, floor and  
or permanent walls are not prerequisites of a modern, well planned school facility;  
walls can allow greater flexibility within spaces while at the same time provide  
al. Soft floor coverings, acoustically planned ceilings and wall surfaces will  
attenuation qualities required. Moveable furniture and other fixtures will allow

of the facility must receive special design consideration so that individuals or  
freely among the areas without the use of extensive corridors.

, ceilings, furniture and equipment should be designed to provide aesthetic glare-

ed by the educational program yields certain implications for the design of a new  
e characteristics will apply to all aspects of the building and must be kept in mind  
n of the facility and of the facility as an entity.

derations are described in this chapter to assist in relating the overall facility  
educational program design.

The considerations are categorized in five areas for convenience and ease of arc  
 Each space, later described, will refer to the architectural considerations cont  
 Exceptions to the statements where appropriate will be noted by space.

#### CATEGORIES

I	II	III	IV
STRUCTURE	ENVIRONMENT	EQUIPMENT	MEDIA
Ceiling	Thermal	Surfaces	Amplification
Wall	Acoustical	Student Stations	TV
Window	Spatial	Teacher Stations	CAI/CBI
Floor	Aesthetic	Storage	A/V
Other	Other	Other	CON/TLM
			RAS
			Other

#### CATEGORY I - STRUCTURE

##### Ceiling

Ceiling heights should be approximately 9'6 to 10' and acoustically treated to ad  
 specified in each space. All participants in each area should be able to hear th  
 them without interference from other areas.

zed in five areas for convenience and ease of architectural development.  
ll refer to the architectural considerations contained in these categories.  
ere appropriate will be noted by space.

### CATEGORIES

III	IV	V
EQUIPMENT	MEDIA	UTILITIES
Surfaces	Amplification	Electrical
Student Stations	TV	Plumbing
Teacher Stations	CAI/CBI	Mechanical
Storage	A/V	Other
Other	CON/TLM	
	RAS	
	Other	

### CATEGORY I - STRUCTURE

imately 9'6 to 10' and acoustically treated to accommodate the activities  
rticipants in each area should be able to hear those sounds directed to  
ther areas.

### Walls

Wherever possible, walls should be designed to serve as display areas utilizing picture wall units. Portable chalkboards, tackboards, and casework can define areas as teaching stations for some individual or small group instruction.

Interior walls are generally classified under two categories: long-term adaptability and short-term flexibility.

Long-term adaptability means the utilization of longer spans of non-load bearing interior walls, the relocation of the utilities located in the floor or ceiling instead of in the walls, or by other features that make it possible to change interior arrangements over a weekend or during a school vacation.

Short-term flexibility specifies that two or more teaching stations may be combined by the use of a movable partition or furniture so that groups of various sizes can be accommodated. All partitions must have effective sound attenuation level of 48 or better.

### Windows

The amount and location of windows in schools is a subject of considerable controversy. The advantages of large window areas significantly increase the problems of heating, cooling, glare, and aesthetic possibilities, availability of wall space for display space, and many other factors. The disadvantages of large windows are well known to school personnel, and the

should be designed to serve as display areas utilizing pin wall and write-on chalkboards, tackboards, and casework can define areas as teaching nooks or corners for small group instruction.

ally classified under two categories: long-term adaptability and short-term

means the utilization of longer spans of non-load bearing interior walls with the floor or ceiling instead of in the walls, or by other similar construction possible to change interior arrangements over a weekend or during vacation periods.

Specifies that two or more teaching stations may be combined or divided at once by partition or furniture so that groups of various sizes can be accommodated. Such partitions should have a sound attenuation level of 48 or better.

The placement of windows in schools is a subject of considerable controversy. It is well known that large windows can significantly increase the problems of heating, cooling, glare, maintenance, and the unavailability of wall space for display space, and many other considerations. The benefits of windows are well known to school personnel, and the improvements in

artificial lighting to avoid eye-strain have led to the conclusion that windows are not a completely satisfactory source of light for the visual tasks of children in the classroom.

The use of windows should be significantly reduced although not completely eliminated. Fixed sash should be utilized throughout. The importance of simple room darkening in every classroom to easily utilize visual aids implies the use of low transmission glass in all windows. This arrangement allows the occupants to view the outside, but results in rooms dark enough for the showing of films when artificial lighting has been turned off. Some spaces such as counseling offices, conference rooms, administrative offices, reading rooms, and other spaces designed primarily for informal activities might contain additional windows.

### Floor

Floors should be covered with an easily maintained, durable covering that does not induce allergies. The covering should contribute to sound control and at the same time provide a comfortable work surface. Wall-to-wall carpeting may meet these requirements in most instances. Unless otherwise specified, all instructional areas, offices and common facilities will be carpeted. Exceptions to this will occur in art, science, physical education areas and where the use of water is specified.

Technological development has introduced an induction power source system dimension to space utilization and flexibility. The induction power source concept involves the placement of the primary electrical source in the floor and the placement of the secondary source in the machine. Informed sources state that this concept is both technologically and economically feasible for structural implementation. The number of electric and electronic outlets and necessary conduit may be materially reduced by this system.

### Electronic Carpet

A new concept in carpeting that carries both electric current and electronic signals is expected to be available for purchase in late 1970 or early 1971. The advent of this material will provide an extension of space flexibility within any enclosed space.

### Other

Openings, both internal and external should be designed wide enough to permit the easy passage of orthopedically handicapped children. Door openings to enclosed areas should be recessed to avoid opening directly into traffic.

## CATEGORY II - ENVIRONMENT

### Thermal

It is common knowledge that too cold a temperature can cause distraction and discomfort, and too warm a temperature can cause inattention and drowsiness. Regardless of outside temperature, the internal temperature should always be comfortable 12 months of the year. The relative humidity should always be satisfactory for both the health and the comfort of the occupants as well as for the preservation of the stored materials. The building should be free from odor and dust.

Since perimeter wall areas do have valuable educational uses, especially for shelving, carrels, and tables, heating and air return units should be carefully located. Zone control is suggested to ensure that the temperature within is appropriate for the activities occurring there. The mechanical system should be flexible enough to permit easy rearrangement of the spaces.

### Acoustical

The adverse effect of noise on the learning environment has resulted in its control as an important characteristic of good design. This objective can be reached by using materials which control noise at the point of origin by isolating the source of the noise, and by absorbing or damping the noise after it has been generated.

The installation of carpeting has proven to be effective in eliminating a considerable amount of noise when installed in general classrooms, offices, media centers, and individual and group study spaces. Some teachers also report that the conduct of children improves and that students are quieter when the floor is carpeted.

Noise from student work stations can be diminished if non-metallic components are used in their construction. By increasing the number of low-level speakers and installing them in a broader distribution pattern, a reduction in the volume of sound from loudspeaker systems that interfere with neighboring classrooms can be achieved. Distracting sounds from music rooms, shops, physical education classes, and other sound-producing areas can be avoided in most cases by locating these classes away from study areas, and quiet locations. Sound-absorptive materials on

walls and ceilings should be utilized. Equipment or machinery that is especially noisy should be contained by special enclosures or muffled by the extensive use of sound-absorbing materials. The best possible acoustical treatment for the facility should be designed.

#### Spatial

The relationships of spaces, one to the other, constitute a significant requirement in order to reduce wasted travel time, motion, and space. In the facility design, attention should be given to proximity grouping by educational level. Large group areas and corridors should be easily accessible to all levels. Consideration should be given to the social and cultural opportunities of students as well as relationships between them. Where two or more separate buildings are constructed, the necessity for corridors is of even greater significance in order to provide for the best possible and most effective and economical relationship between educational and community spaces.

#### Aesthetic

The aesthetic qualities of a school building have far-reaching implications for the children who enter its doors and spend their time there day after day. It is agreed that a school building should be designed for the purpose of instruction. Characteristics of beauty are no less important in a school building than it is important that aesthetics be a major consideration in the design. Color and light are important patterns of children and adults; stimulating color needs to be added to areas used for active activities and soothing color to areas used for quiet activities.

Provision for decorative art media such as the mural, mosaic, sculpture, bas-relief, and stained glass windows should be provided for by the architect that will enhance the aesthetic experiences of the children.

Display space for art work, bulletin boards for notices for students and staff, art, book displays, demonstrations, examples of industrial arts, science, and other displays that enhance the school program should be included in aesthetic planning.

The landscaping of the outdoor areas and any innercourts should be given special attention in the construction of the facility.

d. Equipment or machinery that is especially noisy should be controlled by the extensive use of sound-absorptive materials. The best facility should be designed.

the other, constitute a significant responsibility of the architect in the design of light, motion, and space. In the facility, consideration should be given to the functional level. Large group areas and other general spaces should be designed. Consideration should be given to the space relationships that affect the behavior of students as well as relationships pertaining to learning areas. When buildings are constructed, the necessity for careful study of relationships between buildings in order to provide for the best possible utilization of the site and the relationship between educational and community services.

Building design have far-reaching implications for the children who enter the building day after day. It is agreed that a school should be functional and aesthetically pleasing. Characteristics of beauty are no less important to children; indeed, they should be a major consideration in the design. Color is vital to the behavioral characteristics of a building. Stimulating color needs to be added to areas where stimulating activities are planned and to areas for quiet activities.

Such as the mural, mosaic, sculpture, bas-relief, fresco, monument, and other art forms provided for by the architect that will provide a dimension to the building.

Boards for notices for students and staff, picture molding for hanging displays, and samples of industrial arts, science, homemaking and other displays that should be included in aesthetic planning.

And any innercourts should be given special consideration and treatment.

## CATEGORY III - EQUIPMENT

### Instructional Surfaces

A place to teach and the tools to assist and enhance the teaching and learning basic elements which must receive top consideration by the school designer.

Chalkboard areas should be provided in quantity necessary for adequate teacher and pupil use, and wherever possible, should be demountable for easy relocation.

Tackwall should be provided, wherever possible, as part of the wall finish per ceiling tack space, thereby eliminating the necessity for any special tackboard.

### Student Stations

All furnishings, facilities, and display areas should be scaled to the age level who will utilize each space. APPENDIX B.

### Teacher Stations

All faculty and administration offices should be provided with the following minimum: wardrobe, lockable filing cabinets, desk, chair, seating for two, and bookshelves.

A faculty lounge and eating area should provide a place for the staff to relax during the day, and this should be a consideration on virtually every school. "coffee break" concept is especially important to the teacher.

### CATEGORY III - EQUIPMENT

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eive top consideration by the school designer.

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and display areas should be scaled to the age level of the children  
APPENDIX B.

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inets, desk, chair, seating for two, and bookshelves.

rea should provide a place for the staff to relax away from the pressures  
his should be a consideration on virtually every work assignment. The  
pecially important to the teacher.

### Storage

Materials storage requires a variety of spaces to accommodate the following storage at each teaching station; education level storage for books and supplies; special areas such as physical education equipment, art, industrial art, drama, and other special areas.

Custodial work and storage stations should be provided in convenient locations. Each area should be equipped with required plumbing service, storage space for equipment, and a place for records. Where necessary, locker rooms for both men and women should be provided and equipped with toilets, showers, and wash basins.

Receiving and storage areas should be conveniently located where truck deliveries and equipment can be made.

### Other

Individual study areas are the result of the recognition of the unique process that takes place within each child. This recognition emphasizes the need for an individual study area for every student. The individual study carrel concept should be considered in the planning stages of the school.

of spaces to accommodate the following functions: material  
education level storage for books and supplies; built-in storage for  
education equipment, art, industrial art, dramatics, science, and

should be provided in convenient locations throughout the school plant.  
Required plumbing service, storage space for cleaning materials and  
Where necessary, locker rooms for both men and women should be  
showers, and wash basins.

conveniently located where truck delivery of materials, supplies,

of the recognition of the unique process of learning and how it  
recognition emphasizes the need for an individual study area available  
by carrel concept should be considered by the designer during the

#### CATEGORY IV - MEDIA SYSTEMS

Discussions with professional educators and specialists in media have led to the conclusion that the development of an integrated media system is essential. This system should consist of

1. Amplification
2. Television
3. Computer Aided Instruction/Computer Based Instruction
4. Audio-Visual
5. Communication and Telemetry
6. Remote Access

In the development of these specifications, the standard systems analysis approach is used. This approach is based on the premise that the analyst must design to the model to a point of practicality.

With this premise in mind, all subsystem elements (objectives, stated requirements, and developed constraints, hardware, methods of software preparation, performance, etc.) are considered as a total set of attributes, rather than as individual components. In the development process, the analyst examines inter-relationships, discovers both common and uncommon patterns and insures that no single element of any subsystem will be optimized to the detriment of the total media system. While it is obvious that Chicago will not immediately employ DMR considers it necessary to conceptualize an integrated media system that takes into account future developments in media hardware. Regardless of the level of sophistication of the subsystems, it is necessary to consider their function as it relates to educational and instructional trends.

#### CATEGORY IV - MEDIA SYSTEMS

1 educators and specialists in media have led to the determination that  
s essential. This system should consist of the following subsystems:

struction/Computer Based Instruction

Telemetry

specifications, the standard systems analysis approach should be employed.  
e premise that the analyst must design to the ideal, then degrade the design  
lity.

1 subsystem elements (objectives, stated requirements, functions, initial  
ardware, methods of software preparation, personnel, etc.) should be considered  
rather than as individual components. In this context the consultant will  
discover both common and uncommon patterns and most importantly, will try to  
of any subsystem will be optimized to the detriment of the entire integrated  
vious that Chicago will not immediately employ all of the above subsystems,  
o conceptualize an integrated media system that is capable of accommodating  
hardware. Regardless of the level of sophistication of each of the above  
o consider their function as it relates to educational philosophy, methodology

### Master Distribution

In the development of any integrated media system, the most important single system. The distribution system of any integrated media system can be reduced to a few considerations that must be taken into account during the design of any school plant. If conduits and carriers are not determined during early design stages, it is not possible to implement future uses of media that required additional cable space. The elements or components of a distribution system determine the ultimate potential (of the plant) for the use of new media subsystems.

The design of the new building should accommodate the following:

### Amplification Subsystem

It is essential that amplification systems be planned for use in all instructional areas. There are three basic types of amplification systems used in schools for hearing: 1) induction loop, 2) radio frequency, and 3) hard wire or any other system of good quality available at the time of building construction. In planning this facility the designer must be aware of the problems posed. When children are playing or engaged in non-desk activity, the radio frequency system is a means of allowing freedom yet still in communication with the teacher. When the teacher is at the desk, the hard wire system is more effective and provides better sound. The induction loop works from the same amplifier with broadcast unit. The r.f. system uses a broadcast unit and individual walk-away receivers on each child, while the hard wire has head sets connected to the amplifier. This system capability must be provided in all areas identified by the design of the subsystems, TV, film projection, CAI/CBI and RAS must be interconnected with the amplification system. The design of the installation must be developed at the time of the building design. The problems associated with the induction loop system as described by Matkin and Olsen in their amplification system and building system designs are developed in concert.

### Television Subsystem

This subsystem is comprised of a signal generation and distribution system (audio and video) and should consist of the following:

- A distribution control and signal storage complex located in a master control room
- A video, audio, and synchronization pulse distribution and switching system

<sup>3</sup> Matkin, N.D. and Olsen, W.O., Loop Systems: Classroom Performance, Paper read at the American Speech and Hearing Association, Chicago, (November, 1969)

any integrated media system, the most important single system is the master distribution system of any integrated media system can be reduced to certain physical considerations taken into account during the design of any school plant. For example, if the size of the building are not determined during early design stages, it is conceivable that it would be impossible to accommodate future uses of media that required additional cable space. Therefore, the physical characteristics of a distribution system determine the ultimate potential (in terms of the physical characteristics) of new media subsystems.

building should accommodate the following:

Amplification systems be planned for use in all instructional areas of the facility. Three types of amplification systems used in schools for hearing-impaired children: 1) radio frequency, and 3) hard wire or any other system of greater amplification qualities. In building construction. In planning this facility the latter two systems are preferred. When a child is playing or engaged in non-desk activity, the radio frequency system is employed as freedom yet still in communication with the teacher. When the child is at his desk facing the teacher, the hard wire system is more effective and provides better sound resolution. Both systems may be used. The radio frequency system uses a broadcast wave and works with inductors on each child, while the hard wire has head sets connected directly to the amplifier with broadcast unit. The r.f. system uses a broadcast wave and works with inductors on each child, while the hard wire has head sets connected directly to the amplifier with broadcast unit. All capability must be provided in all areas identified by the abbreviation, Audio. All projection, CAI/CBI and RAS must be interconnected with the amplification subsystem. Installation must be developed at the time of the building design occurs. Elimination of the induction loop system as described by Matkin and Olsen<sup>3</sup>, can only occur if amplification system designs are developed in concert.

consisted of a signal generation and distribution system (abbreviated TV in this document) the following:

1) signal control and signal storage complex located in a master control center.  
2) audio, and synchronization pulse distribution and switching system.

3) W.O., Loop Systems: Classroom Performance, Paper read at 45th Annual Convention of the American Association of the Deaf and Hearing Association, Chicago, (November, 1969)

In order that the flexibility of the building be preserved, it will be necessary indicated in the specifications as including TV with at least two video coaxial of two video lines will allow "terminal point origination". In other words, ports may be used for observation and other purposes wherever a TV terminal is indicated them either to video recorders or other peripheral locations, i.e., large group or the master control center.

The capability of recording and playing back video tapes in color should be anticipated. Visual representation is possible with depth of image. For children depending on source of concept development, TV is an essential tool.

#### Computer Assisted Instruction/Computer Based Instruction Subsystem

Provisions for the connection of terminal "hardware" have been specified where indicated in this document. The use of the word "terminal" in this document refers to any device or a teletypewriter in combination with a cathode ray tube display, mounted on a terminal.

The terminals will permit communication between the computer and students or teacher control center or other peripheral areas by means of various display and response terminals will be used for information retrieval, computer aided instruction, and other functions.

It is not envisioned, at this time, that instructional facilities will actually be located on the computer proper. The "central processor", as well as the necessary memory, will be located elsewhere with access through high speed (broad band) telephone lines. The central computer might be available through some type of time sharing basis. The "terminal hardware" to be used in this system will be a function of the sophistication of the type of the individualized instruction. A "J" box (weatherproofed) with coaxial connection on the building for the purpose of connecting the internal CAI system to coaxial lines.

The main distribution system of the building will also be required to distribute the marked CAI/CBI. Electrical codes do not permit power conductors to occupy the same room or floor cell with communication and signal cables. They actually require that separate raceway points, which is often accomplished through a system of continuous metal raceway for the main service. In this respect, the CAI/CBI system is no different than requirements for using control and signal conductors.

ibility of the building be preserved, it will be necessary to provide all spaces  
ifications as including TV with at least two video coaxial conductors. The use  
ll allow "terminal point origination". In other words, portable television cameras  
vation and other purposes wherever a TV terminal is indicated. The signal from  
recorders or other peripheral locations, i.e., large group class spaces, offices  
center.

ording and playing back video tapes in color should be anticipated and designed as more  
is possible with depth of image. For children depending on vision as the primary  
velopment, TV is an essential tool.

#### Instruction/Computer Based Instruction Subsystem

hnection of terminal "hardware" have been specified where the letters CAI/CBI appear in  
se of the word "terminal" in this document refers to any device such as a teletypewriter,  
n combination with a cathode ray tube display, mounted on a stand or in a carrel.

mit communication between the computer and students or teachers located in the master  
er peripheral areas by means of various display and response devices. The above-mentioned  
d for information retrieval, computer aided instruction, accounting and statistical analysis.

at this time, that instructional facilities will actually contain the "central processor"  
. The "central processor", as well as the necessary memory and storage units, will be  
h access through high speed (broad band) telephone lines. It has been suggested that a  
e be available through some type of time sharing basis. The complexity and amount of "hard-  
his system will be a function of the sophistication of the programmed materials and the level  
instruction. A "J" box (weatherproofed) with coaxial connectors will be mounted externally  
he purpose of connecting the internal CAI system to coaxial cable service.

system of the building will also be required to distribute data signals to all spaces  
rical codes do not permit power conductors to occupy the same conduit area, trench duct,  
munication and signal cables. They actually require that the system be grounded at all  
o accomplished through a system of continuous metal raceways, grounded on the building's  
respect, the CAI/CBI system is no different than requirements posed by all other systems  
al conductors.

The designer engineer will need to keep the above factors in mind in order that the flexibility of this building is not impaired or that the stated educational functions to be performed are possible.

#### Audio-Visual Subsystem

The standards presented in this document reflect the national standards prepared by a Joint Committee of the American Association of School Librarians and the Department of Audio-Visual Instruction of the National Education Association, and have been augmented to enhance the media program.

The following general audio-visual requirements apply to all spaces in this document where the code symbol X is indicated beside the heading A-V under architectural considerations. Regardless of the size or configuration of the teaching-learning space, consideration must be given to the following:

1. Controlling and varying light, both artificial and natural, in the teaching-learning area.
2. Providing electrical power and sufficient amperage and voltage with convenience and safety.
3. Controlling sound to eliminate reverberation and unwanted sound transmission between teaching-learning spaces, and to liven and deaden (damp) room areas as required.
4. Providing screens on which to reflect projected still and motion picture images.
5. Locating television monitors and other display units with regard to the proper sight lines and signal distribution access.
6. Seating to provide comfort, convenience, and physical well being in all the various instructional spaces and locations.
7. Displaying instructional materials and products throughout the period of instruction.
8. Storing physical equipment, student products, supplies, and other items needed by students and teachers.
9. Providing for individual learning spaces equipped with various media signal feeds and carrels or terminal configurations.

### Communications and Telemetry Subsystem

The telephone (conventional) and telemetry systems specified shall be designated by COM/TLM. This system involves the conventional telephone normally installed in a number of levels of sophistication. For example, each telephone unit may be equipped with various accessories such as intercom circuits, lights, multiple circuit push button switches on the functions to be performed. It is not within the scope of this document to specify the best switchboards, switching equipment or other phone system components. DMR may be made by the telephone company serving this geographical area. However, where intercom and multiple circuits are desirable, appropriate notes have been included in the manuals associated with each space described herein.

An administrative intercom is specified for the entire school plant. It is anticipated to be a conventional, partial duplex (two-way) intercom system. The peripheral stations are generally composed of a permanent-management type speaker and three position manual switch.

The console that is designated to accompany such systems is frequently located in the main office of the school and is considerably more complex than the peripheral remote stations. A cassette recorder/reproducer may be included in this console unit to enable scheduled music rather than by a conventional bell system. Further, the amplitude of this system should be automatically variable so that it rises and falls in amplitude over a given period (adjustable) on a programmed basis. A light signaling device must be designed for the handsets to announce a call.

The telemetry system specified for this plant is primarily used for synchronizing clocks, although additional functions could be controlled, i.e., fire alarms and lights, sprinklers, etc. with the basic telemetry system.

stem

telemetry systems specified shall be designated by the abbreviation:  
conventional telephone normally installed in a school but in various  
example, each telephone unit may be equipped with various augmentive  
bells, lights, multiple circuit push button switches, etc., depending  
It is not within the scope of this document to identify or recommend  
equipment or other phone system components. DMR recommends that a study  
covering this geographical area. However, where intercoms are required,  
where appropriate notes have been included in the media systems column  
listed herein.

specified for the entire school plant. It is anticipated that this will  
(two-way) intercom system. The peripheral stations usually employed  
parent-management type speaker and three position manually operated talk-back

accompany such systems is frequently located in the administrative area of  
the complex than the peripheral remote stations. DMR recommends that a  
be included in this console unit to enable schedule-change announcements via  
the bell system. Further, the amplitude of this stimulus or signal music  
so that it rises and falls in amplitude over a given period of time (ad-  
A light signaling device must be designed for the console and all remote

this plant is primarily used for synchronizing and actuating the remote  
stations could be controlled, i.e., fire alarms and light signals, building  
basic telemetry system.

### Remote Access Subsystem

The remote access system (abbreviated RAS) to be installed within this facility function as an integral element of the complete media system for the building.

The conventional "dial" or remote access system consists essentially of a means that permits any number of individual students or instructors to achieve sequential number of continually available audio and video programs--usually recorded in standard film formats. A means of encoding a request signal, such as a dial, is located in spaces remote from the Master Control. A numerical code corresponding to the aural sequence of information is entered at the terminal location. This information is sent to the Master Control and used to activate the proper switching sequence required to bring back programmed materials. Electronically reproduced information is distributed to the terminal based on the decoded index signal.

When the abbreviation RAS is marked X as part of an area specification a "terminal" should be considered as a built-in piece of equipment for that space. Permanently stored audio and video magnetic tape transports will be located in the Master Control. In addition, audio and video switching units including their respective power supplies will be located in enclosures.

In summary, the RAS should provide the following advantages:

1. Increased utilization of audio-visual material resources -- due to the flexibility of the system.
2. A means of demonstrating and utilizing individualized instructional materials.
3. Improved dissemination system, providing greater flexibility for individual or classroom space use.
4. Facilitates review for students who need it, e.g., students missing lectures or other reasons.
5. Dissemination of media according to individual schedules rather than dictated by broadcast schedules and other limitations.

ed RAS) to be installed within this facility should be designed to the complete media system for the building.

ccess system consists essentially of a means of remote control al students or instructors to achieve separate access to a io and video programs--usually recorded on magnetic tape or encoding a request signal, such as a dial or touchtone unit, is aster Control. A numerical code corresponding to the visual or tered at the terminal location. This information is decoded at vate the proper switching sequence required to locate and play nically reproduced information is distributed to the appropriate signal.

X as part of an area specification a "touchtone" encoder should f equipment for that space. Permanently installed audio and be located in the Master Control. In addition all necessary luding their respective power supplies will be housed in nearby

the following advantages:

o-visual material resources -- due to the convenience of

utilizing individualized instructional techniques.

, providing greater flexibility for individual, small group,

ts who need it, e.g., students missing lectures for health

ing to international schedules rather than a "real time" basis es and other limitation.

The system to be specified in the final design of a facility will be specified on the educational functions that it will perform. No standard system is now commercially available to serve all functions without modification. Furthermore, additional requirements will be added to RAS to handle live television signals throughout the building. The system will, therefore, be compatible with a so-called standard system. However, it will be expandable by virtue of its modular design.

fied in the final design of a facility will be specified on the basis of the that it will perform. No standard system is now commercially available that will thout modification. Furthermore, additional requirements will be placed on the evision signals throughout the building. The system will, therefore, be incom- ed standard system. However, it will be expandable by virtue of the fact that it ign.

## CATEGORY V - UTILITIES

### Electrical

Outlets: If the induction power source, or the electronic carpet to work areas, instructional areas and offices should be carried neither system is used, provision for 110 volt electrical service Floor and/or ceiling grid systems should be considered as a means without permanent walls.

Regardless of electrical source utilized, the many electronic teach will require that:

1. The entire wiring system should be adaptable to future need without extensive or expensive changes.
2. Amperage and voltage requirement should be determined by the based on the stated plans for anticipated use of electrical needs in this building.
3. Receptacle circuits should be no less than 20 amperes at 110 volt areas with activities that require special load requirements television control facility, computer terminal areas, computer
4. Enough circuits should be supplied to permit simultaneous use in any or all classrooms.
5. Three duplex outlets should be provided on each peripheral 8-10 feet on centers, not more than 36 inches and not less than 12 inches from the floor. If installed in the floor they should be recessed at least 1/2 inch.
6. Additional outlets should be provided above work surfaces of 110 volt.
7. All outlets should be grounded to the building ground.

## CATEGORY V - UTILITIES

power source, or the electronic carpet is operational, electric power in classrooms and offices should be carried in or on the floor. However, if provision for 110 volt electrical service must be provided in all areas. Systems should be considered as a means of providing service to areas

where utilized, the many electronic teaching devices to be used

The system should be adaptable to future needs, capable of alteration without expensive changes.

The requirement should be determined by the electrical engineer who develops plans for anticipated use of electrical equipment and circuiting.

There should be no less than 20 amperes at 110 volts AC and more for areas that require special load requirements (media control facility, computer terminal areas, carrel areas, etc.).

There should be supplied to permit simultaneous operation of equipment in classrooms.

There should be provided on each peripheral class space wall, about 36 inches high, not more than 36 inches and not less than 18 inches from the floor they should be recessed and properly protected.

There should be provided above work surfaces of counters or tables.

There should be grounded to the building ground.

8. Electric power conduits should be oversized to permit later alterations and raceway should be conveniently accessible.
9. Communication conduits containing lines (or space for them) for intercom and cables for television should be installed between classrooms and central located in the media center.
10. Front to back communication control conduits should be installed in each classroom area and large group facility in which projection or audio equipment will be in conjunction with these spaces.
11. Signal carriers and conduits should be stubbed into all peripheral walls be mounted "J" boxes and suspended ceilings (if used).

Lighting: It is very important that special attention be given to the general lighting of a school building, particularly in instructional areas. It would be highly desirable if lighting could be provided with switches which would not only turn light off and on but could change the intensity of the lighting to vary with the subject matter being taught, the equipment used, the time of day and the age of the pupils. It is now possible, both technically and economically, to alleviate this problem through the use of remote controlled lighting. Remote controlled lighting makes it possible to control light banks individually, to dim and to change light color.

Artificial lighting should be provided as if no other light source were available and should be without glare or shadow. Separate light switches should be installed for different sections of the general learning areas. Since interior space may frequently be rearranged, the lighting system should be planned to adjust to various physical rearrangements. Some particular requirements for electrical service and are listed here:

- Cooking stations - 220 volt service to electric ranges and ovens.
- Science - 110 volt outlets overhead at all work stations. Variable voltage outlets at lab stations located in facility preparation area.

duits should be oversized to permit later alterations and additions, conveniently accessible.

duits containing lines (or space for them) for intercom units and coaxial vision should be installed between classrooms and central control facilities via center.

unication control conduits should be installed in each class space up facility in which projection or audio equipment will be utilized in these spaces.

d conduits should be stubbed into all peripheral walls between wall and suspended ceilings (if used).

stant that special attention be given to the general lighting in the ly in instructional areas. It would be highly desirable if general with switches which would not only turn light off and on, but which of the lighting to vary with the subject matter being taught, the day and the age of the pupils. It is now possible, both technologically ate this problem through the use of remote controlled lighting systems. makes it possible to control light banks individually, to vary brightness,

be provided as if no other light source were available and illumination shadow. Separate light switches should be installed for the various rning areas. Since interior space may frequently be rearranged, the lanned to adjust to various physical rearrangements. Some areas have electrical service and are listed here:

220 volt service to electric ranges and ovens.

outlets overhead at all work stations. Variable voltage control unit for d in facility preparation area.

- Typing stations - floor outlets for electrically operated office equipment
- Art - 110 volt outlets at 8 to 10 feet intervals above work counters.
- Electric kilns - usually on a separate 220 volt circuit.
- Craft - 220 volt, 3 phase power is more efficient for electric motors
- Media Center - 110 volt, 1 phase, 20 ampere circuits for machines of 12
- Electric outlet locations should anticipate fixed and portable equipment, counters and back splash elevation.

In instructional areas two light systems should be designed, a fluorescent system for shadowless light throughout, and an incandescent system that can be controlled to the level of light. Balasts for fluorescent systems that will not interfere with must be installed. Safety lights must be installed as an auxiliary system.

Plumbing: Complete, well-arranged and well-maintained rest rooms are essential for the convenience of the school child. Rest rooms for pupils of both sexes should be located to provide greater convenience. It is not necessary to widely separate the rest rooms although their entrances should be screened, but without doors. Wash areas should not be in the rest rooms.

Special rest rooms should be provided for the administration staff, teachers and their office or work area.

Drinking fountains should be of an impervious material, of a type that will not require a pupil to come in contact with the nozzle, or permit the water to fall back upon the pupil. Fountains should be the appropriate height for the pupils who are to utilize them. Fountains should be as convenient as possible. Where construction permits, fountains should be recessed.

#### Mechanical

Elevators: Elevators should be installed for the purpose of moving supplies and transporting children and adults whose physical condition does not permit them to use stairs. Escalators should be considered for the major circulation routes in multi-level buildings.

Floor outlets for electrically operated office equipment.

Outlets at 8 to 10 feet intervals above work counters.

Usually on a separate 220 volt circuit.

3 phase power is more efficient for electric motors of 1/2 horsepower up.

120 volt, 1 phase, 20 ampere circuits for machines of 1200-1500 watts.

Planners should anticipate fixed and portable equipment; also, heights of work surfaces and splash elevation.

Light systems should be designed, a fluorescent system, to provide uniform illumination, and an incandescent system that can be controlled by rheostat for varying light levels. For fluorescent systems that will not interfere with amplification systems, emergency lights must be installed as an auxiliary system.

Properly arranged and well-maintained rest rooms are essential for the comfort and the confidence of the pupils. Rest rooms for pupils of both sexes should be located in instructional areas. It is not necessary to widely separate the rest rooms for boys and girls, but they should be screened, but without doors. Wash areas should be in instructional areas,

and should be provided for the administration staff, teachers and service workers within their respective areas.

Drinking fountains should be of an impervious material, of a type that will not permit the mouth of the pupil to touch the nozzle, or permit the water to fall back upon the nozzle. Drinking fountains should be at an appropriate height for the pupils who are to utilize them. The fountains should be as recessed as possible. Where construction permits, fountains should be recessed.

Stairways should be installed for the purpose of moving supplies and equipment, as well as for the use of adults whose physical condition does not permit them to climb stairs. High speed elevators should be provided for the major circulation routes in multi-level buildings.

Clock System: A light signal and tone system with automatic program tied to a master control panel in the general office. A clock should be placed in every instructional auxiliary area, as well as in several common areas. A light or music signal is preferred, except for any outdoor teaching station or playfield.

Fire Alarm System: A fire and disaster alarm system that meets the specifications and Chicago code is required. Flashing lights or other visual signaling device must be provided.

#### Other

Circulation and Traffic: A number of circulation patterns must be taken into account for students, staff, and visitors to and from the site, the movement of supplies, books, the removal of waste will need to be considered. Primary factors should include the needs of students and patrons as well as the educational requirements for primary relations.

Student safety is a significant and constant consideration mandated throughout the planning. Design of schools should include steps only where they are absolutely necessary. Doors should not open into pedestrian traffic; projections should be avoided; and areas where conditions are normally found should receive special attention. Stairways, corridors, stair enclosed areas, and wet floor areas should all receive special safety design.

Pedestrian and vehicular traffic movement and its attendant problems, including movement to and from school, will require attention from the school designer. Circulation must be studied and zoned in such a manner as to avoid pedestrian traffic congestion, and easy flow of students between all areas of the school.

Pupils will arrive at and depart from school in automobiles, public conveyances, and to the school should be arranged to handle the pedestrian traffic flow from each of the conflict. Bus loading zones should be established away from the arrival and departure. Special consideration must be given to pupils who travel on foot. Truck deliveries of should be oriented to avoid any conflict with student pedestrian traffic and arranged so that danger of moving vehicles is minimized.

al and tone system with automatic program tied to a master clock should have  
eral office. A clock should be placed in every instructional station and  
n several common areas. A light or music signal is preferred to any type of  
teaching station or playfield.

nd disaster alarm system that meets the specifications and requirements of  
lashing lights or other visual signaling device must be built into the unit.

number of circulation patterns must be taken into account. The movement of  
s to and from the site, the movement of supplies, books, and equipment, and  
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lude steps only where they are absolutely necessary. Doors should be recessed  
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ould receive special attention. Stairways, corridors, science areas, glass-  
r areas should all receive special safety design.

ffic movement and its attendant problems, including movement within the school  
require attention from the school designer. Circulation within the school itself  
such a manner as to avoid pedestrian traffic congestion, and yet to permit the  
n all areas of the school.

part from school in automobiles, public conveyances, and on foot. Entrances  
nged to handle the pedestrian traffic flow from each of these sources without  
should be established away from the arrival and departure of other large groups.  
e given to pupils who travel on foot. Truck deliveries of supplies and equipment  
ny conflict with student pedestrian traffic and arranged in such a way that the  
minimized.

A traffic study involving all facets of pedestrian and vehicular movement should orient the school to the site in order to pre-plan the access to the school from methods of movement with safety as the major consideration.

Community use of facilities requires that the building be zoned for the possible portions, yet allowing entrance to certain other areas for evening, community, or provisions must be made for security of property within such areas.

Parking: It is desirable to provide off-street parking spaces at the ratio of one of the school, plus ten spaces for visitors. At least one parking space for an employee provided on the site.

Provision should be made for bicycle racks, at least enough spaces for one-fourth

facets of pedestrian and vehicular movement should precede any attempt to  
in order to pre-plan the access to the school from all sources and by all  
ty as the major consideration.

requires that the building be zoned for the possibility of closing entire  
ce to certain other areas for evening, community, or adult use. Special  
ecurity of property within such areas.

provide off-street parking spaces at the ratio of one space per staff member  
s for visitors. At least one parking space for an emergency vehicle must be

bicycle racks, at least enough spaces for one-fourth the student population.

#### SPACE ALLOCATIONS AND RELATIONSHIPS

For planning purposes, the activities within the facility have been broad including Instructional, Learning Resource Center, Diagnostic/Evaluation, A sixth area, is the space required to house and support the other five and building, walls, utilities, restrooms, circulation and maintenance facilities. The space outside the physical structure and includes the play and outdoor areas reflect the useable (net) areas of the facility.

Each area will be examined in four ways: First, by a brief description of (The descriptions are not intended as totally inclusive, but highlight significant second, by listing the individual spaces with the area and then net square drawing representing spaces and area relationships; and fourth, by noting Considerations.

The total facility must have internal integrity even when modifications are facility may adjoin an existing elementary school or be an integral part of ing children. In either case, the external configurations and construction the total structure, not uniquely identifiable. Internal movement from th of the total facility should be possible without the physical structure im senting the feeling that the hearing impaired children are in another building.

## AND RELATIONSHIPS

oses, the activities within the facility have been broadly divided into five areas, in-  
onal, Learning Resource Center, Diagnostic/Evaluation, Administration, and Service. A  
e space required to house and support the other five and contains the shell of the  
utilities, restrooms, circulation and maintenance facilities. A seventh area contains  
the physical structure and includes the play and outdoor study areas. The first five  
useable (net) areas of the facility.

examined in four ways: First, by a brief description of the total area and its components.  
are not intended as totally inclusive, but highlight significant aspects of the area.);  
the individual spaces with the area and then net square footage; third, by a schematic  
ng spaces and area relationships; and fourth, by noting exceptions to the Architectural

must have internal integrity even when modifications are made in internal spaces. The  
n an existing elementary school or be an integral part of a new school facility for hear-  
either case, the external configurations and construction details should be designed as  
e, not uniquely identifiable. Internal movement from this facility to any other portion  
ity should be possible without the physical structure impinging on this movement or pre-  
g that the hearing impaired children are in another building.

# A

## INSTRUCTIONAL LEARNING AREAS

LARGE GROUP AREA  
INSTRUCTIONAL UNIT AREA  
TUTORIAL AREA  
COUNSELING AREA  
TEACHER PLANNING  
LEARNING EXPERIENCES CENTER  
SPECIAL FACILITIES

### CONCEPTUAL PLAN

The teaching-learning process will take place in one or more of the specially inside as well as the outdoor areas specified in Section F. Emphasis will be social needs of the children according to their specific capabilities and age

It is desirable to provide each child with the opportunity to identify with so vironment. In this vein, groups should be formed that will encourage children their teacher and their instructional area. Because small groups can encourage pupil to teacher ratio is 6:1 it would seem appropriate to confirm this as an

Because other activities in the learning process may involve larger groups of combinations of instructional units seem essential for good learning. In addition utilization of staff and materials may be extended through larger groups. Teachers by combining instructional units and teachers can develop many ways of developing aids and ways of extending their own expertise to a wider range of children than

It will also be possible to provide greater opportunities for student mobility extended instructional unit. For purposes of planning, an extended instructional instructional units.

A desirable counselor ratio of 1:108 children can be further enhanced by development of six extended instructional units; 18 teachers and one counselor plus additional make available an outstanding planning unit for the development of the program primarily the needs of the children, but also offer guidance to the professional

Children are respondents to environmental stimulation. Hearing does occur through Random motivation, while reliable, does not lead to predictable response, controlling predictable responses, therefore, a means of controlling the child's environment a valuable tool in the learning process. The ability to create an environment controlling the variables entering the child's perceptual system can enhance the of the hearing impaired child.

### *FACILITY IMPLICATIONS*

- Tutorial instruction in auditory discrimination and speech training requires a instructional unit should have one such unit available. In areas where multi-h the tutorial area could be used as a rest area on occasion for children with hearing

## A

### INSTRUCTIONAL LEARNING AREAS

g process will take place in one or more of the specially designed instructional areas  
e outdoor areas specified in Section F. Emphasis will be placed on the academic and  
children according to their specific capabilities and age level.

rovide each child with the opportunity to identify with someone or something in his en-  
vein, groups should be formed that will encourage children to relate to one another,  
eir instructional area. Because small groups can encourage this, and a recommended  
o is 6:1 it would seem appropriate to confirm this as an instructional unit.

ties in the learning process may involve larger groups of children in play, rhythms,  
ructional units seem essential for good learning. In addition to these benefits, the  
and materials may be extended through larger groups. Team planning may be possible  
tional units and teachers can develop many ways of developing team planned teaching  
nding their own expertise to a wider range of children than in single units.

ble to provide greater opportunities for student mobility from one unit to another within  
l unit. For purposes of planning, an extended instructional unit is composed of three (3)

ratio of 1:108 children can be further enhanced by developing a counseling unit composed  
uctional units; 18 teachers and one counselor plus additional auxiliary personnel will  
standing planning unit for the development of the program. The counselor would serve  
f the children, but also offer guidance to the professional staff.

nts to environmental stimulation. Hearing does occur through stimulation and motivation.  
ile reliable, does not lead to predictable response, controlled motivation can lead to  
, therefore, a means of controlling the child's environment vis a vis stimulation, can be  
e learning process. The ability to create an environment or several environments, thereby  
ples entering the child's perceptual system can enhance the total communication system  
ed child.

in auditory discrimination and speech training requires a small isolated area. Each  
ould have one such unit available. In areas where multi-handicapped children are studying,  
d be used as a rest area on occasion for children with hyper-activity problems.

- Age differences and activities do require specific details that are designed for school and primary age children will require more square footage in the large group area while the tutorial area may be smaller. Other adjustments will occur in the furniture and water fountain heights. Large group areas should accommodate play activities and art activities.
- Multi-handicapped children will require large group space equivalent of pre-school children and larger square footage allocations for small group instruction to a study booths in addition to the tutorial area. Storage of manipulative materials in these areas also place additional square footage requirements for this area.
- The office/work area of the counselor must have space for both the counselors waiting to see or talk with the counselor. This latter area should contain bookshelves and furniture. This area should also be able to serve as a teacher/counselor conference room.
- The teacher planning area should serve as the focal point of team planning and instruction. The space should be so detailed as to contain provisions for viewing films and slides of classroom activities. This space should also serve as the location of any storage facility, containing desks and file cabinets.
- The environmental experience center should be circular to accommodate a total perimeter design encircling the child. The space should be capable of holding 6 groups of children with back rests.

ies do require specific details that are designed for that group. Pre-  
children will require more square footage in the large group area than inter-  
instructional areas will require approximately the same square footage,  
be smaller. Other adjustments will occur in the furniture size, toilet  
Large group areas should accommodate play activities, general assembly

will require large group/space equivalent of pre-school and primary age  
footage allocations for small group instruction to accommodate individual  
the tutorial area. Storage of manipulative materials, and equipment in  
tional square footage requirements for this area.

counselor must have space for both the counselors work space and children  
the counselor. This latter area should contain book shelves, comfortable  
also be able to serve as a teacher/counselor conference area.

ould serve as the focal point of team planning and material preparations.  
led as to contain provisions for viewing films and video tape replays  
is space should also serve as the location of any student teachers in the  
nd file cabinets.

center should be circular to accommodate a total projection and amplification  
The space should be capable of holding 6 groups comfortably on the floor.

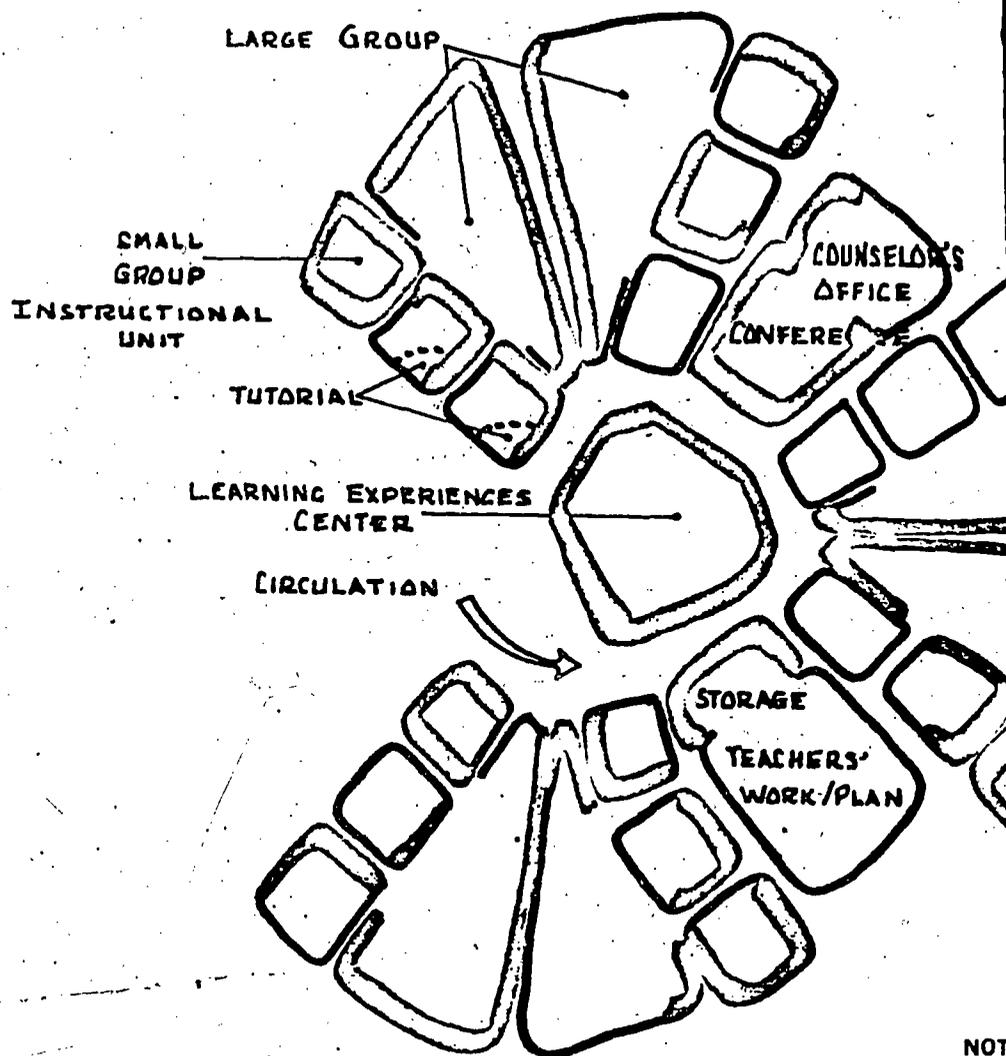
**AREA COMPONENTS****SQUARE FOOTAGE ALLOCATION****INSTRUCTIONAL LEARNING UNITS**

1) Large Group Area	
Pre-School Age	1,400
Primary Age	1,400
Intermediate Age	1,200
Multi-Handicapped	1,400
2) Instructional Unit Area	
Pre-School Age	520
Primary Age	520
Intermediate Age	520
Multi-Handicapped	725
3) Tutorial Area*	
Pre-School Age	120
Primary Age	120
Intermediate Age	160
Multi-Handicapped	160
4) Counseling Area	
Office Area	75
Reception/Conference Area	225
5) Teacher Planning	
Work/Planning Area	1,800
Resource Materials Storage	400
6) Learning Experiences Center	
Environmental Area	2,080
Environmental Control Unit	250
7) Special Facilities	
Crafts	1,400
Home Economics	1,400

\*Included as a part of the square footage allocation for the Instructional Unit.

# SCHEMATIC

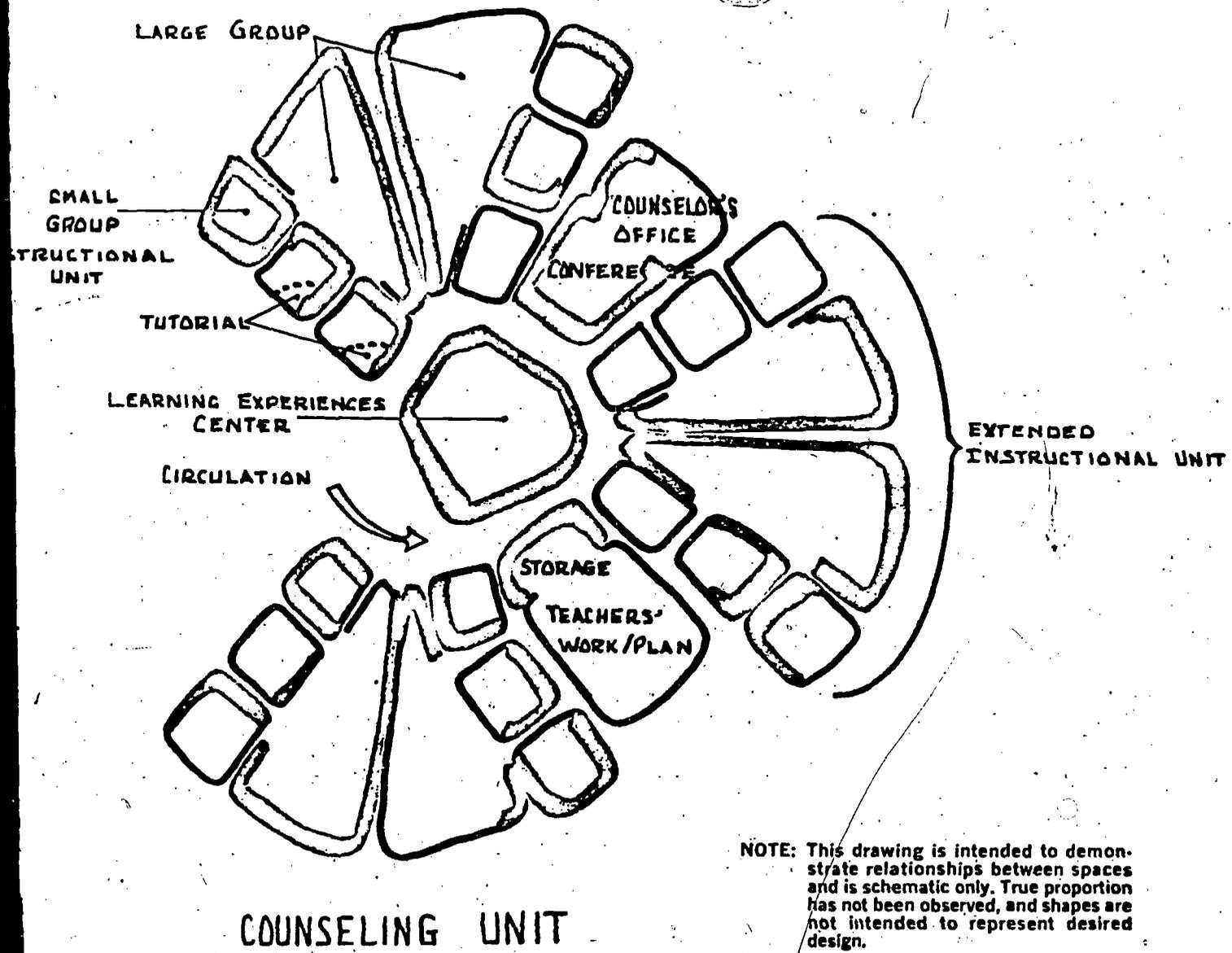
# INSTRUCTION



NOTE

COUNSELING UNIT

# INSTRUCTIONAL LEARNING AREAS



NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

SPACE (Pre-School)  
 LARGE GROUP AREA (Primary/Multi)

UNIT CAP.  
 18

NO. UNITS  
 1

UNIT SQ. FT.  
 1,400

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT				IV. MEDIA SYSTEMS						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM
1	X	X	2		X	X	3	X		X	4	X	X		X	X	X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements

**EXCEPTIONS**

1. Ceiling height a minimum of 12'.
2. Tartan brand floor or other smooth surface that will magnify floor generated vibrations.
3. Relate directly to three instructional units.
4. APPENDIX B.
5. Install hot and cold water in sink unit. Install toilet facilities for boys and girls in
6. Provide conduit terminations for media systems:

Amplification      CAI/CBI      RAS  
 TV                      COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

18

1

1,400

1,400

ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
	3	X		X	4	X	X		X	X	X	X	NA	X	X		X	5	X	6

specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

of 12'.

er smooth surface that will magnify floor generated vibrations.

Instructional units.

in sink unit. Install toilet facilities for boys and girls in each area.

ons for media systems:

CBI RAS  
TLM



UNIT CAP.

18

NO. UNITS

1

UNIT SQ. FT.

1,200

TOTAL SQ. FT.

1,200

NT		III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
		X	4	X	X		X	X	X	X	NA	X	X		X	5	X	6

pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

h surface that will magnify floor generated vibrations.

ional units.

k unit. Install toilet facilities for boys and girls in each area.

media systems:

RAS

SPACE (Pre-School) UNIT CAP. NO. UNITS UNIT SQ. FT.  
 INSTRUCTIONAL UNIT (Primary/Intermediate) 6 1 520

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/IC
X	1	X	X	2	X	X	3	X		X	4	X	X		X	X	X	X	NA

X - NO EXCEPTION to General Requirements specified in pages 25 to 44. NA - Not Applicable. Numbers refer to exceptions to General Requirements.

**EXCEPTIONS**

1. Long-term wall between instructional unit and large group area.
2. Door at entry necessary.
3. Relate directly to large group area and other instructional units.
4. APPENDIX B.
5. Install toilet facilities for boys and girls in each pre-school and primary age instructional unit.
6. Provide conduit termination for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

UNIT CAP. 6 NO. UNITS 1 UNIT SQ. FT. 520 TOTAL SQ. FT. 520

ol)  
Intermediate)

ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	3	X		X	4	X	X		X	X	X	X	NA	X	X		X	5	X	6

as specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Instructional unit and large group area.

group area and other instructional units.

for boys and girls in each pre-school and primary age instructional unit.

on for media systems:

CAI/CBI RAS  
COM/TLM



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

6

1

725

725

I. ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	3	4		X	5	X	X		X	X	X	X	NA	X	X		X	6	X	7

nts specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

nstructional unit and large group area.

group area.

ant in this area.

n extended side panels. APPENDIX B.

s for boys and girls in each pre-school and primary age unit.

ions for media systems:

AI/CBI      RAS  
OM/TLM



C

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

ool - Primary)                      1-2                      1                      120                      120

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	X	X		X	X	X	X		X	X	X	X	NA	X	X		X	NA	X	4

Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

It may be relocated within instructional unit as desired.

Minimum sound attenuation factor of 48.

Access from instructional unit into tutorial area.

Options for media systems:

CAI/CBI                      RAS  
COM/TLM



i) UNIT CAP. 1-2 NO. UNITS 1 UNIT SQ. FT. 160 TOTAL SQ. FT. 160

II. ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X		X	X	X	X		X	X	X	X	NA	X	X		X	NA	X	4

... in pages 25 to 44 . NA = Not Applicable, Numbers refer to exceptions to General Requirements.

... relocated within instructional unit as desired.

... and attenuation factor of 48.

... in instructional unit into tutorial area.

... for media systems:

BI RAS  
LM



SPACE

UNIT CAP.

NO. UNITS

TUTORIAL AREA (Intermediate/Multi)

1-2

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV.		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	1	2	X	3	X	X	X	X		X	X	X	X		X	X	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to

**EXCEPTIONS**

1. Long-term wall; unit may be relocated within instructional unit as desired. Walls must have minimum sound attenuation factor of 48.
2. Windows or visual access from instructional unit into tutorial area.
3. Door at entry.
4. Provide conduit terminations for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

te/Multi)

UNIT CAP.

ND. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-2

1

160

160

II. ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	FAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	X		X	X	X	X		X	X	X	X	NA	X	X		X	NA	X	4

ments specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ay be relocated within instructional unit as desired.

m sound attenuation factor of 48.

ss from instructional unit into tutorial area.

ations for media systems:

CAI/CBI            RAS  
COM/TLM



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-2

1

75

75

ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	3	X		X	4	X	X		X	X	NA	X	NA	X	X		X	X	X	4

as specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

be relocated within the facility as desired.

doors for visual access from other parts of the instructional areas.

tion or general circulation area.

ons for media systems:

M/TLM  
S

SPACE UNIT CAP. NO. UNITS UNIT SQ.  
 COUNSELING AREA (Reception/Conference) 6-8 1 225

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	
X	1	2	X		X	X	3	X		X	X	X	X		X	X	NA	X	

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements

EXCEPTIONS

1. Long-term wall; unit may be relocated within the facility as desired.
2. Windows or sliding glass doors for visual access from other areas of the instructional area.
3. Relate directly to general circulation area and counselor's office.
4. Provide conduit terminations for media systems:

Amplification COM/TLM  
 TV

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

A (Reception/Conference)                      6-8                      1                      225                      225

I. ENVIRONMENT		II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X		X	X	3	X		X	X	X	X		X	X	NA	X	NA	X	NA		X	X	X	4

to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

all; unit may be relocated within the facility as desired.

sliding glass doors for visual access from other areas of the instructional units.

ectly to general circulation area and counselor's office.

duit terminations for media systems:

ication                      COM/TLM



SPACE  
TEACHER PLANNING (Work/Planning)

UNIT CAP.  
10-12

NO. UNITS  
1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio
X	1	X	X	2	X	X	3	X		X	NA	X	X		X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to

EXCEPTIONS

1. Long-term wall; unit may be relocated if necessary.
2. Door at entry.
3. Relate directly to general circulation area and instructional areas.
4. Provide conduit terminations for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

(Work/Planning)                      10-12                      1                      1,800                      1,800

II. ENVIRONMENT						III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X	X	3	X		X	NA	X	X		X	X	X	X	NA	X	X		X	X	X	4

General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

; unit may be relocated if necessary.

to general circulation area and instructional areas.

t terminations for media systems:

tion                      CAI/CBI                      RAS  
                                  COM/TLM



7

SPACE	UNIT CAP.	NO. UNITS	UNIT SQ.
TEACHER PLANNING (Resource Storage)	-	1	400

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	X	X		X	X	2	X		X	NA	NA	X		NA	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

**EXCEPTIONS**

1. Long-term wall; unit may be relocated if necessary.
2. Relate to work/planning area.
3. Install hot and cold water in sink unit.

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

ce Storage)

1

400

400

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	2	X			X	NA	NA	X		NA	NA	NA	NA	NA	NA	NA		X	3	X	

Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

may be relocated if necessary.

ing area.

water in sink unit.

SPACE

UNIT CAP.

NO. UNITS

LEARNING EXPERIENCES CENTER  
Environmental Area

40

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV.		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
1	2	NA	3	4	X	X	5	X		NA	NA	NA	X	6	X	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions

EXCEPTIONS

1. Ceiling domed to serve as planitarium or curved projection surface.
2. Projection surface on entire wall surface.
3. Floor needs to be designed to accommodate the installation of a planitarium.
4. Entrance and exit on same wall.
5. Centrally related to all instructional areas, accessible to outside area.
6. Area must accommodate projection units from all angles, film strip and film to introduce odors into the air and completely clear the air in a matter of minutes after introduced. Amplification must be 360° capacity.
7. Lighting must be on rheostat control from control area.
8. Provide conduit terminations for media systems:

Amplification

UNIT CAP.  
40

NO. UNITS  
1

UNIT SQ. FT.  
2,080

TOTAL SQ. FT.  
2,080

I. ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	5	X		NA	NA	NA	X	6	X	NA	NA	NA	NA	NA	NA		7	NA	X	8

Items specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

as planitarium or curved projection surface.

entire wall surface.

ned to accommodate the installation of a planitarium solar projection unit.

ne wall.

l instructional areas, accessible to outside area for emergency exit.

projection units from all angles, film strip and film projectors. It must be possible  
the air and completely clear the air in a matter of 10 minutes once an odor has been  
on must be 360° capacity.

ostat control from control area.

itions for media systems:





SPACE  
CRAFT AREA

UNIT CAP.  
8-10

NO. UNITS  
1

UNIT SQ. FT.  
1,400

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM
1	2	X	3		X	X	4	X		X	5	X	X		X	X	X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements

EXCEPTIONS

- Ceiling minimum clear span 12'.
- Long term adaptability with easily cleaned surface.
- Resilient tile or other surface of like material.
- Relate to intermediate and/or advanced instructional areas.
- Student stations will include many varied activity centers including work, letter press metal work. Work surfaces and machinery will need to be specified at the time of program.
- Provide conduit terminations for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

UNIT CAP.  
8-10

NO. UNITS  
1

UNIT SQ. FT.  
1,400

TOTAL SQ. FT.  
1,400

II. ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	4	X		X	5	X	X		X	X	X	X	NA	X	X		X	X	X	6

Items specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

pan 12'.

with easily cleaned surface.

surface of like material.

and/or advanced instructional areas.

include many varied activity centers including work, letter press, plastics, presses and machinery will need to be specified at the time of program identification.

Options for media systems:

CAI/CBI      RAS  
COM/TLM

SPACE  
HOME ECONOMICS

UNIT CAP.  
8-10

NO. UNITS  
1

UNIT SQ. FT.  
1,400

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM
X	X	X	X		X	X	1	X	2	X	3	X	4		X	X	X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements

EXCEPTIONS

1. Relate to intermediate or advanced instructional area.
2. Zone area for design and serving and for food preparation and home related activities and dining room.
3. Provide 1 four-place domestic type kitchen unit with formica "hot-top" counter and wall cabinets above. Install 1 commercial range and bake oven arrangement. Furnish 4 serving stations using space-saver tables. Provide laundry unit.
4. Provide portable storage.
5. Install 220 volt service.
6. Install water connections and ventilation hoods at kitchen unit.
7. Provide conduit terminations for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

UNIT CAP.  
8-10

NO. UNITS  
1

UNIT SQ. FT.  
1,400

TOTAL SQ. FT.  
1,400

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	1	X	2	X	3	X	4		X	X	X	X	NA	X	X		5	6	X	7

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

te or advanced instructional area.

and serving and for food preparation and home related activities such as living

domestic type kitchen unit with formica "hot-top" counter and wall/ceiling hung  
tall 1 commercial range and bake oven arrangement.

ations using space-saver tables. Provide laundry unit.

range.

vice.

tions and ventilation hoods at kitchen unit.

nations for media systems:

CAI/CBI      RAS  
COM/TLM

**B**

CHILDRENS' EDUCATIONAL EVALUATION CENTER

OFFICES  
CONFERENCE AREAS  
RESEARCH AREA  
PROFESSIONAL LIBRARY

**CONCEPTUAL PLAN**

Every child, upon entering the region, shall be evaluated and an educational

This Center will serve as the focal point, within the region, for major diagnostic workups as well as re-evaluations. Additionally, the research program for the Center will be conducted within the Center for a wide variety of activities. Hearing conservation program, communication training for parents and very young children will be conducted.

The staff of the Center will include:

- Audiologist and an Audiological Assistant
- Psychologists
- Child Development Specialist
- Teachers of Hearing Impaired
- Teacher of the Deaf
- Consulting Psychiatrist
- Vision Screener
- Parent-Infant Educators
- Social Worker
- Nurse

**FACILITY IMPLICATIONS**

- The Center may be a central part of the educational facility for the region. If more than one educational facility is necessary for the region than the Center should be located as to serve the population of the region most conveniently.
- Space within the Center will be composed of two major items: office areas and research facilities that will include larger conference or work space for housing research equipment.
- If the Center is planned in conjunction with an educational building, the Center should have his office area located adjacent to the CEEC.

**B**

CHILDRENS' EDUCATIONAL EVALUATION CENTER

entering the region, shall be evaluated and an educational program developed for him.

serve as the focal point, within the region, for major diagnostic and evaluation re-evaluations. Additionally, the research program for the region will have areas for a wide variety of activities. Hearing conservation program planning, and training for parents and very young children will be conducted in the Center.

Center will include:

and an Audiological Assistant

ent Specialist

aring Impaired

Deaf

chiatrist

Educators

ONS

be a central part of the educational facility for the region if it can be so designed. The educational facility is necessary for the region than the CEEC should be so located in the population of the region most conveniently.

The Center will be composed of two major items: office areas with conference space and facilities that will include larger conference or work space; and a "hardware" area for research equipment.

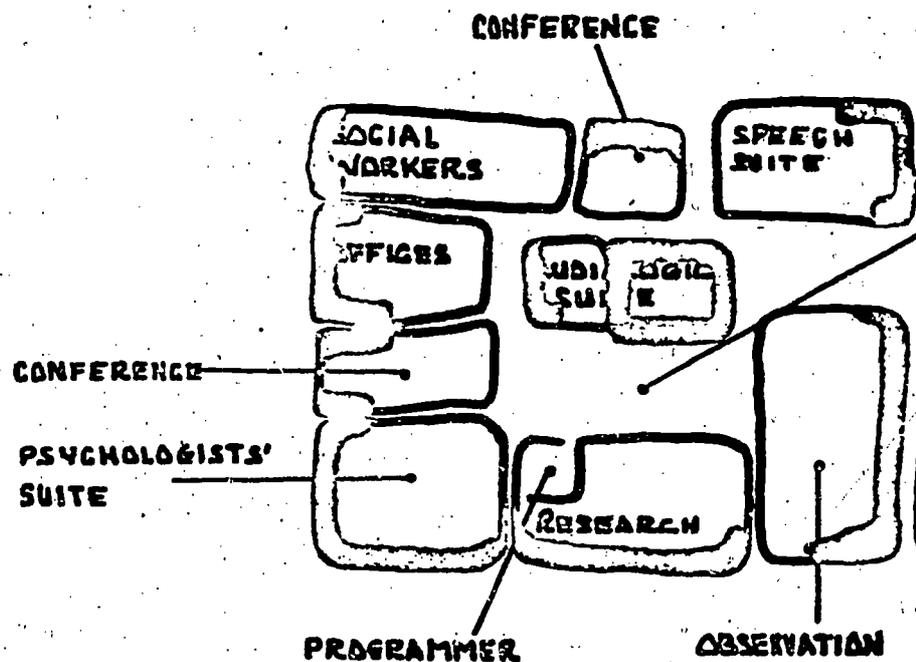
is planned in conjunction with an educational building, the Director of the program's office area located adjacent to the CEEC.

**AREA COMPONENTS****SQUARE FOOTAGE ALLOCATIONS****CHILDRENS' EDUCATIONAL EVALUATION CENTER**

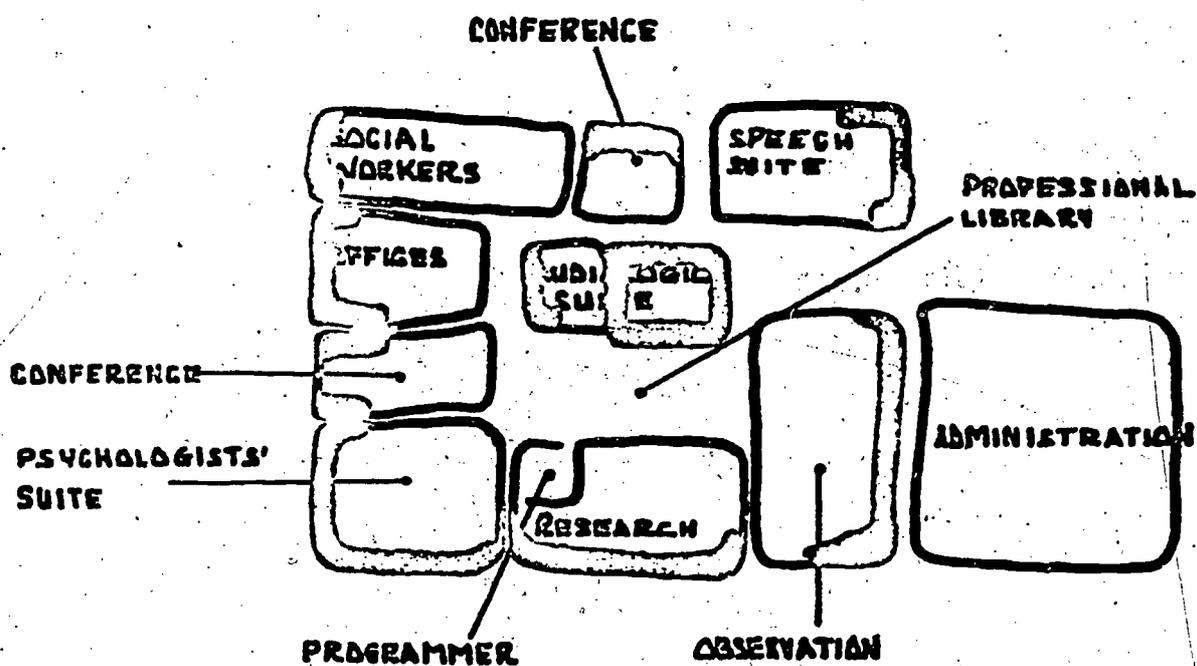
1) Audiologist's Office	100
2) Audiological Assistant's Office	75
3) Audiological Testing Area	200
4) Psychologist's (Coordinator's) Office	100
5) Psychologist's Offices	100
6) Interns' Offices	50
7) Conference Area	200
8) General Offices	525
9) Consulting Psychiatrist	100
10) Consultant's Office	150
11) Speech and Aural Rehabilitation Room	100
12) Speech Diagnosis Area	100
13) Social Workers Office	75
14) Conference Area	200
15) Research Area	
Programmer	120
Equipment	400
16) Observation	600
17) Professional Library	400

**SCHEMATIC**

**CHILDRENS' EDUCATION**



# SCHEMATIC CHILDRENS' EDUCATIONAL EVALUATION CENTER.



NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-3

1

100

100

VI. ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X		X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	3

specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

of 48.

area.

s for media system:

SPACE  
 AUDIOLOGICAL ASSISTANT'S OFFICE

UNIT CAP.  
 1-3

NO. UNITS  
 1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. ...		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	1	NA	X		X	X	2	X		X	X	X	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to

**EXCEPTIONS**

1. Minimum sound attenuation factor.
2. Relate directly to testing area.
3. Provide conduit terminations for media systems:

COM/TLM  
 RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

OFFICE

1-3

1

75

75

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other		Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	FAS	Other	Electrical	Plumbing	Mechanical	Other
X	2	X			X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	3

ments specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

tion factor.

ting area.

ations for media systems:



UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

16                                      1                                      200                                      200

MENT		III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X		X	X	X	X		NA	NA	NA	X	NA	NA	NA	5	X	NA	6	

pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

nd control area.

best possible arrangement for this area.

effort to provide a sound proof area be made.

ic console.

tion.

g air exhaust must be designed with a minimum of sound generation.

3

SPACE  
PSYCHOLOGIST'S OFFICE

UNIT CAP.  
1-3

NO. UNITS  
1

UNIT SQ. F.  
100

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA S				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	N
X	X	1	X		X	X	2	X		X	X	X	X		NA	NA	NA	X	N

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General

EXCEPTIONS

1. Partial window wall related to conference or reception area.
2. Relate to public reception, administration and psychological suite.
3. Provide conduit terminations for media systems:

COM/TLM  
RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-3

1

100

100

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	2	X		X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	3

Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

1 related to conference or reception area.  
 reception, administration and psychological suite.  
 terminations for media systems:



SPACE  
 PSYCHOLOGISTS' OFFICES

UNIT CAP. 3

NO. UNITS 2

UNIT SQ. FT. 100

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COMPLY
X	X	1	X		X	X	2	X		X	X	X	X		NA	NA	NA	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

EXCEPTIONS

1. Partial window wall related to conference or reception area.
2. Relate to conference area. Avoid cross traffic with administrative office area. Provide direct access to student traffic ways.
3. Provide conduit terminations for media systems:

COM/TLM  
 RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

3

2

100

200

VI. ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X		X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	3

specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

to conference or reception area.

Avoid cross traffic with administrative office area.  
student traffic ways.

for media systems:



SPACE  
 INTERNS' OFFICE

UNIT CAP.  
 1

NO. UNITS  
 3

UNIT SQ. FT.  
 50

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	
X	X	X	X		X	X	1	X		X	X	X	X		NA	X	NA	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements

**EXCEPTIONS**

1. Relate to conference area and psychologists area.
2. Provide conduit terminations for media systems:

COM/TLM  
 RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1

3

50

150

ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	1	X		X	X	X	X		NA	X	NA	X	NA	X	X		X	NA	X	2

as specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

and psychologists area.

ions for media systems:

SPACE CONFERENCE AREA UNIT CAP. 10 NO. UNITS 1 UNIT SQ. FT. 200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	Other	
X	X	X	X		X	X	1	2		X	X	X	X		NA	X	X	X	X	N

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General

EXCEPTIONS

1. Relate directly to Coordinator's office and other psychologists' offices.
2. Install chalkboard and pinboard surfaces in area.
3. Provide conduit terminations for media systems:

TV COM/TLM  
CAI/CBI RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

10

1

200

200

ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	1	2		X	X	X	X		NA	X	X	X	NA	X	X		X	NA	X	3

specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

nator's office and other psychologists' offices.

inboard surfaces in area.

ions for media systems:



SPACE UNIT CAP. NO. UNITS UNIT SQ. FT.  
 OFFICES 1-2 7 75

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYST				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	JC/RC
X	1	X	X		X	X	2	3		X	X	X	X		NA	NA	NA	X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Rec

EXCEPTIONS

1. Open area with visual dividers to establish semi-private areas for:
  - 1 child development specialist
  - 4 teachers of hearing impaired
  - 2 parent infant educators
2. Relate directly to student traffic ways.
3. Install chalkboard and pinboard surfaces.
4. Provide conduit terminations for media systems:

COM/TLM  
RAS

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

1-2                                      7                                      75                                      525

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	2	3		X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	4

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Equal dividers to establish semi-private areas for:

ment specialist  
earing impaired  
educators

student traffic ways.

and pinboard surfaces.

minations for media systems:



UNIT CAP

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-3

1

100

100

I. ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
1	X		X	X	X	X		NA	NA	NA	X	NA	NA	X		X	NA	X	2

defined in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

area.  
for media systems:



SPACE  
CONSULTANT'S OFFICE

UNIT NO.  
1-3

NO. UNITS  
1

UNIT SQ. FT.  
150

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC
X	X	X	X		X	X	L	X		X	X	X	X		X	X	NA	X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements

EXCEPTIONS

1. Relate to reception area.
2. Install sink with hot and cold water.
3. Provide conduit terminations for media systems:

TV  
COM/TLM  
RAS

UNIT NO.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-3

1

150

150

II. ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	L	X		X	X	X	X		X	X	NA	X	NA	X	X		X	2	X	3

Items specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

a.

and cold water.

Requirements for media systems:



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

ON ROOM

3

1

100

100

ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X		X	X	X	X		X	X	X	X	NA	X	X		X	NA	X	3

Specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

tion area. Direct access to student traffic ways.

s for media systems:

BI RAS  
LM



UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

3                                      1                                      100                                      100

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	1	2	X		X	X	X	X		X	X	NA	X	NA	NA	X		X	NA	X	3

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

the speech and aural room with direct access from student traffic ways.

terminations for media systems:

RAS



SPACE: SOCIAL WORKER'S OFFICE      UNIT CAP.: 3      NO. UNITS: 3

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	1	X	X		X	X	2	3		X	X	X	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to

EXCEPTIONS

1. Open area with visual dividers to establish semi-private office space.
2. Relate directly to general office and reception areas.  
Provide direct access to outside walkways and internal traffic.
3. Provide conduit terminations for media systems:

COM/TLM  
RAS



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

3

3

75

225

ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RG	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	2	3		X	X	X	X		NA	NA	NA	X	NA	X	X		X	NA	X	4

specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ders to establish semi-private office space.

office and reception areas.  
outside walkways and internal traffic.

ns for media systems:

SPACE CONFERENCE AREA UNIT CAP. 10 NO. UNITS 1 UNIT SQ. FT. 200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM
X	X	X	X		X	X	1	2		X	X	X	X		NA	X	X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements

EXCEPTIONS

1. Relate directly to social workers' offices.
2. Install chalkboard and pinboard surfaces in area.
3. Provide conduit terminations for media systems:

TV  
CAI/CBI

COM/TLM  
RAS

UNIT CAP. 10 NO. UNITS 1 UNIT SQ. FT. 200 TOTAL SQ. FT. 200

Floor	II. ENVIRONMENT						III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES			
	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical
	X	X	1	2		X	X	X	X		NA	X	X	X	NA	X	X		X	NA	X	3

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ly to social workers' offices.

board and pinboard surfaces in area.

at terminations for media systems:

COM/TLM  
RAS



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1-2

1

120

120

ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS								V. UTILITIES			
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X		X	X	3	X		NA	NA	X	X	NA	X	X		X	NA	X	4

specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

programmer area to equipment area.

t area.

ogram planning.

s for media systems:



UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

AREA                              10                              1                              400                              400

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES					
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	3	4	5	X		X	X	X	X		X	X	X	X	NA	X	X		6	X	X	7

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

from programmer area and observation area.

floor, with access holes, for ease of cable installation and movement of equipment.

control 40° to 75°. Humidity control 40% to 80%.

control, minimum sound level.

ammers area.

vation area.

access.

candles of light with no more than a 10/1 brightness ratio on the ceiling.

volt service.

terminations for media systems:

CAI/CBI                      RAS  
COM/TLM



UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

25

1

600

600

II. ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	3	4		X	X	X	X		X	X	NA	X	NA	X	X		X	NA	X	5

Items specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

observation and research area.

arch area and general reception.

ror glass.

terminations for:

RAS

/TLM

SPACE

UNIT CAP.

NO. UNITS

PROFESSIONAL LIBRARY

10-12

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV.		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	X	X	X		X	X	1	X		X	X	2	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions

EXCEPTIONS

1. Relate to office areas.
2. Provide study tables, book shelves and reference area.
3. Provide conduit terminations for media systems:

COM/TLM  
RAS

UNIT CAP.  
10-12

NO. UNITS  
1

UNIT SQ. FT.  
400

TOTAL SQ. FT.  
400

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	1	X		X	X	2	X		NA	NA	NA	X	NA	X	X		X	NA	X	3

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Areas.

es; book shelves and reference area.

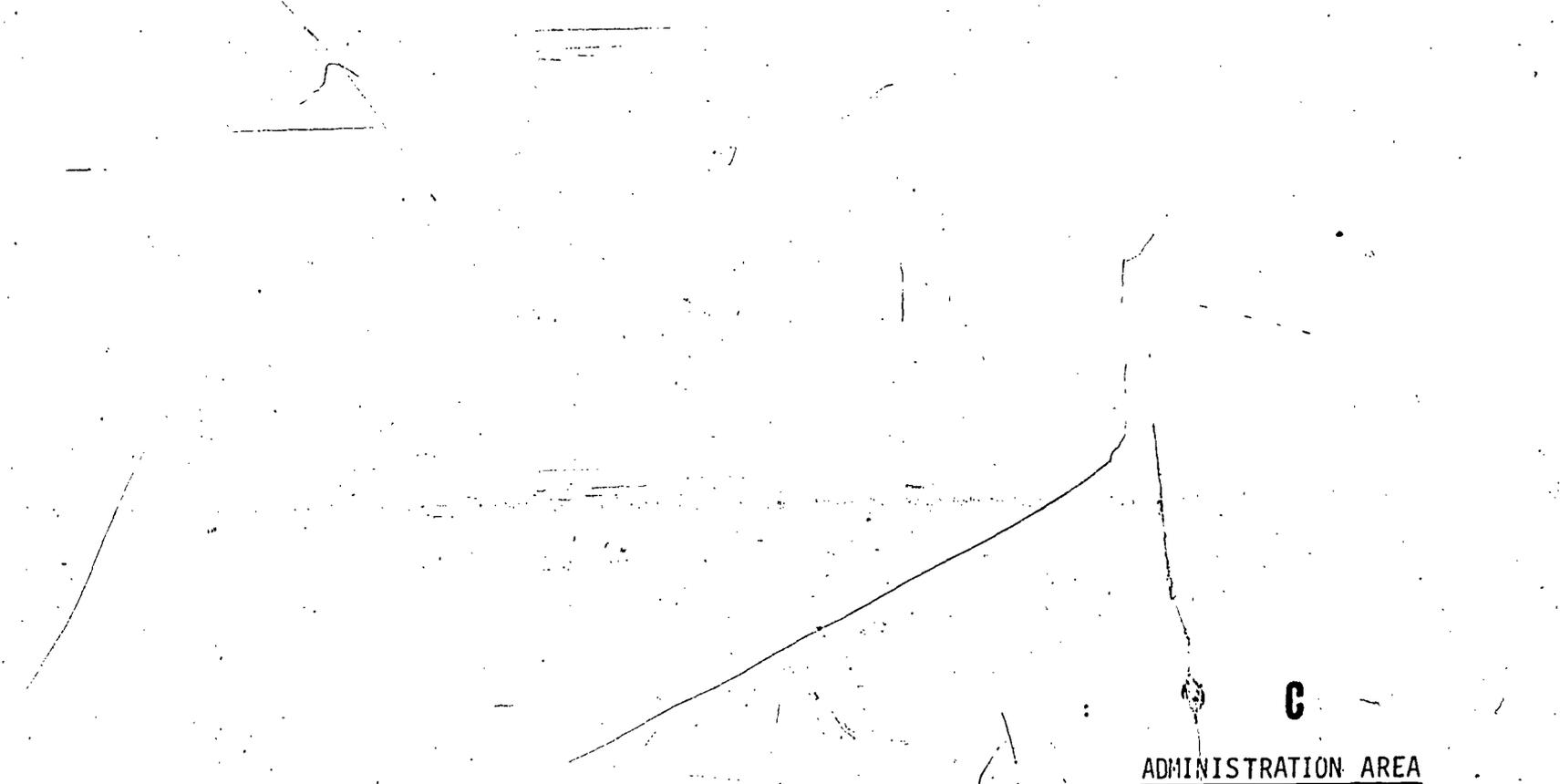
terminations for media systems:

C

ADMINISTRATION AREA

---

OFFICE-CONFERENCE  
SECRETARY/RECEPTION



C

ADMINISTRATION AREA

#### CONCEPTUAL PLAN

It is imperative that an administrative unit be designed specifically for the Director of the regional program. However, it is equally imperative that a close working relationship exist with the staff of CEEC and with the faculty of the educational facility, therefore, all units should share a common structure if at all possible.

#### FACILITY IMPLICATIONS

- The administrative unit should be designed in such a way to provide a common reception area for the educational unit, CEEC and the Director's area.
- In addition to the Director's office, conference area, secretarial area and storage room are required. Entry to the facility should be into a reception area, with office and secretarial area nearby.
- The Director's office should open directly into the Conference area by using a folding wall. The toilet facilities should be near but not a part of the office space, so use of the facilities may be made by more than just the Director and his staff.

AREA COMPONENTS

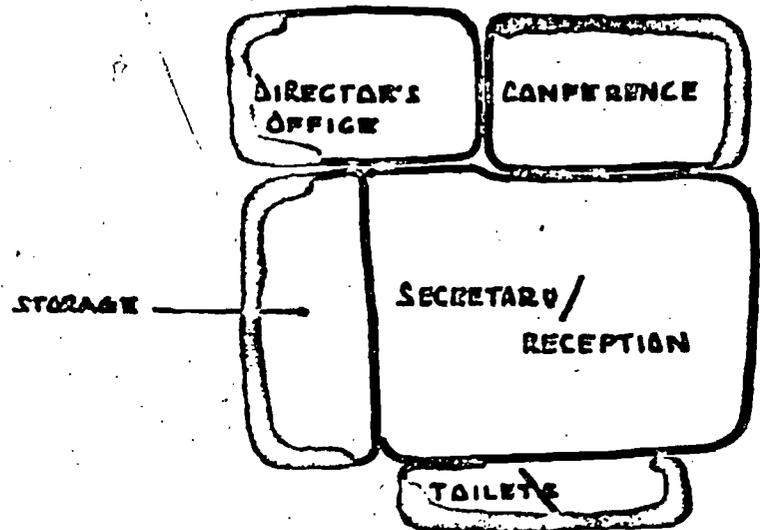
SQUARE FOOTAGE ALLOCATION

ADMINISTRATIVE UNIT

- |                      |     |
|----------------------|-----|
| 1) Director's Office |     |
| 2) Conference        | 150 |
| 3) Secretary         | 200 |
| 4) Reception         | 120 |
| 5) Storage           | 150 |
| 6) Toilets           | 200 |
|                      | 100 |

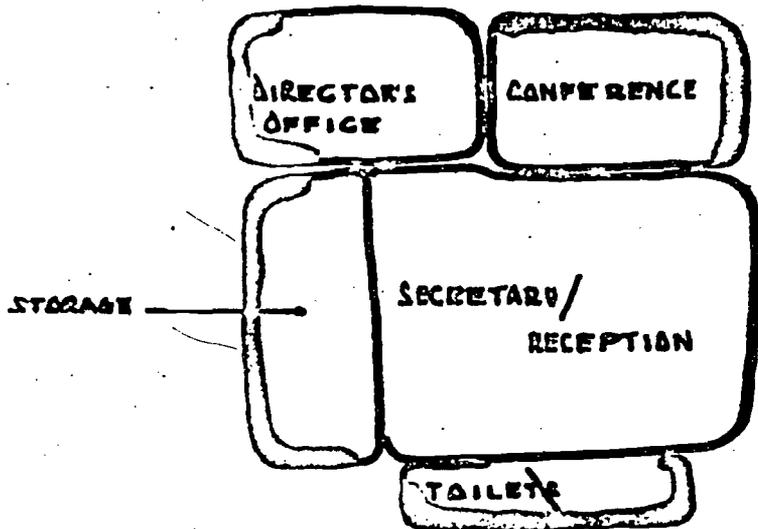
# SCHEMATIC

A



A B C

# ADMINISTRATION AREA



NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

SPACE

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

DIRECTOR'S OFFICE

1 - 3

1

150

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC
X	X	X	X		X	X	1	X		X	X	X	X		NA	X	NA	X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

EXCEPTIONS

1. Relate directly to the reception area and conference area.
2. Provide conduit termination for media systems.

TV RAS  
COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1 3

1

150

150

STE	I. ENVIRONMENT			III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
IC/RC	1	X		X	X	X	X		NA	X	NA	X	NA	X	X		X	NA	X	2

Required in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

reception area and conference area.

for media systems.

SPACE CONFERENCE UNIT CAP. 10-12 NO. UNITS 1 UNIT S 200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MED			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	X	X		X	X	2	X		X	X	X	X		X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to Gen

EXCEPTIONS

1. Install folding wall between director's office and conference room.
2. Relate directly to the director's office.
3. Provide conduit terminations for media systems:

Amplification  
TV

COM/TLM  
RAS

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

10-12                              1                              200                              200

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	2	X		X	X	X	X		X	X	NA	X	NA	X	X		X	NA	X	3

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

all between director's office and conference room.

the director's office.

terminations for media systems:

COM/TLM  
RAS

SPACE  
SECRETARY

UNIT CAP.

NO. UNITS

1

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	X	NA	X		X	X	1	X		X	NA	X	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions

EXCEPTIONS

1. Relate to reception area. Open space.
2. Provide conduit termination for media systems:

COM/TLM  
RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1

1

120

120

VI. ENVIRONMENT			III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
1	X		X	NA	X	X		NA	NA	NA	NA	NA	X	X		X	NA	X	2

defined in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

open space.

for media systems:

SPACE  
RECEPTION

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

-

1

150

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC
X	NA	NA	X		X	X	1	X		X	X	X	NA		NA	NA	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General R

EXCEPTIONS

1. Relate to outside open area without interior walls separating the secretary from r
2. Install drinking fountain.

FT.

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1

150

150

SY

IC/RC

NA

ral R

m r

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES					
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	X	1	X		X	X	X	NA		NA	NA	NA	NA	NA	NA	NA		X	2	X	

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

the open area without interior walls separating the secretary from reception.

fountain.

SPACE  
STORAGE

UNIT CAP.

NO. UNITS

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
X	X	NA	X		X	X	1	X		X	NA	NA	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions

EXCEPTIONS

1. Relate directly to secretarial area.
2. Install sink with hot and cold water.

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

-

1

200

200

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	1	X		X	NA	NA	X		NA	NA	NA	NA	NA	NA	NA		X	2	X	

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

secretarial area.  
and cold water.



SPACE  
 TOILETS

UNIT CAP. 1-2

NO UNITS 2

UNIT SQ. 50

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	
X	X	X	X		X	X	1	X		X	NA	NA	NA		NA	NA	NA	NA	

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 NA = Not Applicable. Numbers refer to exceptions to General

EXCEPTIONS

1. Relate to administration unit. One toilet for each men and women accessible to administrative staff.
2. Install one sink and one toilet in each unit.



UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

1-2                                      2                                      50                                      100

II. ENVIRONMENT						III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
	X	X	1	X		X	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA		X	2	X	

General Requirements specified in pages 25 to 44 NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Administration unit. One toilet for each men and women accessible to visitors as well as staff.

Bank and one toilet in each unit.

**D**

**LEARNING RESOURCES CENTER**

**LIBRARY  
MULTI-MEDIA**

### CONCEPTUAL PLAN

The importance of combining and integrating the materials of the instructional program - recordings, tapes, pictures, models, etc., - into a coordinated program of resources to students and staff alike has brought about a new dimension to the school called the Center. The largest portion of the Center is still devoted to the circulating area and other library services; however, additional areas are identified for special seminar, carrels and conference. A conference room and study carrels provide area and for use of the library reference materials.

The Center should be the focal point for the location of all resources. While providing a dissemination area, the concepts of library, multi-media, audio-visual storage are embodied. Utilization is planned for students and faculty.

The Multi-Media area will serve as the center of the complete electronic communication system. On request, audio and/or video materials will be provided to instructional school. Selective distribution will be accomplished through a multiplex intercommunicated in each instructional and faculty area.

Although the center is considered as a unit, and operates as a unit, certain activities associated with the "library" section with others related to the "multi-media" section of this specification, areas of the Center are organized as follows: Library - Reference area, Staff processing area and workroom, Reference and Microfilm area. Multi-Media Storage, Equipment Maintenance and Storage, Materials Preparation area and Dark Room. Shared areas - carrel area, control, typing area, seminar area, and offices.

### FACILITY IMPLICATIONS

- The arrangement of the Media Center should be a functional design and include attractive and colorful in appearance. The overall design of the Center should reflect as a place for learning but also those aesthetic qualities that will invite students. It is essential that the Center have good lighting, acoustical control, heating and ventilation. Temperature and humidity control is necessary for the proper preservation of film, video and audio tapes, and other materials. There must be a sufficient number

## LEARNING RESOURCES CENTER

PLAN

ce of combining and integrating the materials of the instructional program - books, films, tapes, pictures, models, etc., - into a coordinated program of resource supply and service and staff alike has brought about a new dimension to the school called the Learning Resources Center. The largest portion of the Center is still devoted to the circulating and collection of books and library services; however, additional areas are identified for special functions; such as study carrels and conference. A conference room and study carrels provide areas for independent study of the library reference materials.

should be the focal point for the location of all resources. While primarily a reference and study area, the concepts of library, multi-media, audio-visual storage and distribution are also being utilized. Utilization is planned for students and faculty.

The multi-media area will serve as the center of the complete electronic communication and distribution system. Upon request, audio and/or video materials will be provided to instructional areas throughout the school. Effective distribution will be accomplished through a multiplex intercommunications receiver located in the instructional and faculty area.

The Learning Resources Center is considered as a unit, and operates as a unit, certain activities seem closely related to the "library" section with others related to the "multi-media" section. For the convenience of the user, areas of the Center are organized as follows: Library - Reading, Stacks, Periodical processing area and workroom, Reference and Microfilm area. Multi-Media - Media Information Center, Equipment Maintenance and Storage, Materials Preparation area and Dark Room and Master Control Center. Study - carrel area, control, typing area, seminar area, and offices.

### RECOMMENDATIONS

The design and management of the Media Center should be a functional design and include decoration that is attractive and colorful in appearance. The overall design of the Center should reflect not only efficiency and convenience for learning but also those aesthetic qualities that will invite student and faculty use. It is recommended that the Center have good lighting, acoustical control, heating and air-conditioning. Temperature and humidity control is necessary for the proper preservation of films, transparencies, audio tapes, and other materials. There must be a sufficient number of electrical outlets

and also the necessary electrical power for average as well as peak loads. A te needed in the office areas and possibly in other areas. There should be an inte in the office area and elsewhere as indicated in detailed specifications. Light outlets, power cords, thermostats, telephones, heat and smoke detection sensors, are located where they do not use space needed for shelving. Electrical recepta the floor as required.

- Although areas are identified specifically, i.e., carrel area, reference area, e imply a closed room in most instances. Rather the units should be an open area activities by dividers, such as bookshelves. Exceptions to this are in the typi that do need to be closed to restrict sound.
- The library space should be open with stacks and cabinetry used to form specific flexibility throughout the Center is required; electric and electronic connectio greater adaptability in this space.

the necessary electrical power for average as well as peak loads. A telephone outlet is required in the office areas and possibly in other areas. There should be an intercommunication outlet in the office area and elsewhere as indicated in detailed specifications. Light switches, electrical power cords, thermostats, telephones, heat and smoke detection sensors, and fire extinguishers should be located where they do not use space needed for shelving. Electrical receptacles may be planned in the office areas as required.

When areas are identified specifically, i.e., carrel area, reference area, etc., this does not mean a closed room in most instances. Rather the units should be an open area zoned for these areas by dividers, such as bookshelves. Exceptions to this are in the typing and seminar areas which should be closed to restrict sound.

Open office space should be open with stacks and cabinetry used to form specific areas. Considerable flexibility throughout the Center is required; electric and electronic connections should help to give adaptability in this space.

**AREA COMPONENTS**

SQUA

**LIBRARY**

1. Stacks/Reading Area
2. Carrel Area
3. Reference/Microfilm Area
4. Periodical Area
5. Staff Processing Workroom
6. Staff Office
7. Control Area
8. Typing Area
9. Seminar Area

**MULTI-MEDIA**

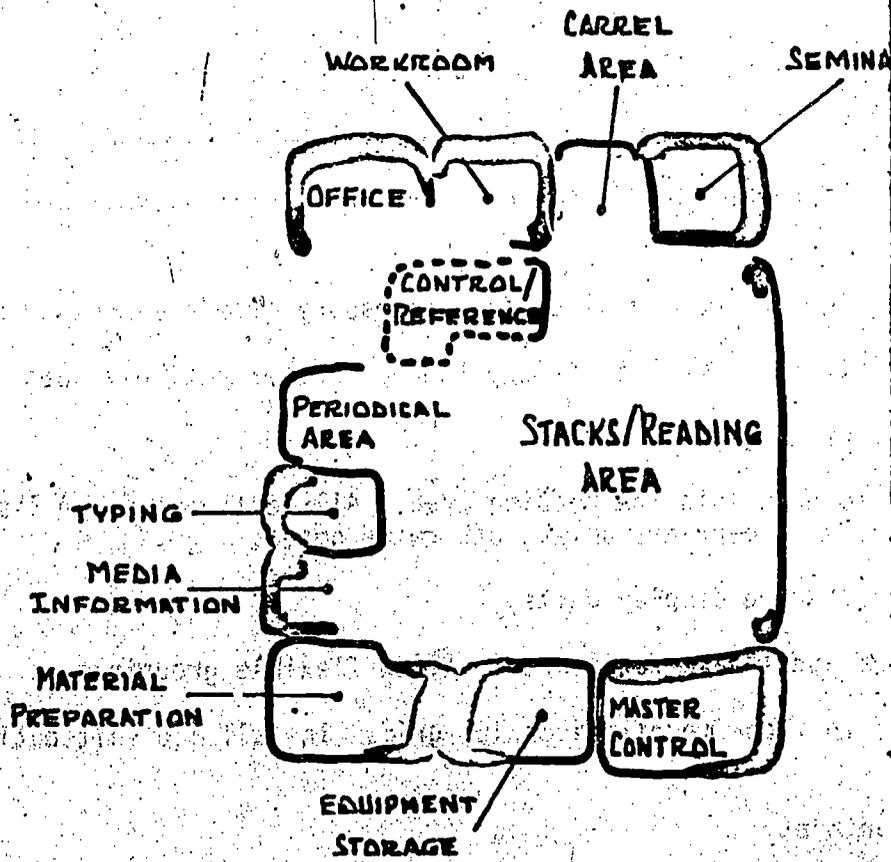
1. Master Control Center
2. Equipment Maintenance and Storage
3. Materials Preparation Area
4. Media Information Storage

SQUARE FOOTAGE ALLOCATION

ng Area	1,500
	450
icrofilm Area	200
rea	150
sing Workroom	400
	150
	75
	200
	100
opl Center	500
aintenance and Storage	200
eparation Area	800
ation Storage	150

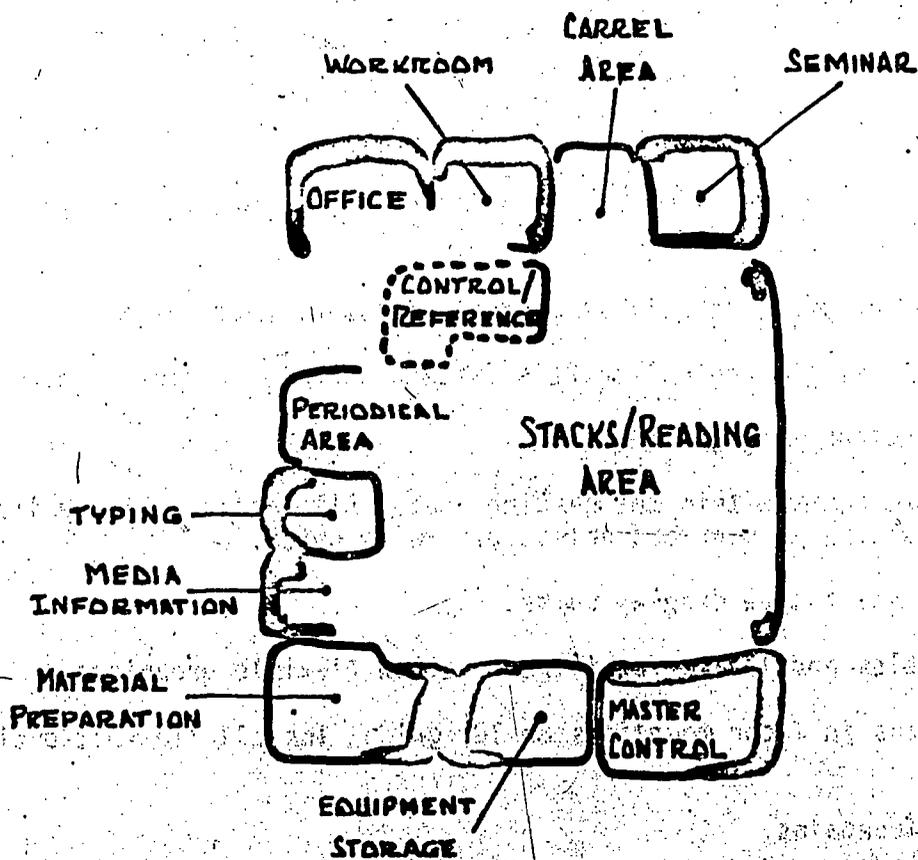
**SCHEMATIC**

**LEARNING RES**



NOTE: This drawing illustrates relative relationships and is schematic and is not intended as a design.

# LEARNING RESOURCES CENTER



NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

SPACE UNIT CAP. NO. UNITS UN  
 STACKS/READING AREA (Stacks - 500 sq ft; Reading - 1,000 sq ft) 40-50 1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT				IV.			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI
1	2	3	X		X	1	4	X		5	6	X	NA		X	X	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions

EXCEPTIONS:

1. Minimum of 12' ceiling height. Acoustical control necessary from one zone
2. Exterior walls only for slight control traffic pattern. Prefer entirely
3. Install low light transference glass in wall.
4. Stacks utilized to form zones within the reading area. All sections of the loft concept and use stacks as barriers unless otherwise noted.
5. Provide tackboard and shelf-type display units.
6. Furnish with study tables and lounge furniture to allow flexible grouping
7. Install 110 volt outlets in floor mountings on 10' grid. Install 110 volt control point.
8. Install two drinking fountains.
9. Provide conduit terminations for media systems:

Amplification CAI/CBI RAS  
 TV COM/TLM

UNIT CAP.	NO. UNITS	UNIT SQ. FT.	TOTAL SQ. FT.
t; Reading - 1,000 sq ft) 40-50	1	1,500	1,500

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES					
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	1	4	X		5	6	X	NA		X	X	X	X	NA	X	X			7	8	X	9

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ceiling height. Acoustical control necessary from one zone to another.

only for slight control traffic pattern. Prefer entirely open area to external circulation.

ght transference glass in wall.

d to form zones within the reading area. All sections of the library are part of open and use stacks as barriers unless otherwise noted.

ard and shelf-type display units.

tudy tables and lounge furniture to allow flexible groupings.

lt outlets in floor mountings on 10' grid. Install 110 volt outlets in floor mounting at

inking fountains.

terminations for media systems:

on CAI/CBI RAS  
COM/TLM

SPACE  
CARREL AREA

UNIT CAP.  
25

NO. UNITS  
1

UNIT SQ.  
450

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	X	X		X	X	2	X		X	3,4	X	NA		X	3	4	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

EXCEPTIONS:

1. Long-term walls.
2. Direct access to stacks and reading area.
3. One-half carrels should be equipped with TV monitor and audio headset, connected to RAS system with RAS available.
4. One-half carrels should be terminals for CAI with CRT display and keyboard connected to RAS.
5. Install 110 volt outlets in floor mounting at each carrel.
6. Provide conduit terminations for media systems:

Amplification  
TV

CAI/CBI  
COM/TLM

RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

25

1

450

450

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	2	X		X	3,4	X	NA		X	3	4	X	NA	X	X		5	NA	X	6

Requirements specified in pages 25 to 44. NA - Not Applicable. Numbers refer to exceptions to General Requirements.

stacks and reading area.

should be equipped with TV monitor and audio headset, connected to MC by Intercom available.

should be terminals for CAI with CRT display and keyboard control.

outlets in floor mounting at each carrel.

terminations for media systems:

CAI/CBI  
COM/TLM

RAS

SPACE REFERENCE/MICROFILM AREA UNIT CAP. 5 NO. UNITS 1 UNIT SQ. FT. 200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT				IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	Other
1	2	X	X		3	1	4,5	X		X	6	X	7		X	NA	NA	X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements:

EXCEPTIONS:

1. Design for good acoustical control, including acoustical type ceiling.
2. No interior walls.
3. Temperature and humidity control necessary for storage of microfilm.
4. Relate directly to control area and office. Directly accessible to reading area.
5. Open area. Stacks providing zone for reference area.
6. Furnish with lounge furniture and study tables.
7. Provide section for microfiche readers and storage of microfiche film.
8. Provide conduit terminations for media systems:

Amplification  
COM/TLM

FILM AREA		UNIT CAP.	NO. UNITS	UNIT SQ. FT.	TOTAL SQ. FT.
		5	1	200	200

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES					
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
	3	1	4,5	X		X	6	X	7		X	NA	NA	X	NA	X	NA		X	NA	X	8

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

good acoustical control, including acoustical type ceiling.

walls.

and humidity control necessary for storage of microfilm.

Directly to control area and office. Directly accessible to reading and typing areas.

Stacks providing zone for reference area.

lounge furniture and study tables.

tion for microfiche readers and storage of microfiche film.

uit terminations for media systems:

on

SPACE

UNIT CAP.

NO. UNITS

PERIODICAL AREA

5

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT						
Ceiling	Well	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV
X	1	X	X		X	X	2	X		X	X	X	NA		X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions:

**EXCEPTIONS:**

1. Open area. Separation from main reading area by stacks or partial wall.
2. Relate directly to reading and stacks area.
3. Design for capability of installation of electronic data retrieval systems and conduit terminations for media systems:

Amplification  
CAI/CBI

COM/TLM  
RAS

AREA	UNIT CAP.	NO. UNITS	UNIT SQ. FT.	TOTAL SQ. FT.
	5	1	150	150

I. STRUCTURE			II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Window	Floor	Other	Thermal	Acoustical	Special	Aesthetics	Other	Surfaced	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X		X	X	2	X		X	X	X	NA		X	NA	X	X	NA	X	X		X	NA	X	3

Refer to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Area. Separation from main reading area by stacks or partial visual dividers.

Access directly to reading and stacks area.

Provide for capability of installation of electronic data retrieval system at future date. Provide termination for media systems:

Specification I COM/TLM RAS

SPACE

UNIT CAP.

NO. UNITS

UNIT SQ. F.

STAFF PROCESSING WORKROOM

1

400

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA S			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	X	2		X	X	3,4	X		X	NA	NA	5		NA	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44; NA = Not Applicable. Numbers refer to exceptions to General

EXCEPTIONS:

1. Enclosed area with visual access.
2. Resilient floor covering.
3. Relate directly to offices.
4. External access or access to freight elevator, necessary for receiving books.
5. Install cabinets for storage and stacks for back up book storage.
6. Install 110 volt duplex outlets above work counters.
7. Install sink with hot and cold water in counter. Provide storage space beneath.
8. Provide conduit terminations for media systems:

COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

1

400

400

ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS								V. UTILITIES				
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
3,4	X			X	NA	NA	5		NA	NA	NA	NA	NA	X	NA		6	7	X	8

specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

al access.

g.

ces.

ss to freight elevator, necessary for receiving books.

orage and stacks for back up book storage.

outlets above work counters.

nd cold water in counter. Provide storage space beneath sink.

tions for media systems:

SPACE

UNIT CAP.

NO. UNITS

STAFF OFFICE

2

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV
1	2	2	X		X	3	4	X		X	NA	X	2		NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions.

EXCEPTIONS:

1. Acoustically treat ceilings.
2. Offices should be defined by the use of movable storage and furniture between reading/stack area and office.
3. Acoustical control should be given careful consideration to provide a
4. Relate directly to reading and stack areas, to control area, and mast
5. Provide conduit terminations for media systems:

TV  
COM/TLM

ICE	UNIT CAP.	NO. UNITS	UNIT SQ. FT.	TOTAL SQ. FT.
	2	1	150	150

I. STRUCTURE			II. ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS						V. UTILITIES							
Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COMPL	RAS	Other	Electrical	Plumbing	Mechanical	Other
2	X		X	3	4	X		X	NA	X	2		NA	X	NA	X	NA	X	NA		X	NA	NA	5

REFERENCE to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Acoustically treat ceilings.

Seating should be defined by the use of movable storage and furniture. Partial visual wall, use of glass in reading/stack area and office.

Acoustical control should be given careful consideration to provide as much privacy as possible.

Conduits should be run directly to reading and stack areas, to control area, and master control center.

Provide conduit terminations for media systems:

W/TLM



SPACE UNIT CAP. NO. UNITS UNIT SQ. FT.  
 CONTROL AREA - 1 75

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM
X	1	X	X		X	X	2	X		X	NA	X	NA		NA	X	NA	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

EXCEPTIONS

1. Open area defined by check out counter system.
2. Locate in circulation pattern. Relate to stacks and reading areas and office.
3. Install electronic capability for future installation of computer terminal.
4. Install local intercom system for control to office and workroom.
5. Install 110 volt outlets in floor mounting, at work station; minimum of four units.
6. Provide conduit terminations for media systems:

TV  
COM/TLM

UNIT CAP.

NO. UNITS

UNITS SQ. FT.

TOTAL SQ. FT.

1

75

75

II. ENVIRONMENT				III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Acoustical	Special	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	2	X		X	NA	X	NA		NA	X	NA	X	NA	X	NA	3,4	5	NA	X	6

Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

check out counter system.

pattern. Relate to stacks and reading areas and office.

availability for future installation of computer terminal.

control system for control to office and workroom.

units in floor mounting, at work station; minimum of four units.

specifications for media systems:



SPACE

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TYPING AREA

10

1

200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC
X	1	2	X		X	3	4	X		X	X	NA	5		NA	NA	NA	X	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

**EXCEPTIONS:**

1. Long-term wall.
2. Visual access from stacks and reading area.
3. Provide acoustical security from other areas.
4. Relate directly to stacks and reading areas. Adjacent to offices.
5. Provide storage for typing supplies.
6. Install 110 volt outlets in floor mountings. Space at 10' intervals or at all typewriter locations.

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

10

1

200

200

II. ENVIRONMENT						III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	3	4	X			X	X	NA	5		NA	NA	NA	X	NA	NA	NA		6	NA	X	

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

all.

ss from stacks and reading area.

ustical security from other areas.

ctly to stacks and reading areas. Adjacent to offices.

rage for typing supplies.

volt outlets in floor mountings. Space at 10' intervals or at all typing stations.

SPACE

UNIT CAP.

NO. UNITS

SEMINAR AREA

5

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV
X	1	X	X		X	2	3	X		4	5	NA	NA		X	6

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions:

EXCEPTIONS:

1. Partially enclosed area.
2. Provide acoustical separation by use of carpeting and acoustical type
3. Direct access to stacks/reading area.
4. Design for pinboard/chalkboard surface on two walls of each area.
5. Furnish with lounge furniture or conference table.
6. Ceiling mount for TV monitor.
7. Install 110 volt outlets in floor mountings.
8. Provide conduit terminations for media systems:

Amplification  
TV

COM/TLM  
RAS

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

5

1

100

100

		II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X		X	2	3	X		4	5	NA	NA		X	6	NA	X	NA	X	X		7	NA	X	8

General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

enclosed area.

acoustical separation by use of carpeting and acoustical type ceiling.

access to stacks/reading area.

pinboard/chalkboard surface on two walls of each area.

with lounge furniture or conference table.

mount for TV monitor.

10 volt outlets in floor mountings.

conduit terminations for media systems:

COM/TLM  
RAS

SPACE

UNIT CAP.

NO. UNITS

MASTER CONTROL CENTER

2-4

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio
X	1	NA	2		3	4	5	NA		NA	NA	X	X	6	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to

**EXCEPTIONS:**

1. Enclosed area for security of equipment and materials.
2. Consider the use of raised floor as an air input plenum for cooling.
3. This space will require full air conditioning to remove heat and humidity that could damage the proper physical characteristics of equipment.
4. Acoustically treat wall and ceiling surfaces to help dampen noise generated in this room.
5. Locate this entire space near a loading dock or ramp to facilitate moving consoles, equipment racks and system components. Relate to Equipment Requirements.
6. This space will house standard 19" wide EIA (Electronic Industry Association) racks. These racks will allow air and power services to be brought in through the rear mounted telephone. Provide 40" deep work counter, 33" high.
7. All afferent and efferent television, audio, control and data signals must be located in this space. The majority of all media, signal-source equipment must be located in this space.

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

CONTROL CENTER                      2-4                      1                      500                      500

I. STRUCTURE			II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
A	2		3	4	5	NA		NA	NA	X	X	6	NA	X	X	X	NA	X	X	7	8	NA	X	9

Refer to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Provide a raised area for security of equipment and materials.

Provide for the use of raised floor as an air input plenum for cooling equipment racks.

The room space will require full air conditioning to remove heat dissipated by electronic equipment and excess humidity that could damage the proper physical characteristics of video tape.

Acoustically treat wall and ceiling surfaces to help dampen machine and equipment noise that will be generated in this room.

Locate this entire space near a loading dock or ramp to facilitate the shipping and receiving of heavy equipment racks and system components. Relate to Equipment Maintenance and Storage and offices.

The room space will house standard 19" wide EIA (Electronic Industries Association) equipment racks. Most of the racks will allow air and power services to be brought in through the bottom panel. Provide wall-mounted telephone. Provide 40" deep work counter, 33" high.

Convergent and efferent television, audio, control and data signals will be switched, routed, and processed in this space. The majority of all media, signal-source equipment will also be housed in this area.

**MASTER CONTROL CENTER (continued)**

**EXCEPTIONS:**

8. Bring 115 volt ac single phase power into this space under raised floor in addition to walls. Use service raisers in floor for duplex outlets, spaced on 4' centers. Provide 20 amp breakers for each duplex outlet mounted in floor. Provide 100' candle lighting in this entire area. Use at least three circuits so that excess ambient light can be controlled in various regions of this room (for film chains, etc.) Locate four 115 volt ac single phase duplex receptacles 4-6 inches above work surface on wall. The work counter will be used to service electronic equipment.
9. Conduits, ducts, and carriers from all areas of the building will terminate in this space.
10. Provide conduit terminations for media systems:

TV	COM/TLM
CAI/CBI	RAS

SPACE

UNIT CAP.

NO. UNITS

## EQUIPMENT MAINTENANCE &amp; STORAGE

-

1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV
X	1,2	NA	3	4,5	X	6	7	X		8	X	X	9		NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions.

EXCEPTIONS:

1. Enclosed space for security of stored equipment.
2. Double door entry, 6' wide into master control.
3. Resilient floor covering.
4. Provide area for check-out and return of equipment.
5. Zone area for technician.
6. Acoustical isolation necessary.
7. Relate to preparation area. Relate to control and distribution. A offices.
8. Floor to ceiling chalkboard (6 linear feet) and tackboard (6 linear feet).
9. Storage cabinets and storage bins. Adjustable floor to ceiling double counter with knee space and storage below (30 linear feet).
10. Range of 80-100' candles of light at work surface. Auxiliary incandescent.
11. Single phase duplex 120 volt ac outlets around perimeter of room, spaced evenly.
12. Provide conduit terminations for media systems:

TV  
COM/TLM

233

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

CE & STORAGE                      -                      1                      200                      200

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES					
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other	
5	X	6	7	X		8	X	X	9		NA	X	NA	X	NA	X	NA	10	11	NA	X	12

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

for security of stored equipment.

ry, 6' wide into master control.

covering.

r check-out and return of equipment.

technician.

ation necessary.

ration area. Relate to control and distribution. Accessible to loading dock. Access to

g chalkboard (6 linear feet) and tackboard (6 linear feet).

s and storage bins. Adjustable floor to ceiling double-face shelving. Work and maintenance  
ee space and storage below (30 linear feet).

' candles of light at work surface. Auxiliary incandescent fixtures with SCR control.

plex 120 volt ac outlets around perimeter of room, spaced on 5' centers.

terminations for media systems:



UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

-                                      1                                      800                                      800

ENVIRONMENT				III. EQUIPMENT				IV. MEDIA SYSTEMS							V. UTILITIES					
Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
7	X			8	NA	X	9	10	X	X	NA	X	NA	X	NA		11	12	X	13

specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Single point entrance and exit for darkroom. Provide light trap and door between room. Room must be light tight.

al MC circulation.

olution proof floor covering material such as epoxy. Tile flooring materials will not

100 sq feet. Zone space for duplication equipment.

s heat detection sensors.

r high ambient noise levels.

age areas. Provide internal access as well as external access. Direct

wall surfaces that can be used for optical projection. Wall to ceiling tackboard with the production and darkroom facilities.

ving.

ork counters with stainless steel drainboards and stainless steel sinks, with traps, under counter storage. Zone areas for copy camera, film processing

**MATERIALS PREPARATION AREA (continued)**

**EXCEPTIONS:**

11. Shadow free lighting elements (80-100 ft candles) as measured at the task surface. 3 phase 60 amp circuit for dry copy machine. Install 115 volt ac single phase w receptacles. Provide a warning light system with display over exterior door adj. Provide 115 volt ac single phase 40 amp service for arc lamp table (darkroom). "safe" light system with controls mounted on interior walls. Audio/visual signal to Central Control Room in MC. Darkroom power requirements: 8,000 watts, average

12. Include floor drain in darkroom. Provide soft water service. Provide temperature and cold faucets. Provide refrigeration-type water chiller for one sink; provide steel sinks in the darkroom.

13. Provide conduit terminations for media systems:

Amplification      COM/TLM

TV

**WORK AREA (continued)**

lighting elements (80-100 ft candles) as measured at the task surface. Provide 220 volt, single phase circuit for dry copy machine. Install 115 volt ac single phase wall mounted duplex outlet. Provide a warning light system with display over exterior door adjoining production facility. Provide 115 volt ac single phase 40 amp service for arc lamp table (darkroom). Install darkroom lighting system with controls mounted on interior walls. Audio/visual signal conduit (2"). Run signal conduit to Control Room in MC. Darkroom power requirements: 8,000 watts, average.

Provide hot water drain in darkroom. Provide soft water service. Provide temperature controls on hot water taps. Provide refrigeration-type water chiller for one sink; provide hot water to stainless steel sink in the darkroom.

Terminations for media systems:

COM/TLM

SPACE

UNIT CAP.

NO. UNITS

UNIT SQ.

MEDIA INFORMATION STORAGE

-

1

150

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT				IV. MEDIA				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	NA	2		3,4	X	5	X		NA	NA	X	6		NA	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

**EXCEPTIONS:**

1. Enclosed area. Secured.
2. Resilient floor covering.
3. This space will require full air conditioning to remove heat and excess humidity to maintain proper physical characteristics of magnetic tape.
4. Provide smoke and excess heat detection sensors.
5. Relate directly to preparation areas. External access to loading dock.
6. Movable storage compartments will be used.
7. Install sink with hot and cold water. Install in work counter.
8. Provide conduit terminations for media systems:

COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

STORAGE

1

150

150

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
3,4	X	5	X		NA	NA	X	6		NA	NA	NA	NA	NA	X	NA		X	7	X	8

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Secured.

covering.

require full air conditioning to remove heat and excess humidity that could damage the characteristics of magnetic tape.

and excess heat detection sensors.

to preparation areas. External access to loading dock.

compartments will be used.

with hot and cold water. Install in work counter.

terminations for media systems:

**E**

**SERVICE**

**STAFF LOUNGE  
RECEPTION**

## **E**

### **SERVICE AREA**

#### **CONCEPTUAL PLAN**

The service area includes the staff lounge and the public reception area. The lounge should include a food preparation area with kitchen appliances, and several food vending machines. A variety of seating arrangements should be possible. This area should provide teachers and staff with an area away from the children to have a "coffee" break, relax and eat lunch.

The public reception area will house the receptionist and general switchboard for the facility. Seating should be provided in the space as well as utilization for exhibitions of children's work.

#### **FACILITY IMPLICATION**

- The lounge should be centrally located within the facility to provide easy access to all staff and faculty. Provision needs to be made for control of smoke from the area entering instructional areas.
- Toilet and rest areas need to be designed as a part of this unit.
- The general reception area should be as inviting with as few physical barriers to visitors as possible.

**AREA COMPONENTS**

**SQUARE FOOTAGE ALLOCATION**

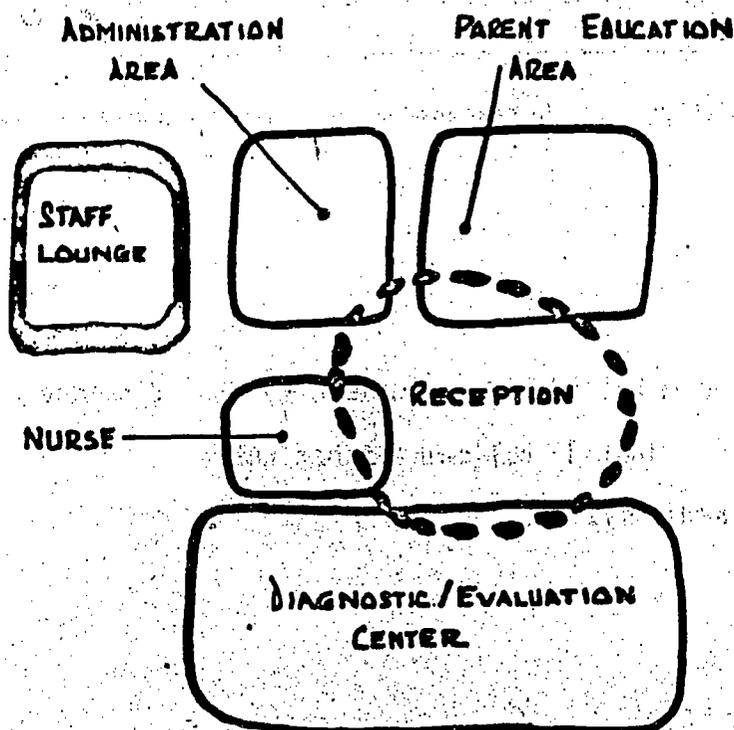
**SERVICE AREA**

- 1) Staff Lounge
- Toilets
- 2) Reception

600  
350  
300

**SCHEMATIC**

**SERVICE AREA**



**NOTE:** This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

SPACE  
STAFF LOUNGE

UNIT CAP:  
15-20

NO. UNITS  
1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV
X	1	2	X		X	X	3	X		X	NA	X	X		X	X

X - NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exce

EXCEPTIONS

1. Long-term wall.
2. Exterior view desired.
3. Relate to general administrative area but within reasonable walking di
4. Install hot and cold water in sink. Install pullman kitchen unit.
5. Provide conduit terminations for media systems:

TV  
COM/TLM

RAS

UNIT.CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

15-20

1

600

600

II. ENVIRONMENT

III. EQUIPMENT

IV. MEDIA SYSTEMS

V. UTILITIES

Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	3	X		X	NA	X	X		X	X	NA	NA	NA	X	X		X	4	X	5

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

red.

administrative area but within reasonable walking distance of instructional areas.

ld water in sink. Install pullman kitchen unit.

minations for media systems:

SPACE: TOILET (Mens')      UNIT CAP.: 2-3      NO. UNITS: 1      UNIT SQ. FT.: 100

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS				
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC
X	1	NA	2		X	X	3	X		X	NA	NA	NA		NA	NA	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44 . NA = Not Applicable. Numbers refer to exceptions to General Requirements.

**EXCEPTIONS**

1. Use tile, ceramic or like quality.
2. Use tile, ceramic or like quality.
3. Relate directly to lounge with discrete entrance.
4. Install one toilet, two urinals and 2 sinks with hot and cold water.
5. Provide conduit terminations for media systems:

COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

2-3

1

100

100

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
X	X	3	X		X	NA	NA	NA		NA	NA	NA	NA	NA	X	NA		X	4	X	5

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

or like quality.

or like quality.

o lounge with discrete entrance.

t, two urinals and 2 sinks with hot and cold water.

terminations for media systems:

SPACE  
TOILET (Womens')

UNIT CAP.  
2-4

NO. UNITS  
1

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV.		
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CA/CBI
X	1	NA	2		X	X	3	X		X	NA	NA	X		NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to

**EXCEPTIONS**

1. Use tile, ceramic or equal quality.
2. Use tile, or carpeting.
3. Relate directly to lounge. Entrance should be somewhat discrete.  
Provide separate area of 150 feet for rest area. Provide couch or day bed.
4. Install 3 enclosed toilets, and 3 sinks with hot and cold water.
5. Provide conduit terminations for media systems:

COM/TLM

UNIT CAP. 2-4 NO. UNITS 1 UNIT SQ. FT. 250 TOTAL SQ. FT. 250

I. FUTURE		II. ENVIRONMENT						III. EQUIPMENT						IV. MEDIA SYSTEMS						V. UTILITIES			
Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	AV	IC/RC	COM/TLM	FAS	Other	Electrical	Plumbing	Mechanical	Other
2		X	X	3	X		X	NA	NA	X		NA	NA	NA	NA	NA	X	NA		X	4	X	5

Refer to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ceramic or equal quality.  
 or carpeting.  
 directly to lounge. Entrance should be somewhat discrete.  
 separate area of 150 feet for rest area. Provide couch or day bed.  
 enclosed toilets, and 3 sinks with hot and cold water.  
 conduit terminations for media systems:



SPACE  
RECEPTION

UNIT CAP.

NO. UNITS

UNIT SQ

-

1

300

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA			
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V
X	1	2	X		X	X	3	X		X	X	X	X		X	X	NA	X

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to Gen

**EXCEPTIONS**

1. No walls.
2. Exterior windows.
3. Provide direct access to school, administration and instructional area.
4. Provide conduit terminations for media systems:

TV                      RAS  
COM/TLM

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

TOTAL SQ. FT.

-

1

300

300

Other	II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS	Other	Electrical	Plumbing	Mechanical	Other
	X	X	3	X		X	X	X	X		X	X	NA	X	NA	X	X		X	X	X	4

al Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

ccess to school, administration and instructional area.

terminations for media systems:

RAS

**F**

OUTDOOR AREAS

### CONCEPTUAL PLAN

The outdoor program will be designed to provide two or three different dimension experiences. To help the child develop general physical fitness, an appreciation to develop the skills of motor coordination, and rhythms, to enjoy the fun of being that accommodates child behavior not conformed by adult sidewalks and paved areas to develop a sense of his participation in the cycle of life, an understanding of environmental role.

### FACILITY IMPLICATIONS

- Three major areas are essential for this program. The first two, an apparatus area, are defined by specific square feet recommendations. The third, a conservation area, have specific limits, but can take small irregular portions of the site. No only slight development for nature trails and a water system. The activities defined by the equipment located there, the grassy area should allow free play activities while the conservation areas will develop according to the program. any specific formal learning experience but just allow for experiences to have

**F**

**OUTDOOR AREAS**

Program will be designed to provide two or three different dimensions to the child's learning to help the child develop general physical fitness, an appreciation of good sportsmanship, skills of motor coordination, and rhythms, to enjoy the fun of being outdoors in a setting that does not conform to adult sidewalks and paved areas of asphalt, and finally, to give the child a sense of his participation in the cycle of life, an understanding through participation in his own life.

**RECOMMENDATIONS**

Three areas are essential for this program. The first two, an apparatus area and general grassy area, are defined by specific square feet recommendations. The third, a conservation area, need not have specific limits, but can take small irregular portions of the site. Natural settings may need little development for nature trails and a water system. The activities in the apparatus area are determined by the equipment located there, the grassy area should allow free play and low organization while the conservation areas will develop according to the program and need not dictate a formal learning experience but just allow for experiences to happen.

## AREA COMPONENTS

### OUTDOOR AREAS

- 1) General Purpose Green
- 2) Apparatus Area
- 3) Conservation Area

\* Not specified, determined by program and land availability on site and

**SQUARE FOOTAGE ALLOCATIONS**

**Propose Green** 20,000

**Area** 2,500

**n Area** \*

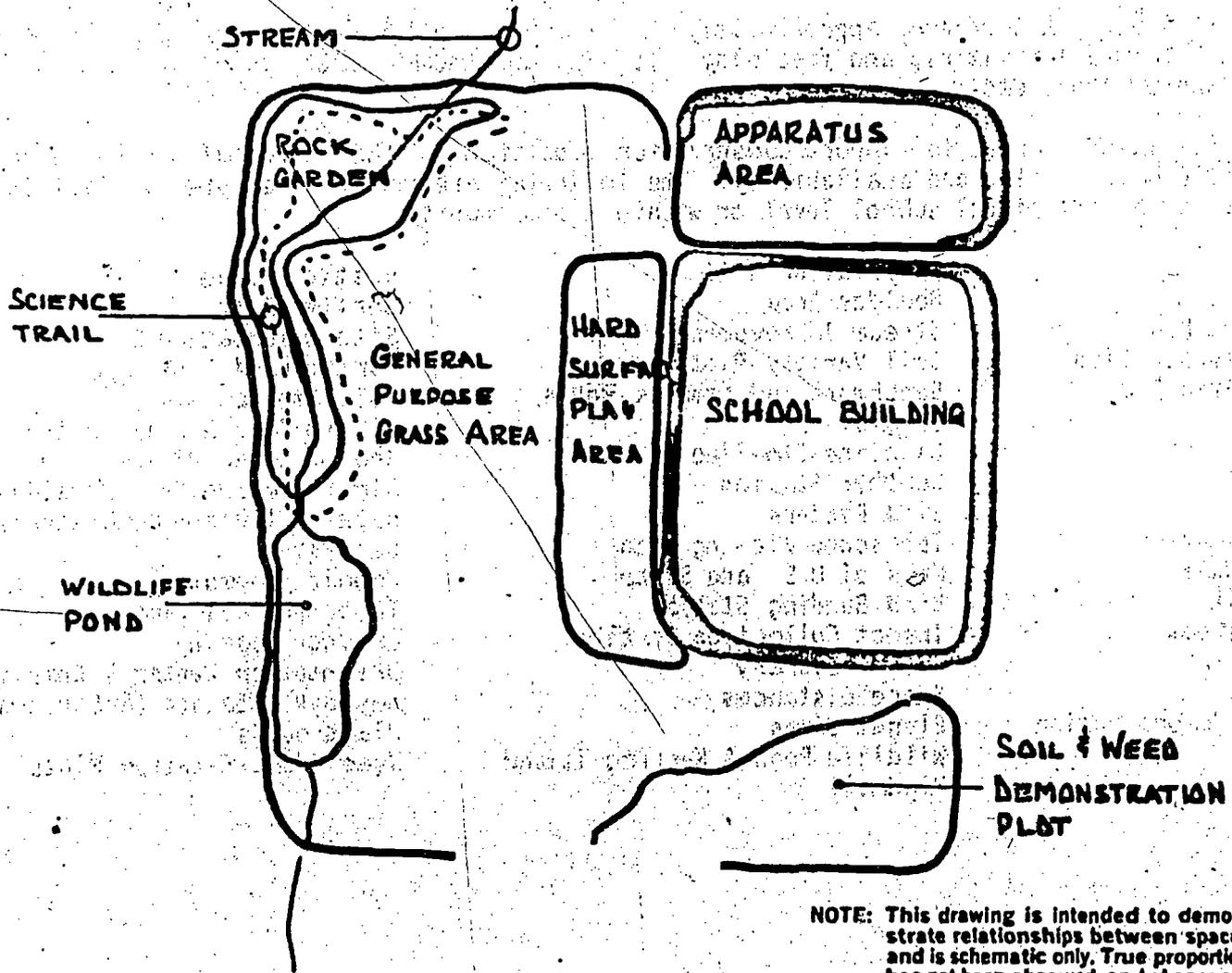
The following information is provided for your information. The amount of space allocated to each of the proposed areas will depend on the availability of space on site and elsewhere. The amount of space allocated to each of the proposed areas will depend on the availability of space on site and elsewhere. The amount of space allocated to each of the proposed areas will depend on the availability of space on site and elsewhere.

**etermined by program and land availability on site and elsewhere.**



**SCHEMATIC**

**OUTDOOR AREA**



**NOTE:** This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

**Apparatus Area:** A space approximately 25' x 100' should be set apart for such equipment as bars, vaulting bars, parallel bars, horizontal ladders, climbing ropes, etc. This should be located near one side or end of the field game area and in such a way as to eliminate traffic through that area. A less formal type of area may be provided through development of climbing devices, etc., in a fashion similar to an obstacle course so that individuals can engage in suitable balance and muscle building or toning activities.

**General Purpose Green:** A turf area approximately 100' x 200' should be set aside for organized organization, informal activities, and free play. It will accommodate such school activities as croquet, lawn bowling, etc.

**Conservation Education:** Areas to support conservation education or other curricular activities may vary greatly both in size and availability. The following are some of the types of areas that are desirable at the individual school level or within the community:

Rock Garden	Observation Hill	Rustic Bridge
Bulb Beds	Boulder Area	Shelter Belt
Cold Frame-Hot Bed	Stream Improvement	Site Orientation
Watershed Demonstration	Soil Variety Plots	Burned Land
Dwarf Fruit Tree Area	Benchmark and Compass Route	Soil Erosion
Nature Trail	Sundial	Living Snow
Tree Nursery Plot	Baseline-Timeline	Ground Cover
Animal Food Plots	Weather Station	Air Pollution
Lawn Plots	Bird Feeders	Water Pollution
Rock Identification	Telescope Viewing Area	Bee Hives
Retaining Wall	Maps of U.S. and State	Woodlot Comm.
Footprint Walk	Bird Banding Station	Topographical
Outdoor Classroom	Insect Collection Station	Outdoor Cook.
Fern Garden	Nature Library	Orientation
Garden Plots	Space Distances	Keyed Plants
Soil Profile Demonstration	Planet Sizes	Playgrounds
Swamp Garden	Wildlife Pond & Nesting Island	Weed Identif.
Water Wheel	Windmill	

### OUTDOOR AREAS

approximately 25' x 100' should be set apart for such equipment as chinning parallel bars, horizontal ladders, climbing ropes, etc. This space should be at the end of the field game area and in such a way as to eliminate cross traffic. A formal type of area may be provided through development of balance beams, in a fashion similar to an obstacle course so that individuals or groups can engage in strength and muscle building or toning activities.

A turf area approximately 100' x 200' should be set aside for games of low intensity activities, and free play. It will accommodate such school and community games, etc.

Areas to support conservation education or other curriculum related activities of various size and availability. The following are some of the types of facilities which can be developed at the individual school level or within the community:

- |                                |                                     |
|--------------------------------|-------------------------------------|
| Observation Hill               | Rustic Bridge                       |
| Boulder Area                   | Shelter Belt                        |
| Stream Improvement             | Site Orientation Center             |
| Soil Variety Plots             | Burned Land Plot                    |
| Benchmark and Compass Route    | Soil Erosion Study                  |
| Sundial                        | Living Snow & Wind Control          |
| Baseline-Timeline              | Ground Cover Plants                 |
| Weather Station                | Air Pollution Demonstration         |
| Bird Feeders                   | Water Pollution Demonstration       |
| Telescope Viewing Area         | Bee Hives                           |
| Maps of U.S. and State         | Woodlot Community                   |
| Bird Banding Station           | Topographical Lines                 |
| Insect Collection Station      | Outdoor Cooking                     |
| Nature Library                 | Orientation Center & Compass Course |
| Space Distances                | Keyed Plantation (Arboretum)        |
| Planet Sizes                   | Playgrounds                         |
| Wildlife Pond & Nesting Island | Weed Identification Plots           |
| Windmill                       |                                     |

G

MOBILE UNIT

---

AUDIOLOGICAL TESTING AREA  
EDUCATION COMPONENT AREA

251

## **G**

### **MOBILE UNIT**

---

#### **CONCEPTUAL PLAN**

Young children love to learn, touch, explore and are naturally inquisitive. Opportunities for children to experience these activities should be readily available, both in the Regional Center and at other locations in the region.

Parent-infant education and evaluation must occur wherever the need exists within the region. It cannot be assumed that all potential learners can or should come to the Regional Learning Center. The age of the child, physical limitations of the child and/or parent, transportation restrictions caused by distance, lack of an automobile, or other conditions make the ability to work with children and their parents at remote points from the Regional Center paramount.

Children should be tested and/or evaluated for hearing limitations by trained professionals. Equipment for effective testing should be of high quality. Learning experiences for children, as well as parent training activities, should also be possible at remote locations of the region.

#### **FACILITY IMPLICATIONS**

- Facilities therefore should provide varied opportunities for children to discover, touch, observe, explore and experiment with.
- Evaluation and testing procedures should be possible.
- The facility should accommodate the exchange of a variety of educational and testing units with ease.
- The facility should accommodate 3 or 4 individuals in different activities simultaneously.
- The facility needs to have features allowing mobility, either self-contained or external.

**UNIT COMPONENTS**

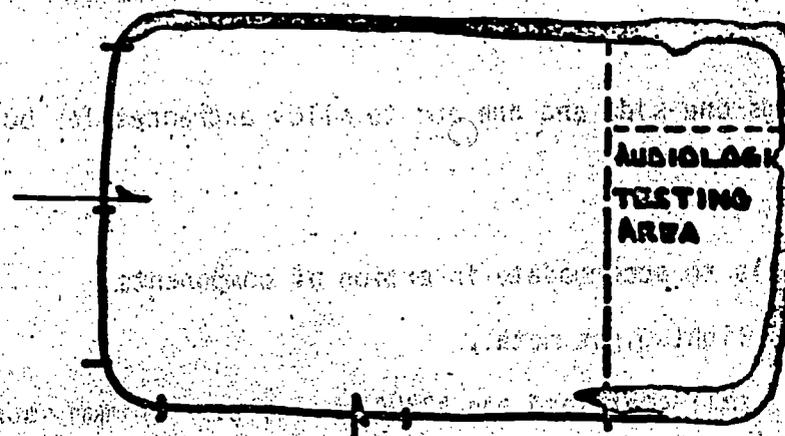
**SQUARE FOOT ALLOCATIONS**

**MOBILE UNIT**

- 1) Audiological Testing Area 75
- 2) Education Component Area 125

# SCHEMATIC

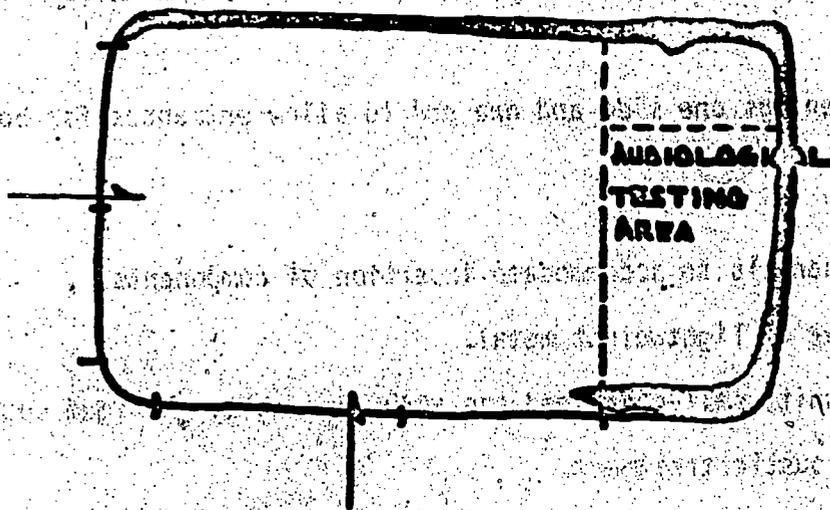
ENTRY  
FOR  
COMPONENTS  
OR  
INDIVIDUALS



ENTRY  
FOR  
COMPONENTS  
OR  
INDIVIDUALS

NOTE

**ENTRY  
FOR  
COMPONENTS  
OR  
INDIVIDUALS**



**ENTRY  
FOR  
COMPONENTS  
OR  
INDIVIDUALS**

**NOTE:** This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

SPACE

UNIT CAP.

NO. UNITS

UNIT SQ. FT.

MOBILE UNIT

3-5

1

200

I. STRUCTURE					II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS						
Ceiling	Wall	Window	Floor	Other	Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	RAS
1	2	3	4	5	6	7	8	9		10	11	12	13		14	15	NA	X	NA	NA	NA

X = NO EXCEPTION to General Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

1. Height, minimum 6'.
2. Walls must have large openings one side and one end to allow entrances for both individual units.
3. Windows for view.
4. Designed with rails or channels to accommodate insertion of components.
5. Entire structure should be of lightweight metal.
6. Heating and ventilating unit, self-contained and AC/DC operable. Minimum sound generation
7. Ceiling and walls need acoustic treatment.
8. Entire unit must be extremely maneuverable and able to fit tightly against buildings.
9. Interior color design must be pleasant, stimulating and easily maintained.
10. Surfaces and equipment should be scratch and chip resistant.
11. Equipment components include an audiometer and related accessories.

a kitchen unit

a bedroom unit

UNIT CAP.                      NO. UNITS                      UNIT SQ. FT.                      TOTAL SQ. FT.

3-5                                      1                                      200                                      200

II. ENVIRONMENT					III. EQUIPMENT					IV. MEDIA SYSTEMS							V. UTILITIES				
Thermal	Acoustical	Spatial	Aesthetics	Other	Surfaces	Student Stations	Teacher Stations	Storage	Other	Audio	TV	CAI/CBI	A/V	IC/RC	COM/TLM	FAS	Other	Electrical	Plumbing	Mechanical	Other
6	7	8	9		10	11	12	13		14	15	NA	X	NA	NA	NA		16	17	NA	18

Requirements specified in pages 25 to 44. NA = Not Applicable. Numbers refer to exceptions to General Requirements.

Openings one side and one end to allow entrances for both individuals and equipment

Channels to accommodate insertion of components.

Should be of lightweight metal.

Operating unit, self-contained and AC/DC operable. Minimum sound generation is essential.

Should have acoustic treatment.

Extremely maneuverable and able to fit tightly against buildings.

Should be pleasant, stimulating and easily maintained.

Should be scratch and chip resistant.

Should include an audiometer and related accessories.

a toilet unit

a grocery store unit

other education experience units.

12. Teacher's work surface is required.
13. Mobile storage cabinets for paper and other instructional items.
14. Complete audio amplification units are required.
15. A mobile video tape recorder, camera and playback unit is required.
16. Electrical service requirements are AC/DC - 110 volt.
17. Fresh water and simple waste disposal facilities are required.
18. Closed circuit TV reception and standard TV reception are required.

APPENDIX

## APPENDIX A

Several schools for hearing impaired children were visited by the Consultant as part of the project development. Various educational programs represented by the school facilities selected were observed. The results are relevant to the development of a significant facility specification for the State of Illinois and are summarized.

The schools listed are state residential schools, local school district schools, and private schools. Outstanding features of each program vis a vis building are described and the relevancy to the Illinois Regional Center noted.

### STATE RESIDENTIAL SCHOOLS

The Illinois School for the Deaf (Jacksonville) and the Wisconsin School for the Deaf (Delevan) both as their respective states only public residential school for the deaf have children ranging in ages from pre-school through high school level. The Western Pennsylvania School for the Deaf (Pittsburgh) is one of two public residential schools in the State. The Pennsylvania school provides a program for pre-school through high-school level also.

The three school programs provide basic learning experiences for the pre-school and elementary school year children. However, both Illinois and Wisconsin schools provide extensive vocational educational opportunities at the secondary level, while the Western Pennsylvania school has only a minimal program.

The elementary program at the Illinois School for the Deaf is built around a small group of children working with their assigned teacher. Special teachers work with the children for counseling and physical education experiences. The children live in their school "home".

At Delevan, the program also brings a small group of children into close interaction with one teacher. The Western Pennsylvania school includes its children in clusters of groups, each with a teacher, but two or three teachers sharing some common responsibilities for the entire group.

In all three schools, the secondary school students meet many teachers for their specific academic or vocational subjects.

Of particular significance to Illinois Regional facilities were the instructional areas at Jacksonville and Delevan for play and indoor activity. At Jacksonville, a large multi-purpose area was adjacent to the classrooms. In the Delevan school, a large, circular room with suspended floor was available to all children in the elementary building. The suspended floor should allow for vibrations to be felt more directly by the children.

In Pittsburgh, although the building was older than either the other two buildings, provision for small instructional spaces immediately off a large work/play area provided a most effective team-teaching arrangement.

Both Illinois and Wisconsin high schools have extensive vocational programs and, therefore, have high complexes of vocational areas. The programs appear largely dictated by the specific identification of each area by equipment, with the exception of a general inquiry or exploratory shop at Delevan.

Standard classrooms appear in all high school facilities at the three schools. A new high school building at Jacksonville proposes to have a Learning Resources Center somewhat contiguous to some of the classrooms, not all.

#### *PUBLIC SCHOOLS*

Elementary school programs in the Chicago City Schools are conducted in seven elementary school buildings housing both hearing and deaf children.

The Centennial School in Warminster, Pennsylvania, although housing children with learning disabilities, not including deaf, and children without learning disabilities was designed to contain a program of many activities. Most significant of all the activities is a program designed to stimulate the child vicariously through a nearly 360 degree audio-visual environmental room.

St. Louis County (Missouri) Special Education District has a program for elementary children with physical, mental and hearing disabilities. All children are contained in one large facility that has specific sections designed for the child's particular learning needs.

In all of the public school programs, all day centers, a mix of hearing, deaf or hearing, physically limited, or physically and auditorily limited children share common space with provision for space designed to enhance the educational program.

Warminster and St. Louis facilities have particular provision for extending learning experiences through specialized spaces, i.e. total immersion in an audio-visual environment, swimming pool, counseling, guidance and evaluation/testing areas, crafts and home-making areas.

The St. Louis school has detailed some classrooms with an induction loop amplification system and others with an r.f. system. The r.f. system, while much more costly does generally provide a better system for deaf children.

Classrooms have two artificial lighting systems, one a standard florescent unit and an incandescent system that is controlled by rheostat. The function of the florescent is to provide good light at work surfaces; the incandescent, to provide illumination of varying intensities, particularly useful during film showing.

### *PRIVATE SCHOOLS*

St. Josephs, in St. Louis, Missouri, conducts a program for pre-schoolers through the 8th grade equivalent. Children are provided a strong academic program and strong oral program. Groups of 10 to 15 children study with one teacher in the elementary grades, but move to a specialist program in the upper elementary grades.

Classrooms are designed for small groups and contain standard work tables and movable chairs. A large audio-visual laboratory and a well equipped testing area is adjacent to the instructional areas.

APPENDIX B  
EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS

PRESCHOOL

Furniture

- 1 Rectangular table 18"
- 2 Per child - chairs 10" & 12"
- 1 Teacher's desk
- 1 Adult chair (teacher)
- 2 14" chairs
- 1 Teacher's 2 drawer file
- 1 Portable speech mirror (swinging)
- Carpeting
- Blackboards - low
- 1 Step stool-seat combination
- 1 Round table
- 1 Aid's desk
- 1 Aid's file
- 1 Adult chair (aid)
- 2 Adult folding chairs (visitors)
- 1 Long dress mirror
- Low toilet facilities with sink
- Toy storage cabinets
- 2 Easels
- 2 Trapezoid tables
- 1 Book display rack
- Poster storage cabinet
- TV available
- Room divider bulletin board
- Draperies to block light

Audiovisual

- 1 Group auditory training unit with phonograph
- 1 Group auditory training unit stand or table
- 1 Overhead projector with table or stand
- 1 Screen attached to wall at an angle
- 1 Audio-Flash Card-EFI-for Hard-of-Hearing
- \*1 Polaroid camera
- \*1 Thermofax
- \*1 Primary typewriter
- \*1 Tape recorder (to synchronize sound on 8mm projector)
- \*1 Filmstrip projector with slide attachment
- \*1 16mm movie projector
- \*1 Super 8mm home movie camera with sound attachment
- \*1 Combination reg. & super 8mm projector with sound attachment (Bell & Howell)
- \*1 Opaque projector
- \*1 Portable auditory training unit
- \*1 Slide camera
- 1 Portable screen
- \*1 Technicolor instant projector cartridge - super 8mm
  
- \* These can be shared by rooms or readily available for teacher's use.

## EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS

### PRESCHOOL

#### Play Equipment

- 1 Basic climbing unit
- Wooden blocks - large & small
- Block storage
- Shape blocks
- Wooden toys - planes, trucks, cars, etc.
- Wooden kitchen toys - stove, refrigerator, table, chairs, sink, dishes, boy & girl dolls, ethnic dolls
- Corregated blocks
- 2 Tricycles - med. & small
- 1 Wagon
- Dress up clothes & hats - old
- Doll beds
- Doll buggy
- Rocking chairs, large & small
- Telephones
- Balance beams
- Traffic signs
- Sand and water table

#### Classroom Materials & Supplies

##### Teaching Aids

- Doll house (small) with furniture
- Flannel board or hook & loop
- 2 Chart racks
- Aquariums
- Noise makers - drums, rattles, bells, rhythm band
- Slot charts - Plymouth charts
- Speech charts
- X-ray film - use on overhead
- Transparency sets for preschool
- Vis-a-Vis color overhead pens
- Color adhesive for overhead
- Transparencies
- Records
- Soft toy animals
- Pins and safety pins
- "Whats Its Name" book & record
- "Sights and Sounds"
- "See It, Say It, Use It" St. Joseph Institute
- Paper cutter

##### Child Development

- Tool table
- Puzzle, many 4-10 piece with rack
- Pegboard
- Zipper-button-tie boards
- Sense materials for preschool
- Dolls and clothes
- Small muscle coordination toys
- Parquetry blocks
- Educational games - preschool
- Perceptual games - preschool
- Paint supplies
- Scissors
- Preschool books
- Chalk - colored & fat
- Balls
- Clay
- Rest Cots

## EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS

### PRIMARY

#### Furniture

- 1 Rectangular table 20"-22"
- 2 Per child - chairs (proper size)
- 1 Per child - desks inc. seats
- 1 Teacher's desk
- 1 Teacher's chair
- 1 Teacher's file - two drawer
- 1 Portable speech mirror (swinging)
- Carpeting
- Blackboards - proper height
- 1 Step stool-seat combination
- 1 Round table 20"-22"
- 2 Adult folding chairs (visitors)
- Low toilet & sink facilities
- Storage cabinets
- 2 Easels
- 2 Trapezoid tables 20"-22"
- 1 Book display rack
- 1 Piano with wooden base
- 1 Standard sink
- 1 Poster storage cabinet
- 1 TV available
- Room dividers
- Draperies to block light
- 1 Refrigerator
- 1 Stove
- 1 Washer-Dryer

#### Audiovisual

- 1 Group auditory training unit
  - 1 Group auditory training unit stand or table
  - 1 Overhead projector with table or stand
  - 1 Screen attached to wall at angle
  - 1 Language Master or Audio-Flash Card (EFI)
  - \*1 Polaroid camera
  - \*1 Thermofax
  - \*1 Primary typewriter
  - \*1 Tape recorder (to synch. sound with 8mm projector)
  - \*1 Filmstrip projector with slide attachment
  - \*1 16mm projector
  - \*1 Super 8mm home movie projector (with sync. sound)  
Bell & Howell
  - \*1 Opaque projector
  - \*1 Portable auditory training unit
  - \*1 Slide camera
  - 1 Portable screen
  - \*1 Technicolor instant projector-cartridge-super 8mm
- \* These can be shared or readily available for teacher's use.

#### Play Equipment

Balance beam  
Other play equipment as to the needs and maturity of the children. At this level they should be playing with educational games and toys.

## EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS

### PRIMARY

#### Classroom Materials & Supplies

##### Teaching Aids

Flannel board or hook & loop  
2 Chart racks  
Aquariums  
Noise makers for primary  
Slot Charts  
Speech charts  
X-ray film  
Transparency sets for primary  
Vis-a-Vis color overhead pens  
Color adhesive for overhead  
Transparencies  
Records  
"Whats Its Name" a book & record  
"Sights and Sounds"  
"See It, Say It, Use It" St. Joseph Institute  
Paper cutter  
Chart tablets  
Sentence strips  
Story paper  
Poster board & tag board  
Primary science equipment

##### Child Development

Sense materials for primary  
Parquetry blocks  
Educational games-primary  
vocabulary, numbers, etc.  
Perception games  
Paint supplies  
Scissors  
Primary books  
Balls  
Clay  
Lincoln logs  
Manipulative devices & primary toys  
Instructional toys  
Puppets

##### Child Development (Continued)

Maps and globes  
Reading readiness materials -  
charts-stands-alphabet, consonant, vowel picture  
sequence flash cards-etc.  
Reference books  
Pictionaries Books I & II  
Tool Table  
Many puzzles for primary  
News Prin  
Pegboard  
View-Master  
Julie & Jack series (St. John's School for Deaf)  
Dolche crossword puzzle books  
Math games - flash cards-counting sticker blocks-  
abacus-money-number line  
Calendar - day by day  
Clock "by Judy"  
Sequence puzzle "by Judy"  
Story sets  
Community helpers  
Continental Press Catalogue

## EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS

### INTERMEDIATE

#### Furniture

- 1 Rectangular table (approp. height)
- 2 Per child - chairs (approp. height)
- 1 Per child - desks inc. seats
- 1 Teacher's desk
- 1 Teacher's chair
- 2 Adult chairs
- 1 Teacher's file - two drawer
- 1 Portable speech mirror (swinging)
- Carpeting
- Blackboards (approp. height)
- 1 Step stool-seat combination
- 1 Round table (approp. height)
- 2 Adult folding chairs (visitors)
- Toilet and sink (approp. size)
- Storage cabinets
- 2 Easels
- 2 Trapezoid tables (approp. height)
- 1 Book display rack
- 1 Piano with wooden base (floor)
- 1 Standard sink
- 1 Poster storage cabinet
- 1 TV available
- Room dividers
- Draperies to block light
- 1 Refrigerator
- 1 Stove
- 1 Washer & Dryer

#### Audiovisual

- 1 Group auditory training unit
- 1 Group auditory training unit stand or table
- 1 Overhead projector with stand or table
- 1 Screen attached to wall at angle
- 1 Language master or audio-flash card (EFI)
- \*1 Polaroid camera
- \*1 Thermofax
- \*1 Primary typewriter
- \*1 Tape recorder (to sync. sound with 8mm projector)
- \*1 Filmstrip projector with slide attachment
- \*1 16mm projector
- \*1 Super 8mm home movie camera (with sound attachment)
- \*1 Reg. and super 8mm projector (with sync. sound)  
Bell & Howell
- \*1 Opaque projector
- 1 Portable screen
- \*1 Slide camera
- \*1 Portable screen
- \*1 Technicolor instant projector - cartridge-super 8mm
- \*1 Typewriter (reg. type)

\* These can be shared or readily available for teacher's use.

EQUIPMENT FOR HEARING IMPAIRED CLASSROOMS  
INTERMEDIATE

Materials

Teacher Aids

2 Chart racks  
Flannel board or hook & loop  
Aquariums  
Noise makers for intermediate  
Slot charts  
Speech charts  
X-ray film  
Transparency sets for intermediate  
Vis-a-Vis color overhead pens  
Color adhesive for overhead  
Transparencies  
Records  
Maps & globes  
Moon globe  
Chart tablets  
Sentence strips  
Posterboard & tag board  
Intermediate science equipment  
Continental Press Catalogue

Child's Development

Many puzzles for intermediate  
Parquetry blocks  
Educational games - intermediate  
vocabulary, math, etc.  
Perceptual games - intermediate  
Paint supplies  
Scissors  
Books - intermediate level  
Balls  
Clay  
Erecting toys (put together, take apart)  
Puppets

Child's Development (Continued)

Instructional games for intermediate  
Sentence building games  
Proper words (word cards)  
Reference books  
"World Book"  
Beginning & Junior dictionaries - Thorndyke  
News print  
View Master  
Dolche Crossword Puzzle books  
Math games, flashcards, money, counting sticks or  
blocks, abacus, number line, etc.  
Clock "by Judy"  
Thermometer  
Liquid measurement kit  
Atlas  
DLM materials  
Peabody kit  
SRA reading lab  
Readers Digest skillbuilders  
"Macmillan Vocab Development Spectrum"  
"Know Your World" weekly reader  
True book series

### EQUIPMENT FOR ITINERANT TEACHERS AND TUTORS

The teacher should have an adequate, well lighted room, free from scheduling problems. Since the materials she uses are on such variable levels, she should be able to check out any material she needs to work with the children.

The room should be equipped with:

- Chairs and tables
- Auditory Training Unit (portable)
- Speech mirror (portable)

APPENDIX C

PART I - NEW CONSTRUCTION COST ESTIMATES

Estimating costs of construction and equipping a school facility are complex processes. Construction costs vary widely from area to area, and season to season. Equipment prices vary widely on the factor of quality and quantity. For the purpose of providing only an estimate, we have provided the following information:

**ASSUMPTION:** The Regional Center to educate 108 children distributed in four age groups, pre-school, primary, intermediate and multi-handicapped on the following basis.

<u>NO. OF CHILDREN</u>	<u>GROUP</u>
18	Pre-School
54	Primary
18	Intermediate
<u>18</u>	Multi-Handicapped
108	

Space required for this student population follows:

INSTRUCTIONAL LEARNING UNITS

	<u>Age Group</u>	<u>No. of Units</u>	<u>Sq Ft Per Unit</u>	<u>Total Sq Ft</u>
1. Large Group Areas	Pre-School	1	1,400	1,400
	Primary	3	1,400	4,200
	Intermediate	2	1,200	3,400
2. Instructional Unit	Pre-School	3	520	1,560
	Primary	9	520	4,680
	Intermediate	3	520	1,560
	Multi-Handicapped	3	725	2,175
		[18 units]		
3. Counseling Area		1	300	300
4. Teacher Planning Area		1	2,200	2,200
5. Learning Experiences Center		1	2,080	2,080
6. Special Facilities				
	Crafts	1	1,400	1,400
	Home Management	1	1,400	1,400
	Sub-Total			25,355

ADMINISTRATION

	<u>No. of Units</u>	<u>Sq Ft Per Unit</u>	<u>Total Sq Ft</u>
1. Director's Office	1	150	150
2. Conference	1	200	200
3. Secretary	1	120	120
4. Reception	1	150	150
5. Storage	1	200	200
6. Toilets	1	100	100
Sub-Total			920

LEARNING RESOURCES CENTER

1. Library			
Stacks/Reading	1	1,500	1,500
Carrel Area	1	450	450
Reference	1	200	200
Periodicals	1	150	150
Staff Workroom	1	400	400
Staff Office	1	150	150
Control Area	1	75	75
Typing Area	1	200	200
Seminar Area	1	100	100
2. Multi-Media			
Master Control	1	500	500
Equipment Storage	1	200	200
Material Preparation	1	800	800
Media Storage	1	150	150
Sub-Total			4,875

CHILDREN'S EDUCATIONAL EVALUATION CENTER

	<u>No. of Units</u>	<u>Sq Ft Per Unit</u>	<u>Total Sq Ft</u>
1. Evaluation Area			
Audiologist	1	100	100
Audiologist's Asst	1	75	75
Testing Area	1	200	200
Psychologist	1	100	100
Psychologist's Asst	2	100	200
Interns	3	50	150
Conference	1	200	200
General Offices	7	75	525
Psychiatrist	1	100	100
Consultant's Office	1	150	150
Speech and Aural Rehabilitation	1	100	100
Speech Diagnosis	1	100	100
Social Workers	3	75	225
Conference	1	200	200
2. Research Area			
Office	1	120	120
Observation	1	600	600
Equipment Area	1	600	600
3. Professional Area			
Library	1	400	400
Sub-Total			4,145

SERVICE AREA

	<u>No. of Units</u>	<u>Sq Ft Per Unit</u>	<u>Total Sq Ft</u>
1. Staff Lounge	1	600	600
Toilets			350
2. Reception	1	300	300
Sub Total			1,250
Total Net Square Footage			34,545
Square Footage for Circulation & Building Structure (30% of Total Building Area)			15,455
Total Gross Square Footage			50,000

ASSUMPTION: Dollar cost per square foot of construction - \$30.00

Building Construction Cost \$1,500,000

ASSUMPTION: Cost of furnishing and equipping a class area: \$10,000

ASSUMPTION: A class area includes all areas related to or in support of the class function; i.e. administration, LRC, etc. There are, for this estimate, 18 class areas: \$180,000

ASSUMPTION: For each class unit an electronic amplifying system costs:

\$2,500

18 units

\$45,000

\$45,000

ESTIMATED COSTS, ALL COMPONENTS

Construction	\$1,500,000
Furnishings	180,000
Electronic Systems	<u>45,000</u>
TOTAL ESTIMATED COSTS, ALL COMPONENTS	\$1,725,000

## PART II - RENOVATION COST ESTIMATES

The renovation of existing school facilities are necessary for the use of hearing impaired programs. Estimating costs of renovating an existing building are even more complex than for new construction. Age of the existing building, heating and ventilation systems installed, fire, and emergency systems installed, plus all the other factors involved in new construction make cost analysis difficult; if not virtually impossible.

For our purposes here some basic assumptions are made:

*ASSUMPTION:* Existing building meets all current fire safety codes.

Adequate heating and ventilation and plumbing systems are installed.

Age of building is not a factor.

Each instructional space is 900 square feet.

Each instructional space will have: carpet throughout; acoustical treatment to ceiling surface; audio amplification system installed; lighting systems for work and audio-visual presentations; and window darkening shades.

Estimates for these items per instructional area: Carpet - 100 square yards.

*ASSUMPTION:* Carpet cost \$10.00 per square yard for good quality commercial floor covering:

100	
<u>\$10</u>	
\$1,000	\$1,000
Acoustical Treatment for Ceiling	1,500
Audio Amplification Installation	2,500
Lighting for Work	1,750
Lighting for Audio-Visual Presentations	1,750
Window Darkening Drapes	<u>200</u>
Total Estimate Cost Per Unit for Renovation Exclusive of Furnishings or Equipment	<u>\$8,700</u>